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Anna Kortusová

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Revision of a Strategy In an Existing Entity

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Author: Anna Kortusová

Supervisor: prof. Ing. Petr Balcar MSBE

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Abstract

This thesis aims to contribute to the understanding of the importance of strategic management as a part of business management. By means of a case study of an existing medium-sized enterprise, an application of a standard strategic management framework is presented. The purpose is to redesign the entity's current strategy to ensure further successful developments.

In the first part of the thesis, a review of established literature on strategic management forms a basis for the introduction of the main concepts and stages of a strategic management process. The second part of the thesis is built on a comprehensive analysis of an external and internal environment of the entity. The aim is to formulate revised long-term strategies. The results of the internal and external audit identify key areas of the company's future success, which are customer orientation, implementation of the most modern technologies, ensuring effective and efficient processes, strengthening established partnerships and increasing employee engagement. On the basis of these areas, strategic goals and strategic initiatives are developed and further elaborated with the help of a strategic management system Balanced Scorecard. Furthermore, balanced set of performance indicators aligned to the revised strategy is designed to gauge the company's progress towards strategic targets. Finally, an eight-month timeline for Balanced Scorecard implementation is provided, identifying primary activities that ensure the revised strategy is put into action.

Keywords

Strategic management, SWOT analysis, Critical success factors, Performance management, Balanced Scorecard

Abstrakt

Cílem této práce je přispět k pochopení významu strategického managementu jako součásti řízení podniku. Aplikace standardního strategického rámce je prezentována prostřednictvím případové studie týkající se existující středně velké společnosti. Cílem je aktualizovat současnou strategii společnosti tak, aby byl zajištěn úspěšný budoucí rozvoj.

V první části práce jsou na základě využití poznatků získaných studiem odborné literatury představeny hlavní koncepty a fáze procesu strategického řízení. Druhá část práce je postavena na komplexní analýze vnějšího a vnitřního prostředí společnosti, s cílem formulovat přepracované dlouhodobé strategie. Výsledky interního a externího auditu identifikují klíčové oblasti budoucího úspěchu společnosti, kterými jsou orientace na zákazníka, zavádění nejmodernějších technologií, zajištění efektivních procesů, posilování obchodních vztahů a zvyšování angažovanosti zaměstnanců. Na základě těchto oblastí jsou vytvořeny strategické cíle a strategické iniciativy, které jsou dále rozpracovány pomocí manažerského systému Balanced Scorecard. Následně je navržen vyvážený soubor měřítek výkonnosti, která jsou propojena se zrevidovanou strategií tak, aby bylo umožněno vyhodnocovat pokrok společnosti směrem k dosažení strategických cílů. V závěru práce je navržen osmiměsíční časový plán, v rámci něhož jsou identifikovány prvořadě aktivity zajišťující realizaci aktualizované strategie.

Klíčová slova

Strategické řízení, SWOT analýza, Kritické faktory úspěchu, Balanced Scorecard, Řízení výkonnosti

Declaration of Authorship

I hereby certify that this thesis has been compiled independently and is based on my own work, unless stated otherwise. No other person's work has been used without due acknowledgement in this thesis. All references and verbatim extracts have been quoted, and all sources of information, including graphs and data sets, have been specifically acknowledged. I declare, that this thesis has not been used to obtain a different or same degree.

Prague, 16 May 2015

Anna Kortusová

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Institute of Economic Studies

Bachelor thesis proposal

Author: Anna Kortusová

Supervisor: Ing. Petr Balcar, MSBE

Proposed topic: Revision Of a Strategy In an Existing Entity

Motivation:

The main purpose of the bachelor thesis is to analyse a strategy of an existing entity, which currently operates on the European market, and propose its update for the future periods. The entity in question is a well-established company which specializes in the application of technical, mainly fluoroplastic coatings, known under the trade names Teflon®, Xylan® etc. Due to further business expansion to Asia and thus organizational structure changes, it is necessary to redesign the firm's strategy in order to successfully manage further developments.

The company vision incules to becoming a market leader in the application of functional coatings in the Czech Republic and in the Central & Eastern Europe, and secure stable position in the Indian market. To achieve such a vision, a standard strategic management process will be followed for formulating company strategic objectives and proposing their implementation. The aim is to set up a comprehensive strategic framework, which will support improvement of the effectiveness of business processes, the overall entity management system, and performance management.

Methodology:

The theoretical part builds upon professional literature focusing on strategic and performance management. Analysis of the related markets as well as internal data sources along with the knowledge acquired from internal management will be used for internal and external audits. To formulate a company strategy and then suggest implementation steps, SWOT matrix, other strategic management tools, as well as Balance Scorecard methods will be used.

The expected output of the theory-based part will be a design of a logically structured strategic management process. Following that, with a help of hands on based experience of the company's management, implementation steps will also be recommended.

Outline:

1. Introduction and presentation of the thesis aims. Basic information about the entity
2. Theoretical background for standard strategic management process
3. Strategic planning for the specific entity
4. Strategic objectives
5. Conclusion and recommendation of implementation
6. Bibliography
7. Appendices

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List of Acronyms

BDM	Business developer manager
BSC	Balanced Scorecard
CAGR	Compound annual growth rate
CEE	Central and Eastern Europe
CEO	Chief executive officer
CI	Competitive intelligence
CRM	Customer relationship management
CSF	Critical success factor
CT	Carbontech
CZ	Czech Republic
EFE	External Factor Evaluation
EU	European Union
HR	Human resources
IFE	Internal Factor Evaluation
IN	India
IT	Information technology
KPI	Key performance indicator
NMP	N-Methylpyrrolidone
OTD	On-Time Delivery
PL	Poland
PR	Public relations
QMS	Quality management system
R&D	Research and development
RO	Romania
SPACE	Strategic Position and Action Evaluation
SWOT	Strengths-Weaknesses-Opportunities-Threats
VOC	Volatile organic compound

Comment

The names of the analysed company and its partner firm have been changed in order to respect the confidentiality of business secrets.

Introduction

Strategic management, while being a relatively young scientific discipline, has received a great attention from academic community as well as practitioners and managers since it was introduced in the middle of the 20th century. Although there is not unified definition of the term strategic management, the consensus prevails that strategic management is an area, which gives a coherence and a direction to the actions and decisions of organizations. Strategic management aims to match external environment variables with organizational internal capabilities and to design long-term strategies through a coherent set of strategic analysis tools. It is believed that incorporating the practice of strategic management into the management of organizations facilitates success, growth and sustainability. Such an approach is supported by an extensive meta-analysis on eighty-eight individual studies conducted by McIlquham-Schmidt (2010), which confirms considerable positive relationships between strategic planning and corporate performance.

An extensive research exists that documents high awareness of the term strategic management among corporate executives. Yet, the quality of practical approaches and implementation of the process of strategic management could be questioned. This issue is especially relevant for small and medium-sized enterprises (SMEs), which are thought to lack a comprehensive approach to future organizational development and strategy execution. International studies conducted by European business universities in cooperation with The Association of Small and Medium-Sized Enterprises and Crafts CZ (2015) conclude that a considerable amount of SMEs do not create long-term strategic plans and are mainly managed by intuition. Furthermore, the enterprises that do formulate future-oriented strategies are in vast majority of cases unable to incorporate strategic plans into daily activities and annual plans since executives lack theoretical knowledge of strategic management standards. This work aims to widen the awareness of strategic management as a business area inevitable for driving a superior performance of organizations. Furthermore, the work has important implications for the practice of formulation and implementation of strategies among organizations. Broad theoretical and practical foundations presented in this thesis assist managers in reconsidering principal aspects in the organizational management and in revealing untapped potential for substantial performance improvements.

This thesis is designed to assess and revise strategy of an established, medium-sized company currently operating in the European market and to propose its update for the future periods. Although strategic planning is already established in the company, strategic management as a comprehensive management system, which implements defined strategies into daily functioning of the company, does not exist. Moreover, the company's excessive focus on financial performance measures of past achievements is inadequate for driving future value creation through investments into customers, employees, suppliers, technology and business processes. Therefore, the aim is to set up aggregate and balanced management systems, which will enhance the company's performance and ensure successful and sustainable future growth.

The remainder of the thesis is organized as follows. Section 1 provides more comprehensive foundations of the area of strategic management, followed by a theoretical framework for standard strategic management processes. In addition to generally agreed guidelines of the strategic management process, a managerial system Balanced Scorecard (BSC), aiming to enhance the implementation of selected strategies, is introduced. Section 2 presents basic information on the analysed company and reviews the current state of strategic planning. Section 3 includes systematic analysis of external environment variables as well as internal organizational condition. On the basis of the key external and internal factors identified and using the SWOT Matrix, long-term strategies of the company are selected. At the end of the section, factors that are critical for the company's future success are identified. Section 4 addresses the implementation of revised long-term strategies. Based on the BSC concept, selected strategies are elaborated into specific strategic goals and strategic initiatives considering four organizational perspectives: financial, customer, internal, and learning and growth. Strategic goals and initiatives are aligned with recommended performance indicators to ensure the company is able to gauge its performance and indicate potential deviations from the strategy plans. Cause-and-effect relationships, designed for each of the BSC perspective, provide a practical insight into how the strategic goals and initiatives are entwined and back the overall long-term strategy. Finally, an eight-month timeline for BSC implementation is provided, identifying primary activities that ensure the revised strategy is put into action. Conclusion is presented at the end of this thesis.

1. Theoretical background for standard strategic management process

The introduction of strategic management can be traced quite far in the history. Ghemawat (2002) claims that the first serious discussion about strategic management emerged during 1950s and 1960s as the more rapidly changing business environment put a premium on management's ability to deal with increasingly uncertain future. At that time, the concept of strategic planning was already a well-established area, yet its impact on company's profitability came into question, as not always satisfactory results were achieved. Witzel (2005) traces the development of strategic management history and concludes, that business manager Ansoff was one of the pioneers in this area. By the mid-1970s, Ansoff had recognized the shortcomings of strategic planning and by adjusting theories and focusing on real-world observations, he came up with a more complete model of strategic management that included implementation of strategies as well as strategic planning. Ansoff (1977) argued that the complete concept of strategic management embraced of a combination of strategic planning, planning of organizational capabilities and effective management of resistance to change. During the second half of the twentieth century, many authors addressed the topic of strategic management. In his review of the strategic management development, Bracker (1980) considers Glueck, McNichols, Steiner, Miner, Mintzberg, Hofer, and Schendel to be the most influential contributors. Bracker (1980) further concludes, that consensus prevails among these authors, that strategic management consists of environmental analysis, within which firm's posture in its field is determined, followed by utilization of organizational resources in an appropriate manner to attain the major goals. Many different definitions of strategic management have been described. One of the more recent definitions by Wheelen *et al.* (2012) defines strategic management as "a set of managerial decisions and actions that determine the long-run performance of a corporation".

Nowadays, strategic management holds an exalted position in organizational functions. If companies want to remain effective in the current complex business environment it is crucial to undertake rational approaches towards anticipating, responding to and even altering the future environment. Clear strategy helps companies to assess their current position and to become aware of the desired future position. Strategy consists of rational market judgments and analysis, becoming conscious of

organizational resources, planning and subsequently leading companies to better performance and profitability. Moreover, Kourdi (2011) claims that the process of strategic management gives a company the opportunity to better understand its customers and competitors, therefore reveals the means, how to enhance the company's value.

To date various methods have been developed and introduced to perform strategic management. David (2015) introduces a concept of strategic management process consisting of three follow-up stages: strategic formulation, strategy implementation and strategy evaluation. Each of these can be further split into several actions. Within the strategy formulation stage, the vision and mission statements are developed. The external and internal audits follow, with the aim to scan outside environment of a company and determine the external opportunities and threats considering the internal strengths and weaknesses. Subsequently, long-term objectives are established and feasible strategies generated and selected. Strategy implementation is considered as the "action stage" within which the formulated strategies are to be executed. Wheelen *et al.* (2012) explain that implementation of strategies is done through the development of programs, budgets, and procedures that affects all employees and managers in an organization. Eventually, the process is concluded by evaluating, if a company achieved what it had established. The actual values of performance indicators are compared to the desired values and corrective steps are undertaken if necessary. Strategic management process requires a dynamic approach in the sense that important information and feedback is taken forward to another round of planning.

This thesis focuses on strategy formulation and implementation, since the evaluation of selected strategies needs sufficient time lag and cannot be performed due to time limitations.

The standard strategic framework will be described in the following subsections more in depth. Moreover, as an addition to suggested approaches, recent research related to strategic management process in small and medium-sized enterprises (SMEs) was examined and relevant remarks will be reported.

1.1 Vision and mission

As a first step in the strategy formulation stage, the vision and mission statements are formulated. According to David (2015), the vision statement should answer the basic question:

“What do we want to become?”

Clear and meaningful vision about the company’s future is essential to ensure employee engagement and to reveal their energy to reach common goals (Kourdi, 2011). David (2015) states, that a comprehensible mission statement is crucial for effectively establishing objectives and formulating strategies. Mission statement should answer the question:

“What is our business?”

Wheelen *et al.* (2012) point out, that a well-conceived mission statement defines the fundamental, unique purpose that sets a company apart from other firms of its type and identifies the scope or domain of the company’s operations in terms of products offered and markets served. According to David (2015), it is important to include nine components in a mission statement:

1. Customers: Who are the firm’s customers?
2. Production or services: What are the firm’s major products and services?
3. Markets: Geographically, where does the firm compete?
4. Technology: Is the firm technologically current?
5. Concerns for survival, growth and profitability: Is the firm committed to growth and financial soundness?
6. Philosophy: What are the basic beliefs, values, and aspirations of the firm?
7. Self-concept: What is the firm’s distinctive competence?
8. Concern for public image: Is the firm responsive to social and environmental concerns?
9. Concern for employees: Are employees a valuable asset of the firm?

1.2 External audit

The external audit involves monitoring, collecting, and evaluating information in order to understand the current trends in natural, social, economic, legal, competitive and technological environment of a company (Wheelen *et al.*, 2012). Kourteli (2005) points out, that in the current turbulent world with rapid and fast technological development, accelerating level of competition, and uncertain political setting, it is

increasingly difficult for a company to make correct assumptions about future changes and to be fast and flexible enough to respond to them.

Recent studies (e.g. Franco *et al.*, 2011) show that SMEs tend to under utilise the external information and that smaller firms “do not scan broadly and frequently as their large counterparts”. Therefore, it is crucial for SMEs to proactively scan the external environment and make assumptions about the future changes in their industry. Thus, they are able to flexibly adapt strategies and guard against future threats and constraints.

Several tools can be utilized for the analysis of external environment forces and for summarization and evaluation of the organizational position. This thesis employs the External Factor Evaluation (EFE) Matrix, which defines and lists key external challenges. Each of the listed factors is assigned weights according to its magnitude of influence on the company’s operations. Rating from 1-4¹ indicates the responsiveness of the company to each of the external factors. Finally, the total weighted score for the organization determines the level of its responsiveness to the external threats and opportunities. Some other examples of analytical tools options are Competitive Profile Matrix and Porter’s Five Forces Model.

1.3 Internal audit

The internal audit presents an indispensable complement to the external environment scanning. As recent studies explain (e.g. Wimonard *et al.*, 2015), excellent internal audit practise is vital for successful business decision-making and organizational survival. If managers are capable of effective gathering of information about organizational resources and competences, as well as identifying its weaknesses, they can take advantage of such information and proactively respond to current market situation and future changes. Furthermore, they can exploit opportunities while avoid threats at the same time.

The best way how to assess the company’s strengths and weaknesses is to examine each of the functional areas, such as finance and accounting, human resources, marketing, production and operations, and research and development. It is necessary to put emphasis on objective and rational analysis in order to avoid preconceived ideas and false assumptions from the side of managers.

¹ 1 = the response is poor, 2 = the response is average, 3 = the response is above average, 4 = the response is superior

An active involvement of representative managers and employees in performing strategic management audit can serve as means how to achieve unbiased evaluation of different organizational departments. Moreover, David (2015) emphasizes that the participation of all managers ensures, that a comprehensive insight into the interrelationship of different departments and divisions will be achieved. In addition to the analysis of various business functions, organizational structure and culture should be considered to assess whether the current setting is efficient to foster strategic goals. Leaders should ensure that employees are devoted to the corporate strategy and that they are motivated and determined to work together for achieving set goals. Open communication, trust, integration, team work, as well as remuneration system connected to performance measures are tools how to achieve successful implementation of strategy (Kourdi, 2011).

Several analytical techniques can be utilized in order to assess the internal environment of a company. Analogous to the EFE Matrix, Internal Factor Evaluation (IFE) Matrix can be developed. The EFE Matrix summarizes the company's strengths and weaknesses, thus provides important information for strategy formulation. Each listed internal factor is assigned a rating on a 1-to-4² scale and by multiplying the rating with the factor's weight, a weighted score for each variable is computed. The resulting total weighted score of the organization determines the organizational internal position. More complex tool for internal strategic management audit is the Value Chain Analysis, a technique described by Porter (1985): "The value chain disaggregates a firm into its strategically relevant activities in order to understand the behaviour of costs and the existing and potential sources of differentiation". By performing these strategically relevant activities more cheaply or better than competitors, a firm can gain competitive advantage.

1.4 The process of generating and selecting strategies

Strategic management theory distinguishes three different types of organizational directional strategies: growth strategies, stability strategies and retrenchment strategies (Wheelen *et al.*, 2012). Growth strategies, which aim to expand the company's activities, encompass of vertical and horizontal integration and diversification strategies. Stability strategies make no change to the company's current

² 1 = major weakness, 2 = minor weakness, 3 = minor strength, 4 = major strength

activities. Finally, retrenchment strategies reduce the company's level of activities and are pursued in case a firm has weak competitive position or poor performance.

David (2015) emphasizes that similarly as in previous steps of strategic management framework, considerable number of managers should be involved in the process of strategy formulation. This way, better understanding and enhanced commitment to helping the firm accomplish its objectives is pursued. Once the external and internal environment of a company is properly examined, managers can exploit the gained knowledge and information to develop a set of alternative strategies. David suggests several approaches how to effectively match the external and internal critical success factors in order to effectively generate feasible strategies: the SWOT Matrix, the Boston Consulting Group Matrix, the Strategic Position and Action Evaluation (SPACE) Matrix, the Internal-External Matrix, and the Grand Strategy Matrix. This thesis employs the SWOT Matrix, therefore, special attention is given to the method to ensure clear understanding. The abbreviation stands for Strengths-Weaknesses-Opportunities-Threats Matrix which presents a tool for developing four types of strategies (Wehrich, 1982): SO (strengths-opportunities) Strategies, WO (weaknesses-threats) Strategies, ST (strengths-threats) Strategies and WT (weaknesses-threats) Strategies. Although some authors (e.g. Panagiotou, 2003) criticized SWOT matrix for being too static, not being able to reveal competitive advantage, or inciting a company to overemphasize a single internal or external factor, it is still a widely used effective approach in strategic management. Used after all-embracing in-depth analysis, SWOT Matrix presents a convenient tool how to match the external threats and opportunities to company's strengths and weaknesses and thus generate alternative strategic options.

More recent studies (e.g. Gracia & Quezada, 2016) propose a methodology combining analytical tools such as analytical hierarchical process, fuzzy multi-objective optimization and clustering methods within a strategy formulating process.

1.5 Implementing strategies

The formulation of technically perfect strategic plans is only a beginning step in a successful strategic-management process. The transmission of strategies into reality requires substantial effort, commitment and motivation coupled with effective coordination among many individuals within a firm.

For the purpose of strategy implementation, managerial system Balanced Scorecard will be employed in this thesis. The BSC concept, proposed in the 1990s by authors Kaplan and Norton, has had a big influence in academic work as well as in practice since it was introduced (Hoque, 2014). Kaplan & Norton (1996) responded to widely spread practice of relying solely on financial performance measures, thus promoting short-term focus, at the expense of long-term profitability. The authors pointed out, that financial measures are only part of a bigger set of metrics that shape the future performance of firms. BSC presents a performance measurement framework, which is balanced in a dimension, that traditional financial measures are supplemented with other non-financial indicators, which are important, although often ignored aspects that also drive the firm's future. BSC method involves a set of strategic goals aligned with performance indicators, which are divided into four perspectives (Kaplan & Norton, 1996):

Financial Perspective. The authors still consider the financial objectives as the main focus of a company. Therefore, the measures and goals from the other three perspectives should aim to enhance organizational financial performance. The fundamental financial measures usually comprise of profitability, return-on capital-employed, and economic value-added.

Customer Perspective. In this perspective, main customer and market segments are identified and the measures of firm's performance in these segments are set. These usually relate to customer satisfaction and loyalty, customer profitability and new customer acquisition.

Internal Business Processes Perspective. Within this perspective, managers are supposed to identify the critical internal processes, in which an organization must excel in order to deliver value to its customers and satisfy shareholder expectation at the same time. Compared to traditional performance measurement systems, which mostly focus

on improvement of internal processes regards to either time or quality, BSC approach helps to uncover new processes, which are crucial for customer and financial success.

Learning and Growth Perspective. This perspective focuses on three principal sources of organizational learning and growth: people, systems, and organizational procedures. These sources usually need additional investments, in order to achieve breakthrough performance in financial, customer, and internal perspective.

Within each perspective, strategic goals are defined and aligned with specific strategic initiatives. Strategic initiatives present the means and action plans, how strategy is to be achieved in a firm. The successful attainment of strategic goals and initiatives is evaluated according to strategic measures, which are split into lag indicators (strategic outcome measures) and lead indicators (performance drivers). Lag indicators are common for all firms and reflect goals, such as profitability, market share, customer satisfaction, and employee qualification. On the other hand, lead indicators are unique for different firms and reflect the specificity of firm's strategy. Kaplan & Norton (1996) pointed out: "A good Balanced Scorecard should have a mix of outcome measures and performance drivers. Outcome measures without performance drivers do not communicate how the outcomes are to be achieved. Conversely, performance drivers without outcome measures will fail to reveal whether the operational improvements have been translated into expanded business with existing and new customers, and, eventually to enhance financial performance."

Since developing strategy is a dynamic process, with strategy being actually a set of hypothesis about cause and effect, the core of an effective scorecard is a set of interconnected, consistent, and mutually enhancing goals and measurements. For this purpose, Kaplan & Norton (1996) proposed a method within which cause-and-effect relationships between critical key factors are established. More recent authors (e.g. Albright *et al.*, 2015) are consistent with the idea and highlight the importance of such a method: "Developing these cascading, linked performance measures that tie to strategy is one of the cornerstones of a scorecard that encourages behaviour and decisions that are consistent with corporate strategy."

Over the past 20 years, there has been a change in the original conceptual framework, which was influenced by Kaplan and Norton's own field research as well as by other commentaries on balanced scorecard (Hoque, 2014). As Kaplan (2010) observes: "This most recent development is about much more than just the Balanced Scorecard. It embeds the 1992 original Balanced Scorecard model as a component within a comprehensive management system that integrates strategy and operations". In his studies of the BSC concepts, Hoque (2014) observes that the original idea of multidimensional performance evaluation system has evolved into an organising framework for strategic planning, execution and management system, which will provide organisations with a valuable option of a strategy map, an enabler of strategy implementation, and a control and accountability tool, until another improved innovative tool appears.

1.6 Strategy review, evaluation and control

At the last stage of strategic management process, it is crucial that managers evaluate the pursued strategies to reveal if formulated and implemented goals and objectives were achieved. David (2015) proposes a practical framework, which serves managers as a tool for reviewing, evaluating and controlling the execution of strategies. This strategy-evaluating framework comprises of three consecutive activities:

1. Review underlying bases of strategy: prepare revised IFE and EFE Matrices and compare them to the existing ones.
2. Measure organizational performance: compare plans to actual progress toward meeting stated strategic objectives.
3. Take corrective actions.

The necessity of strategy evaluation stressed by David is consistent with Balanced Scorecard management. Kaplan & Norton (1993) emphasize that "to have a complete strategic management system, a process of feedback, analysis, and reflection that tests and adapts the strategy to emerging conditions must be added". The authors promote a method of double-loop learning, which uses continuous feedback from managers about the current strategies to assure that they are still consistent with the best available information and experience.

2. Current situation of the entity

2.1 Basic information about the entity

Carbontech was established in 1999 as a joint venture between the Czech and German capital. Its first production facility, which is the company's seat, is situated in the Czech Republic. The company operates in the surface engineering business and specializes in the application of industrial coatings. It provides the application of functional high-tech coatings, particularly in the fields of non-adhesive, anticorrosion solutions and dry lubricants for many different industries.

Throughout the 2000s the company proved to become a successful player within Eastern European markets using advanced technologies and providing custom-made surface coating solutions. This was achieved through opening up new production facilities strategically located in the proximity of its crucial customers in Poland and Romania. In 2015, an affiliated company Carbontech Bakeware was established, specializing in the application of Carbontech coatings for the baking industry customers. During 2016, Carbontech set up a branch office in Pune, India, which was followed by launching a new production facility in the spring of 2017.

Carbontech's technical know-how is based on 25 years of experience in global surface coating business. Carbontech Group (hereinafter referred to as Carbontech) specializes in the application of fluoroplastic coatings, including coatings known under the trade names TEFLON[®], XYLAN[®], HALAR[®], RILSAN[®]. Thanks to close relationships established with the leading suppliers of coating materials, Carbontech seeks to offer the most updated materials and coating solutions. Carbontech operates mainly in the following industries:

- Automotive industry
- Off-shore industry
- Textile industry
- Food industry
- Baking industry
- Chemical and pharmaceutical industry
- Plastic and rubber
- Paper industry.

The company's key customers are global players, including FMC Technologies, Schlumberger-Cameron, Nexteer Automotive, Nestlé, Danone and many others, who consider Carbontech as their strategic and reliable supplier and with whom they pursue long-term relationships.

2.2 Organizational structure

Until 2016, Carbontech s.r.o., with a production plant based in the Czech Republic, run 4 subsidiaries, two of which had official seat in the Czech Republic, one was located in Poland and one in Romania. The change of the organizational structure of the whole group took place in 2016 with an objective to separate business and production activities of Carbontech s.r.o. from holding shares. Within the process of restructuring, business and production activities from Carbontech s.r.o. were spun-off into Carbontech Czech Republic s.r.o. The holding structure was set up with the holding company of Carbontech s.r.o. owning participation on subsidiaries and performing determined activities for the group. This new holding structure offers several advantages, some of which are risk reduction, synergistic effects, costs optimization and enhancement of further development. Carbontech Group is currently governed through a divisional-by-geographic region structure (Stanford, 2007), which is characterized by segmenting the downstream organization geographically into several operating companies (see Figure 1).

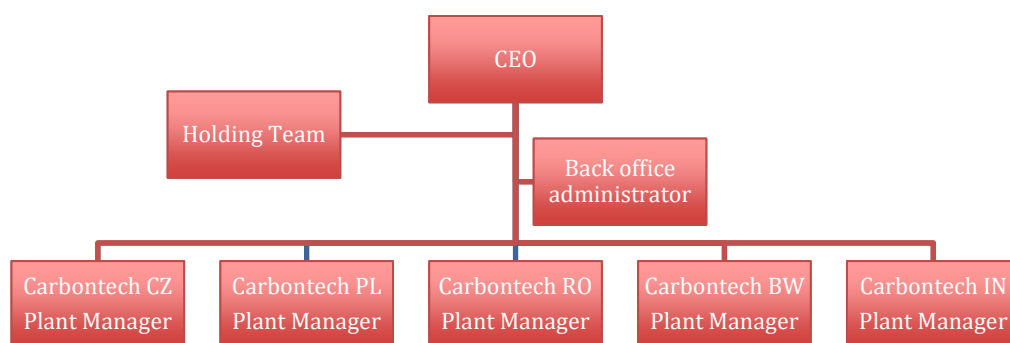
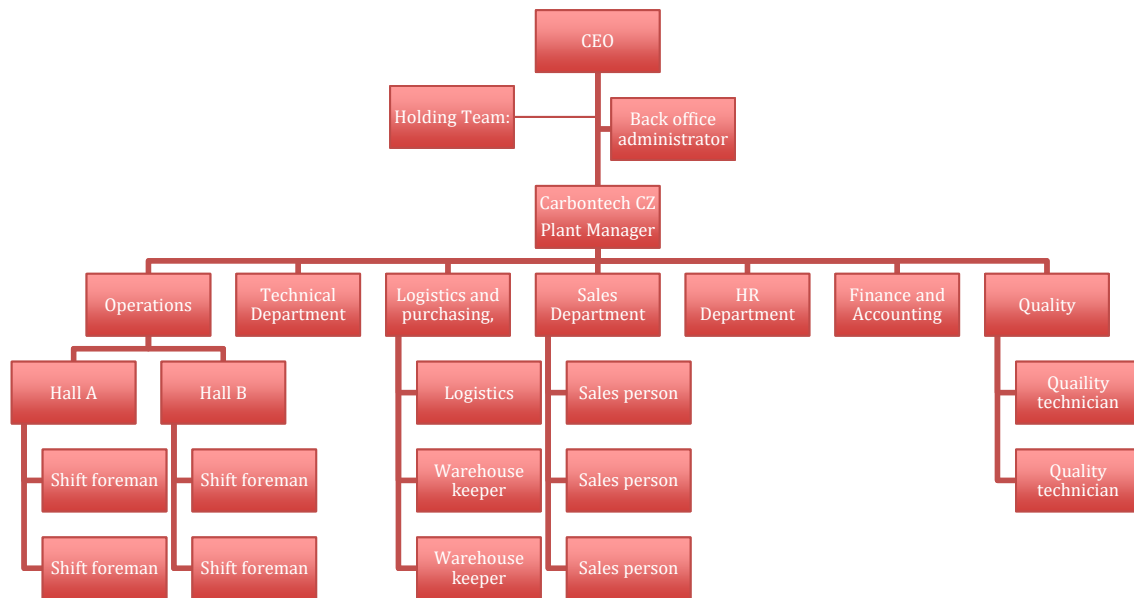


Figure 1: Current organizational structure of Carbontech Group

Source: author

Within each plant, the traditional functional form of business structure is employed, as classified by Taylor (1967). As an illustration, Figure 2 shows the organizational design within the Czech plant.

Figure 2: Organizational design of Carbontech Czech Republic



Source: author

2.3 Corporate governance

Carbontech is a private equity company held by two shareholders. Each of them owns 50 percent share in the company. Both shareholders actively contribute to the governing of the company in terms of knowledge, skills, background and connections.

Presented as a family owned business, one of the shareholders is simultaneously the company's CEO. He actively participates in day-to-day business operations. The second shareholder is at the same time in charge of Brandt Group. Brandt Group consists of four companies operating also in the high-tech coating industry. Therefore, Brandt is a strong business partner of Carbontech.

There are four plant managers who have the authority over four geographic areas and one general manager responsible for the controlling of Carbontech Bakeware. All of them are obliged to report to the CEO.

The holding-management team is mainly responsible for the following activities:

- Filling in gaps in case of management issues at plants (replaceability and redundancy)
- Setting unified management systems across the group
- Providing certain services to its subsidiaries, such as financial controlling and audit, international business development, strategic and risk management, marketing, purchasing, HR, PR, maintaining QMS systems, maintaining IT systems, and providing know-how and intellectual property.

2.4 Revision of the current state of strategic management

2.4.1 Vision and mission

The team of Carbontech developed vision answering a question “What is our projection for the future, where are we going?” Carbontech’s current vision is formulated as:

“To be the leading international family-owned business of functional surface solutions.”

Carbontech’s mission statement refers to what is its main business and what justifies its existence. The mission statement is defined as:

“We serve industries by engineering high-tech coating solutions with value added functionality.”

Furthermore, Carbontech commits itself to the code of conduct of its organization and challenges itself to operate within a framework of shared values: independence, efficiency, honesty, sustainability, ecological awareness, and flexibility.

2.4.2 Strategic goals

The top strategic planning authority is in hands of the shareholders. Besides the agreement on the company’s future prospects, the shareholders define annual goals, which are to be achieved. They meet on regular basis and discuss critical, enterprise-wide business challenges throughout the year. The CEO is accountable for elaborating the formulated strategic goals into specific strategic initiatives for the group as a whole, as well as for the five subsidiaries. The holding team is a body responsible for fulfilment of the strategic initiatives. It assigns specific tasks to individuals further down

in the company's structure. Several performance indicators are employed within Carbontech to gauge its performance over time and to determine the company's progress in achieving strategic plans and goals.

The analysis of the current state of strategic management in the company revealed, that although strategic planning is performed to certain extent, the company's actions are being mostly reactive and intuitive. The shareholders meet to discuss future goals and plans, yet a coherent long-term strategy plan elaborated into annual plans for on short-term basis planning is absent. Therefore, the lack of comprehensive action plans stating how the company aims to achieve its future vision is a significant shortcoming of the organizational management and needs to be addressed.

Sales targets. Carbontech's current sales target was designed in 2016 and named by the top management as *Project 202011*, since the anticipated sales for Carbontech are expected to add up to 11 million Euros in 2020. The bottom line of the strategic goal is to retain minimum margin of 20 percent EBITDA and 15 percent EBIT and to maintain independency in further development financing. Carbontech seeks to be positioned as the leading company in application of polymer-based functional surfaces in Central and Eastern Europe (CEE) and strengthen its market share in Western Europe and India. Carbontech will continue to focus on three strategic markets, which are oil & gas, food and automotive.

Carbontech strives to maintain its unique selling proposition through a special mix of:

- Product portfolio
- Highest productivity driven by technology
- Market presence
- Engineering competence
- Superior quality
- Unmatched flexibility
- Creating positive customer experience.

Furthermore, Carbontech considers the available resources it possesses and which can be used to accomplish sales targets. These are:

- Production plants in the Czech Republic, Poland, Romania and India, and sales organization Carbontech Bakeware
- Available money annual investments up to 600 000 Euros until 2020
- Holding team set up to centralise and solve management issues for the whole group.

The company is aware that improvements in the areas of R&D, marketing and production processes are necessary in order to ensure success of *Project 202011*.

3. Strategy formulation

3.1 Vision and mission statements

Carbontech's vision statement is desirably short in scope. Moreover the vision was developed with a collective top management's effort; therefore, it meets all requirements and does not need to be reformulated.

Since the current mission statement of Carbontech is missing some fundamental elements, it needs to be rephrased. Suggested mission statement based on the company's values might be:

“We are a family-owned company committed to serve industries by engineering high-tech coating solutions with value added functionality and to be a reliable supplier of superior quality at competitive prices. Our main emphasis is on Central and Eastern European market, although we seek for exploration of further global opportunities.

We are continually challenging ourselves to improve our processes to be lean in all aspects and we invest in technologies and improve them. We strive to allocate human resources and capacity within the group to achieve one common goal: customer satisfaction. We are honest in all our conversations and agreements with our internal and external stakeholders. Generating a reasonable margin in each entity brings us as a group the independence for financing further growth. We are aware of environmental impact and we continuously exercise all efforts to minimize our ecological footprint. We maintain high rewards to our employees and invest in them to develop their skills.”

3.2 External audit

In this section, the external environment of the company will be analysed with the aim to determine the main opportunities and threats for current and future business operations.

3.2.1 Natural physical environment and sustainability issues

With three of its production plants located within the European Union (EU) area, Carbontech is fully influenced by the EU environmental laws and targets that are nowadays the task of high priority of European policy makers.

The EU continuously strives to reduce greenhouse gas emissions as well as to promote energy efficiency. The endeavour is being reflected in both laws on pollution and energy usage. Carbontech must constantly observe and measure, how its emissions and energy consumption varies with increasing production.

The process of technical coatings application requires utilization of several ovens heated up to very high temperatures. Therefore, the process is extremely energy demanding, with current company's spending on energy making up 4,22 percent of the overall turnover. This causes the company to be highly sensitive to changes of energy prices.

Another issue, concerning the compliance with environmental and health regulations, is the fact that Carbontech operates with "substances of high concerns" as defined by the European Chemicals Agency. These substances are mainly volatile organic compounds (VOCs), classified as carcinogenic and toxic. VOCs are contained in the industrial coating materials as solvents. The law requires a specialized company to measure the amount of emissions that Carbontech creates within its production. The final measurement report must be submitted into national integrated system. Under the EU's VOC Solvents Emissions Directive (Council of the European Parliament, 1999), there is a great pressure on Carbontech to reduce the emissions and lower its environmental footprint. There is a threat of not being able to comply with the directives in case of increasing production, resulting in the obligation to invest into new technologies, which would burn emissions created within the production processes.

Another important point is the company's use of N-Methylpyrrolidone (NMP) as an organic solvent within the surface coating process. The usage of NMP might become a subject of future regulations because of recent studies addressing

NMP's impact on health of workers and humans in general. Researchers argue, that NMP is absorbed through skin and respiratory airway, and the development of toxicity is of a concern (e.g. Nishimura *et al*, 2009). Possible government regulations and laws in this area might influence mainly Carbontech Bakeware because the final customer is exposed to NMP directly, as well as the production itself, through health and safety regulations on workers.

The threats and opportunities addressed in the above analysis are summarized in Table 1.

Table 1: Sustainability issues - threats and opportunities

Threats	
T.1	Increasing pressure from the EU on reduction of greenhouse gas emissions and on energy efficiency enhancement
T.2	Increasing energy prices
T.3	Regulations on the amount of emissions of substances which are determined as ozone depleting or harmful to health and which are currently used within the production processes
Opportunities	
O.1	Enhancing environmental responsibility through eliminating VOC emissions and using solely aqueous solvents

Source: author

3.2.2 Technological development

Being the supplier of continuously innovating industries such as automotive, oil & gas, chemical and food processing, there is an ongoing pressure on enhancing process technologies and on application high-end fluoroplastic coatings. This is a crucial factor that requires Carbontech to react quickly to the occurrence of new technologies and to the modifications of customer requirements. The development of new technologies might bring opportunities in case of utilizing them within the production, as well as threats when not being able to employ them. Additionally, another surface solutions for engineering components might be developed, replacing solutions based on fluoropolymers. Such an event would have positive or negative consequences on Carbontech depending on its ability to adjust its capacity, machinery, and processes.

The close partnership and mutual interdependence of Carbontech and the formulators of coating materials brings a unique approach to innovations.

The formulators introduce innovative application substances to Carbontech, which subsequently seeks to find industrial utilization.

Carbontech itself is in charge of implementing new application technologies. Carbontech’s future vision is operation processes as independent of human work as possible. The shift towards serial production requires semi or fully automated processes including robot application. The main advantages automation would offer are increased productivity, repeatability, sustainability, and the exclusion of risks coming from human error in general.

Table 2 gives a summary of the most relevant threats and opportunities that arise for Carbontech from the technological development and improvements.

Table 2: Technological development – threats and opportunities

Threats	
T.4	Inability to adapt application processes to new innovations and new technologies
Opportunities	
O.2	More automation and robots within the production
O.3	Development of more effective and efficient method of surface solutions with better functionality
O.4	Setting up specialized equipment for long-term projects with key customers

Source: author

3.2.3 Societal and Economic Factors

As people are the cornerstone of well-functioning business, the labour market situation has direct impact on Carbontech. The company has been struggling to find employees, mainly workers for the production plants located in Europe. These difficulties might be explained with underlying labour supply and demand relationship, which links the level of unemployment to the wage level. As Eurostat (2017) statistics show, the unemployment rates in 2016 in the Czech Republic, Poland and Romania were way under the EU-28 average. Driven by very low unemployment rates in all three of these countries, the company would need to offer higher wages to attract and maintain employees. Conceivably, the company could consider taking advantage of free movement of labour within EU countries and transfer workers within its facilities when being unable to hire required level of workforce at one of its locations.

In light of above-mentioned considerations, the most important threats and opportunities are summarized in Table 3.

Table 3: Societal and economic factors – threats and opportunities

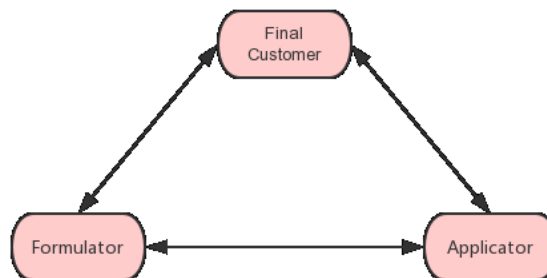
Threats	
T.5	Inability to hire qualified staff
Opportunities	
O.5	Take advantage of free movement of labour within EU
O.6	Opportunity to bring workers from low-cost countries to avoid labour shortage
O.7	Possibility to rotate workers among the existing facilities

Source: author

3.2.4 Customers and suppliers

The supply chain within which Carbontech operates is characterized by relatively high interdependence of constituent participants. Their mutual relationship can be described by a triangular diagram (see Figure 3).

Figure 3: Relationships within the industrial coatings industry



Source: author

The relationship is based on three different players: the formulator, the applicator and the final customer. The formulator develops the industrial coating substances, which are then applied by the applicator on industrial parts supplied by the customer. Therefore, the formulator is unable to sell its coatings without the applicator's assistance. They both cooperate to be able to deliver the best surface solution to the customer. This constellation keeps the bargaining powers spread between the players more or less equally and none of the participants of the supply chain can put excessive pressure on the other one.

Moreover, Carbontech has developed close relationship with both its key suppliers and its key customers. Carbontech seeks to be flexible and shows its willingness to fulfil customers' needs. In Romania, shop-in-shop was established for Carbontech's oil & gas customer to eliminate logistics costs and offer 24 hours customer service. The Indian facility was set up on the basis of requirement of Carbontech's customer, who needed a supplier in the country where such a service was non-existent. Well-established relationships enhanced by honest and proactive proceedings from the side of Carbontech can lead to new business opportunities.

Due to the ongoing pressure on cost reduction, many manufacturers try to substitute expensive or exotic materials by cheaper materials, and compensate the original material functionality by the application of functional high-tech coatings. This trend of cost downsizing might become an opportunity for Carbontech, as it would mean receiving more business from its current as well as new customers.

Carbontech's flexibility coupled with other current trends in the high-tech coating industry and the market place in general might serve as a building block of future business opportunities. However, certain threats prevailing from the current system need to be taken into account as well (see Table 4).

Table 4: Customers and suppliers: threats and opportunities

Threats	
T.7	Worsen relationship with the key suppliers
T.8	Vertical development of the suppliers business resulting in their independence of applicators (i.e. establishment of their own coating application line)
Opportunities	
O.8	Receive more business thanks to the trend of cost downsizing
O.9	Enhancing partnership with existing customers through flexibility
O.10	Preferred partnership with small firms than large companies from the side of potential customers (e.g. Ericksen, 2017)

Source: author

3.2.5 Strategic industries analysis

Diversifying production and operating in more industries is crucial to limit threats caused by turmoils in Carbontech's strategic markets, which are oil & gas, automotive and industrial bakeware. An analysis of Carbontech's major markets and their trends follows, with the aim to detect potential opportunities and threats.

Oil & gas industry. Due to the recent volatility of crude oil prices, Carbontech has lost approximately 50 percent of business in coating applications for oil & gas industry, which used to make up about 40 percent of its overall business. The crisis revealed the threat to the company from extensive exposition into one particular industry and instigated proactive diversification pursued by Carbontech's management. The intention is to become less dependent on business from oil & gas customers. However, according to Deloitte's Americas Oil & Gas leader John England (2016), the OPEC's decision to cut production should lead the supply and demand balances back to a sustained equilibrium and push the oil prices up. Table 5 shows the oil price per barrel until 2020, as forecasted by The Economist Intelligence Unit (2017).

Table 5: Forecast on oil prices

	2017	2018	2019	2020
Oil (OPEC reference basket)	\$50,86	\$54,56	\$54,44	\$55,69
Oil (Brent): price, spot price	\$55,98	\$60,00	\$59,88	\$61,25
Oil (WTI): price, spot price	\$54,37	\$58,38	\$58,27	\$59,61
Oil (Dubai): price, spot price	\$52,67	\$56,55	\$56,45	\$57,74

Source: The Economist Intelligence Unit

According to the estimates, oil prices should ascend up to almost 60 USD per barrel in 2020. Such a forecast indicates that further decrease in the amount of sales is not likely, however, Carbontech will not be able to regain the initial amount of sales from its oil & gas customers.

Automotive industry. The long-term prospects for automotive demand reveal increasing opportunities for Carbontech. The global sales of passenger cars are forecasted to grow and are expected to reach 103 million units in 2023, according to Euromonitor's specialist Golovko (2017). This would mean almost 50 percent increase compared to 2016, when global sales of cars totalled 70 million. Although Western Europe has been

one of the fastest growing regions by volume sales in the recent years, continued motorisation is also expected in developing countries, such as India, China or Indonesia, as more population will get above the bottom income and wealth scales (Golovko 2017b). The biggest potential is seen in accelerating growth in demand for inexpensive small SUVs from mainstream brands like Kia and Hyundai. Golovko (2017b) further expects the global sales of SUVs to reach 27.6 million units by 2021, a 30 percent increase on 2016. Such forecasts present big potential for Carbontech to receive more subcontracts from automobile manufacturers, especially in India, where many of motor vehicle production plants are located.

Bakeware. As Carbontech needed to reduce its dependency on oil & gas industry, Carbontech Bakeware was established in 2015 to gain more business in food processing and offset the incurred losses. The more significant expansion of baked goods in Western and Eastern Europe has been hindered by recent lifestyle trends. More consumers search for health and wellness variants of traditional baked goods and manufacturers have been continuously adapting their production and switching to wholegrain or regional baked goods with improved quality and taste (Euromonitor International, 2017a). Although the volume sales of baked goods have been modestly decreasing in countries close to location of Carbontech's operations, such as Poland, Romania, Slovakia, Austria, Slovenia and Hungary, according to Euromonitor's forecast for 2017-2021, the consumption of bread in these countries is expected to grow slightly as companies introduce many healthy variants.

There is a big potential for Carbontech to gain more business in Indian bakeware industry. Indian baked goods market has been experiencing great expansion in the past years. Furthermore, the Euromonitor International (2017b) analysts claim, that baked goods producers intend to expand distribution and product offers to target rural areas as well as develop sales among mid-lower income rural consumer. The estimated volume compound annual growth rate (CAGR) of 3 percent and value CAGR of 2 percent in 2016-2021 presents great opportunity for Carbontech as it can enter relationships with local baked goods producers.

Table 6 gives a summary of the threats and opportunities that arise for Carbontech from the future development in its key industries.

Table 6: Strategic industries – threats and opportunities

Threats	
T.9	Inability to regain initial amount of business in oil & gas industry due to persisting crisis
Opportunities	
O.11	Increasing global sales of automobiles
O.12	Continued motorisation in India
O.13	Slight growth in demand for baked goods in Europe
O.15	Forecasted volume CAGR of 3% in 2016-2021 in Indian baked goods market

Source: author

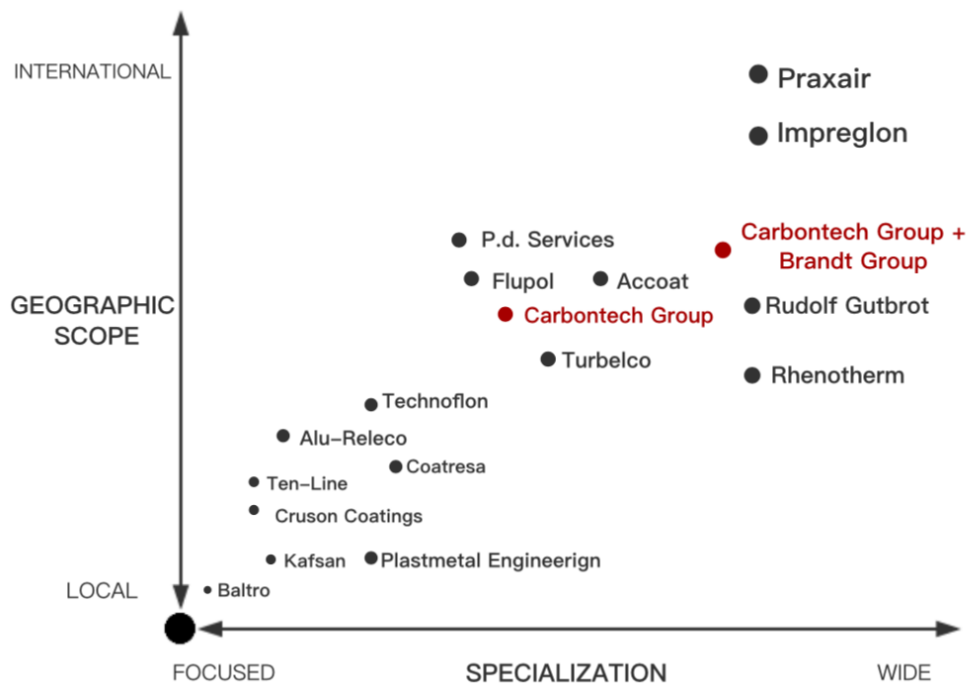
3.2.6 Competitor analysis

The functional high-tech coatings industry can be characterized by relatively small number of competing firms. The applicators of industrial coatings come into existence because of the necessity of surface finishing service within the production process of industrial parts. The coating application process is required to be done locally to shorten lead times on given orders. According to the demand extent, there are currently about one to three big players in the high-tech coatings industry in each European country. The principal value propositions that the rivals compete in are price, lead times, geographic proximity to customers, quality, innovations and customer service. Apart from the effort to offer the best bundle of these benefits, each of the competitors seeks to add customer value through the development of specific competences that distinguishes him from the rivals. These are for example the ability to provide coating application on microparts, or the orientation on a specific customer and subsequent adaptation of processes to his particular needs. The similarity of financial position of the majority of competitors is an important characteristic of the competitive environment. All of the coating firms have similar cost base and are assumed to have a good liquidity. Very substantive fact is that the suppliers of coating materials are equal for the competitors. Therefore, all of the competing firms are exposed to the same conditions and standards of supply.

Focusing on the direct competitors in each country of Carbontech's operations, the closest competitors can be identified. In the Czech Republic, Carbontech Czech Republic holds very strong position and is considered as the biggest firm of its kind, with four other local companies operating in the same business. According to Carbontech's internal information, around 80 percent of supplies of industrial coating materials in the Czech Republic are purchased by Carbontech. This number might serve as an indicator of Carbontech's market share in the Czech Republic, when interpreted with caution. In Poland, a competitor of roughly equal size as Carbontech Poland is located. In Romania and India, Carbontech has no direct competitors and therefore holds a leading position in the market. In Romania and India, as opposed to the Czech Republic and Poland, the threat of new entrants is specifically relevant because of the presence of automotive production facilities, which represent great business opportunity for coating companies.

To be able to proactively anticipate market developments, deeper analysis of the European competitive environment needs to be performed. For this purpose, the common competitive intelligence (CI) process described by Bose (2008) will be followed. As a first step, the key intelligence topics are developed, summarizing Carbontech decision makers' needs and requirements, in order to direct the competitive intelligence operations (Weiss, 2002). According to Carbontech's CEO, fulfilling the vision and maintaining or strengthening the position of the leading applicator of functional surface solutions in the CEE countries, is nowadays of the highest priority. For this purpose, strategic CI techniques will be used to identify which competitors might endanger Carbontech's position. Moreover, acquisition opportunities that would lead to increased market share in CEE will be determined. Within the second step of CI process, data on competitors are collected, and further analysed in the third step. All available information on competitors was collected in order to construct competitors' profiles and be able to evaluate each firm according to its competitive and financial position (See Appendix 1). Consequently, strategic cluster analysis is employed to visualise the competitive environment in Europe and to assess strategic dynamics in the coatings industry. The firms are positioned in a matrix according to two dimensions: geographic scope of their operations, and the level of specialization of the services offered. Figure 4 provides the final result of the competitor analysis.

Figure 4: European competitive environment in the high-tech coatings industry



Source: author

From the figure, Carbontech can define firms with approximately the same geographic reach and range of services. Most of these competitors operate in Western Europe and serve local customers. Currently, lead times and logistics cost are therefore the main attributes that determine the placing of orders between these firms. It is vital for Carbontech to monitor the competences of the nearest competitors. The company must keep pace with technological development to retain its competitive position.

At the upper-right corner, two powerful public companies, Impreglon and Praxair, are positioned. Both of them offer wide range of industrial coatings worldwide and hold very strong competitive position. Horizontal integration in the form of acquisitions of smaller European coating firms was carried out by both Impreglon and Praxair. The prior expansion to new markets might serve as an evidence of growth strategy pursued. Therefore, there exist potential threat from the side of Impreglon and Praxair of setting up facilities in Eastern Europe or India, where the industrial coatings markets are not saturated. Conceivably, the corporations acquire another small players and provide them with funds so they become stronger and more competent.

Firms with considerably less geographical and specialization spread than that of Carbontech are positioned at the bottom-left corner. These companies do not pose any substantial threat to Carbontech, since they are mostly family-owned local businesses

without any noticeable signs of expansionary strategies. On the other hand, the companies located in the CEE should be monitored to identify acquisition potentials. Currently, two relevant opportunities exist: companies Ten-Line and Kafsan, located in Hungary and Turkey respectively.

It has to be taken into account that most of the competitors are privately held, therefore sources of information are limited. However, some of the issues emerging from these findings relate directly to the threats and opportunities arising for Carbontech (see Table 7).

Table 7: Competitor analysis – threats and opportunities

Threats	
T.10	Expansion strategies pursued by stronger international players
T.11	Establishment of other coating firms in Romania and India, where high-tech coatings markets are not saturated
T.12	Loss of human capital in favour of competitors
T.13	Loss of technological leadership
T.14	Competitors offering more complex services
Opportunities	
O.16	Increase market share through acquisitions of similar companies in existing regions
O.17	Expansion of operations to new markets in CEE

Source: author

3.2.7 External factor evaluation matrix

The EFE matrix gives an overview of the key external factors examined in the previous subsections, and which have the highest probability of affecting Carbontech and its industry (see Table 8). Carbontech receives a 2,28 total weighted score, which is on 1-to-4 scale below the average. Therefore, there is a big potential to capitalize on the opportunities defined and revise strategies to better offsets external threats.

Table 8: EFE Matrix

EFE Matrix				
Key External Factors		Weight	Rating	Weighted Score
Opportunities				
O1	Enhancing environmental responsibility through eliminating VOC emissions	0,09	2	0,18
O2	Expected growth in sales of automobiles until 2021 in Western Europe as well as in emerging markets	0,08	3	0,24
O3	1% annual growth in baked goods in Europe and 3% annual growth in India forecasted until 2021	0,05	3	0,15
O4	Free movement of labour within EU	0,08	2	0,16
O5	Trend of entering partnership with smaller firms	0,08	3	0,24
O6	Receive more business thanks to the trend of cost downsizing	0,06	3	0,18
O7	Persisting lower labour costs in CEE over those in WE	0,1	2	0,2
O8	Acquisitions opportunities in CEE	0,08	2	0,16
Threats				
T1	Tightened environmental and health regulations	0,1	2	0,2
T2	Inability to adapt application processes to new innovations	0,04	1	0,04
T3	Inability to hire qualified staff	0,05	3	0,15
T4	Vertical development of suppliers resulting in their independence of coating applicators	0,02	2	0,04
T5	Loss of human capital in favour of competitors	0,03	2	0,06
T6	Increasing energy prices	0,02	2	0,04
T7	Expansion strategies pursued by stronger international players resulting in higher competition	0,04	2	0,08
T8	Customers giving preference to competitors which offer more complex services	0,08	2	0,16
TOTAL		1		2,28

Source: author

3.3 Internal audit

Once the external environment of Carbontech was examined, the internal audit of the company needs to be performed in order to obtain the second required input for long-term strategic goals establishment. For the purpose of internal analysis, managers from different functional areas were asked to provide relevant information, which served as bases for further analysis. This section examines the results obtained by such analysis and aims to infer the strengths and weaknesses of Carbontech. These will be summarized in the Internal Factor Evaluation Matrix at the end of this subsection.

3.3.1 Corporate structure

Carbontech's structure is considered as an important strength of the company. It enables quick and flexible response to market changes and provides perfect setting for further growth and potential establishment of new branches or facilities. The holding structure enables smooth acquisition process and protects already established subsidiaries from possible failures of the other ones. Thus risk is eliminated. Furthermore, the company has already enough experience with bringing its operations to new destinations and with replicating the already functioning business model.

The fact that the group is owned by two shareholders represents another essential strength. The process of decision-making can be very fast and flexible when required. In reality, very good and honest relationship between the two shareholders, who share common ideas, fosters vital functioning of the company and makes further development feasible.

Table 9 summarizes the most important points mentioned above.

Table 9: Corporate structure - strengths

Strengths	
S.1	Flexibility to replicate the business model and experience with expanding to new markets
S.2	Fast and flexible process of decision-making

Source: author

3.3.2 Organizational culture

The overall working environment is rather above-standard in comparison with working conditions in companies of similar size located in CEE. Carbontech's plants are modern and offer various facilities for its employees. The management team keeps to quite strong work ethic, as employees arrive early to work and they often leave late, after all work has been finished. Furthermore, the managers are all very capable, have the potential to grow and the ability to take on more responsibility. There is every indication that the employees should work as a team and aim to achieve common goals. Yet, this is not entirely the case.

First of all, the managers tend to create groups of co-workers with whom they get along very well. However, there is lack of common effort to socialize all together and cooperate as a team to achieve outstanding performance. Although such an issue might seem negligible, the unity and collective commitment of the people to a common purpose is the keystone of well-functioning business.

Another issue is the compatibility of the managers with the company's CEO. Carbontech's CEO has a very authoritative position in the company, since he is the main decision-making body and his decisions are not questioned. Although he encourages creativity and open-mindedness, there is strong impression of disharmony between some of the managers and their boss. A possible explanation may be an improper way of communication. A reasonable approach to tackle this issue is to promote participative management style. It is necessary to show employees that their effort matters and has direct impact on the company's success.

Although there are some positive points, the current state of the organizational culture is very far from being the dependable point of Carbontech's strategy (see Table 10) and must be addressed in order to ensure success of strategic changes.

Table 10: Organizational culture – strengths and weaknesses

Strengths	
S.3	Capable managers with growth potential
Weaknesses	
W.1	Tendency of managers to split into groups
W.2	Disharmony between some of the managers and the CEO

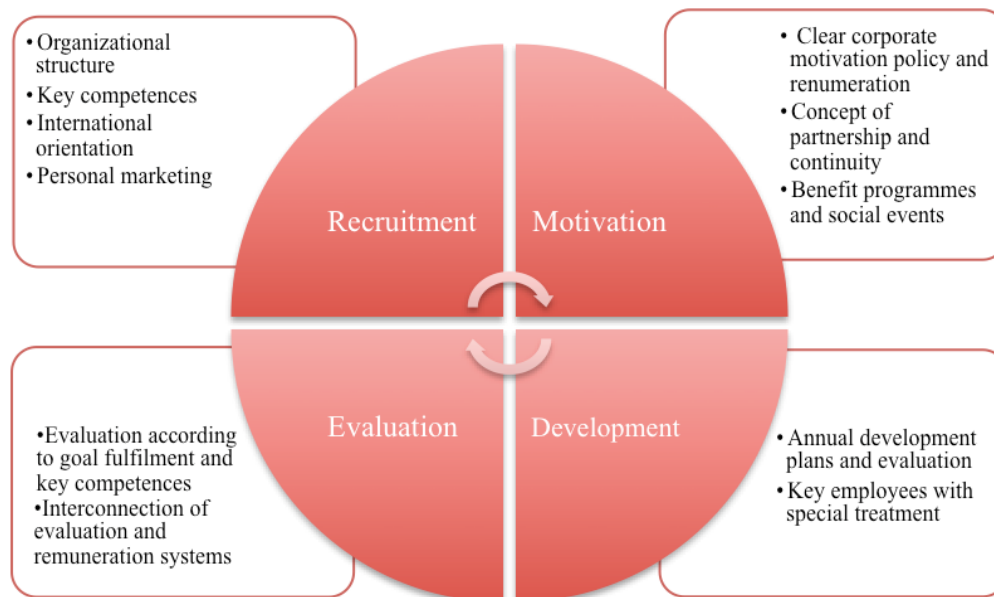
Source: author

3.3.3 Human resources analysis

The analysis of current organizational structure was already performed in previous sections, with the emphasis on its setting in the context of further company's development. In this section, the examination of human resources (HR) will be performed with the aim to define the internal strengths and weaknesses.

HR manager, who carries out HR strategy for Carbontech Group as a whole, is employed in the holding team. In each of the production plants, there is another person responsible for HR, dealing with personnel issues locally. The HR management in Carbontech is split into 4 main activities, which deal with particular issues (see Figure 5).

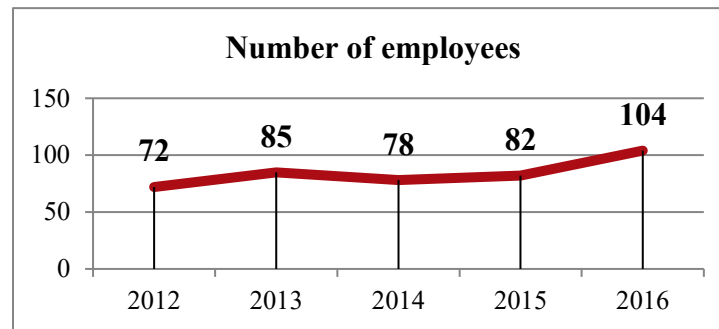
Figure 5: Four main activities of HR management



Source: internal Carbontech data, author

The total number of employees has been gradually increasing over the past years, with the average of 104 permanent employees in the year 2016 (see Figure 6). The number of employees will continue to rise due to the opening of the Indian production plant in March 2017.

Figure 6: Number of employees in 2012-2016



Source: internal Carbontech data, author

With internationalization of its activities, Carbontech currently employs workers of nine different nationalities. Therefore, it is important to adapt the company's philosophy so it is consistent with local realities and is clearly understood among all employees with different backgrounds.

To offset the changes in demand for its services, Carbontech cooperates with employment agencies, which provide extra workforce when needed. The number of agency workers during 2016 fluctuated between 5 to 10 percent of the average number of permanent employees.

The permanent workforce is split into two groups: production staff and administrative staff. The employees from the production are further divided into 6 tariff classes (T1 to T6) according to their job description, and into 3 tariff levels (A, B, C), which define the employee's degree of training and other competences. All employees' wages comprise of fixed part and variable part. The variable part is linked to performance indicators and the intensity of employee involvement in various projects.

The career development in Carbontech is possible to certain extent both horizontally and vertically. In the production, employees can switch between the tariff classes and levels, when having enough experience and knowledge, and take on more responsibility. Administrative personnel can choose to participate in projects concerning company's development and hereby gain more expertise. Majority of the management posts is held by one or two employees in each facility. Therefore, the career development is limited. The highest movement possible for managers is to become the holding team member. The limitation to clearly set the career prospects and growth opportunities poses a disadvantage to Carbontech as a medium-sized enterprise.

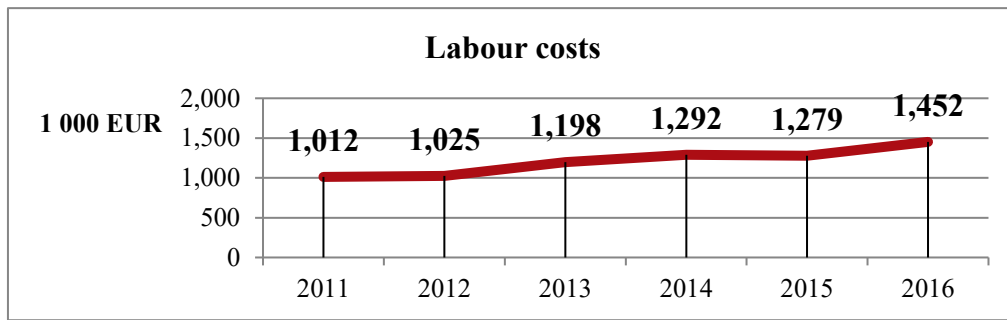
However, the company seeks to offset the limitations by supporting wide range of vocational trainings. In 2016, the company invested 18 300 Euros into development activities. Apart from the trainings required by law, Carbontech launches employee development programs specifically designed for each of the employees. The programs comprise of several projects and activities, which are realized during the year. Common examples are language school attendance, specialized vocational education programs and planned visits and trainings in partner companies. The effectiveness of projects are evaluated by the participant, straight after the realization, as well as by his or hers immediate superior, three months after realization. On a scale 0-12 points, the trainings in 2016 scored an average of 9,98 points, evaluated by the participants, and 9,6 evaluated by their superiors. At the end of the year, HR manager assesses the development and training goals achievements and sets targets for next year. The issue is whether the annual evaluation is sufficient to keep the programs updated. According to the HR manager, it is impossible to meet more frequently due to work overload at the workplace. In this context, it is worthwhile to consider if Carbontech puts enough emphasis on the right fit between the employees and assigned programs. The feedback and reflection from ongoing programs are vital for adjusting HR strategy to current conditions. Therefore, the lack of evaluation meetings is seen as a shortcoming of otherwise well worked out employee development strategy.

HR Performance. The current strategic HR performance indicators set for 2017 are classified as follows:

- Maintain labour costs within the budget of 1 424 000 Euros
- Employee fluctuation rate under 25 percent
- Sickness rate under 5 percent
- Effectiveness of trainings higher than 80 percent (rated by participants and their immediate superiors)
- Employee satisfaction survey carried out in the whole group.

Labour costs, measured as a ratio of wages over turnover, represents one of the most important indicators of HR performance in Carbontech. Although the company can benefit from lower labour costs over those of competitors located in Western Europe, an ongoing pressure on salary growth has been experienced within the group. Figure 7 reveals that there has been a gradual rise in the labour costs over the past 5 years.

Figure 7: Development of labour costs since 2011



Source: internal Carbontech data, author

During 2016, labour costs increased by 13,5 percent, and wages represented 21,6 percent of total revenue. TC Group continually strives to keep the labour costs under the 20 percent level of total revenue.

Regarding employee fluctuation, the ability to maintain employees is one of the most concerning issues. The employee turnover is especially relevant in the Czech facility, since the rate in the other facilities has been steadily fluctuating around 10 percent level in the past years. The data of the fluctuation rate in the Czech Republic are summarized in Table 11.

Table 11: Employee fluctuation data for Carbontech Czech Republic

Employee fluctuation in Carbontech Czech Republic					
2011	2012	2013	2014	2015	2016
50%	data missing	40%	data missing	38%	25%

Source: internal Carbontech data, author

The table shows that there has been a steady decline in the fluctuation rate. The current level of employee turnover dropped down to 25 percent for the Czech facility. Yet, such a value is still making long-term systematic relationship with employees impossible. Furthermore, high fluctuation prevents from effective distribution of technological know-how, problem solving and quality issues within the company because people in the production alternate too often.

To be able to proactively address the problem of high fluctuation rate, the issue will be analysed more closely. According to company’s employee survey carried out in 2016, it is the request of higher salary what is the main reason of employee fluctuation. As the salary level plays an important role in maintenance of employees, the average salary data obtained by recruitment agency Manpower were analysed. The information

gathered (see Appendix 2) shows the average salary offered by companies of similar size and location as Carbontech Czech Republic and compares them to those of Carbontech. The findings clearly show that considerable number of work positions in the Carbontech’s production are underpaid, creating incentives for employees to search for other job opportunities.

These analytical procedures reveal the inconsistency between the strategic goals aiming to lower labour cost and fluctuation rate at the same time. The company shall revise the current strategy, so that the two goals are not in contradiction.

Table 12 summarizes the strengths and weaknesses that need to be considered when revising the current strategy.

Table 12: Human resources analysis – strengths and weaknesses

Strengths	
S.5	Promotion of vocational trainings and programs
S.6	Successful training programs according to internal evaluation
Weaknesses	
W.3	Limited opportunities for professional growth
W.4	Insufficient updates of training programs within the year
W.5	High level of employee turnover connected with high costs
W.6	Inconsistency between HR strategic goals

Source: author

3.3.4 Production and operations

The proper functioning of production and operations is the building block of Carbontech’s success. The main business activity carried out by Carbontech is the application of high-tech fluoropolymer coatings on final products, in order to enhance their utility value; or on production equipment parts to higher their productivity. According to customer specifications, the company is able to apply more than seventy different types of coatings.

Carbontech operates in four production plants. Table 13 summarizes information about each of the facility: its location, capacity estimation and its current utilization, production processes which are assumed robust and investment needs of each of the facility.

Table 13: Production plants information of TC Group

Location	Maximum capacity estimate	Utilization estimate	Robust production processes	Main focus industries	Further investment needs
Czech Republic	5,5 mil. EUR	65%	robot line, rotomat, automated coating line	all industries	pre-treatment technologies, chain-on-edge machine, thermal spray
Poland	1 mil. EUR	70%	general	automotive, chemical, pharmaceutical, recoating of industrial bakeware	new building and industrial bakeware refurbishing equipment
Romania	1,5 mil. EUR	70%	oil & gas coating line	oil & gas	none
India	2,5 mil. EUR	1%	oil & gas coating line	oil & gas	none

Source: internal Carbontech data, author

To be able to meet the company's strategic goal of reaching sales revenue of 11 million Euros in 2020, it is necessary to invest into technologies and operating capacity. For this reason, Carbontech is prepared to invest up to 600 000 Euros annually until 2020.

As regards to technology, Carbontech uses existing technologies within its production processes. The main focus is on continuous improvements and implementation of the most modern technologies in the serial production. There are potential technologies, already employed by several Carbontech's competitors, which might be introduced in the production. These are mainly pre-treatment technologies, such as laser and plasma treatments. The processes of surface metallisation and ceramic coatings are alternatives that could be added to current service portfolio. The investment in such technologies was postponed by the company due to lack of large enough business opportunities.

Carbontech's partnership with Brandt Group presents an opportunity for technology transfer, since the partner is more advanced in technologies. Brandt has been testing new pre-treatment processes and also employs drum-blasting, coating application on small parts. This process is most likely to be employed by Carbontech in shorter term.

Management review on quality. Carbontech places emphasis on the quality of its products and services. Therefore, it applies the certified quality management system (QMS), which is subject to annual internal and external audits. The management system at all Carbontech manufacturing operations conforms to the ISO 9001:2015 standards. Carbontech is also being continuously audited by its customers, GE Oil & Gas and Sanbron, FMC, Schlumberger-Cameron, V-Nass and Matador. The audit results in 2016 were evaluated as “very good”. The only exception was audit performed by FMC Corporation, which Carbontech failed to pass in full scope.

As a result of its determination and technical know-how, Carbontech is a holder of certificates granted by its suppliers. Carbontech was awarded DuPont licence to apply Teflon® fluoropolymer coatings "DuPont Licensed Industrial Applicator" as one of the first coaters located in CEE. The company is also awarded in recognition of consistently high standards in the application of Whitford products.

The cost of internal and external nonconformity products is being monitored in Carbontech³. Table 14 shows the results for the period 2014-2016. It can be observed, that even though the total internal and external reject costs were increasing, it was given by the overall increase in sales. The reject rate has decreasing trend over the observed period, which is a sign of Carbontech’s effort to be a high quality supplier.

Table 14: Internal and external non conformity products costs

Carbontech Group	Sales	Internal			External		
		Target Internal	Result Internal	Total Cost	Target External	Result External	Total Cost
2014	€ 5 538 039	1,40%	0,39%	€ 21 633	0,90%	0,36%	€ 19 675
2015	€ 5 996 337	1,40%	0,39%	€ 23 270	0,90%	0,39%	€ 23 097
2016	€ 7 255 882	1,40%	0,34%	€ 24 670	0,90%	0,32%	€ 22 159

Source: internal Carbontech data, author

The main reasons of customers’ complaints about product quality were the peeling off coating and mechanically damaged parts. With regards to the internal complaints, the impurities in coating, insufficient spraying and packaging were the main reasons when measured by expense and quantity.

³ Computed as $\frac{\text{reject cost}}{\text{sales}} \times 100$

Carbontech incorporated On-Time Delivery⁴ (OTD) measure as one of its key performance indicators in April 2016. Since short lead time is one of the most important value propositions that Carbontech builds on, the company puts great emphasis on meeting delivery dates. Table 15 shows the OTD performance of each of the facilities. Specifically, it shows the percentage fulfillment of stated date of delivery. Table cells are colored in green, if deviation from the scheduled date of delivery is less than 10 percent, and in orange if deviation is higher than 10 percent.

Table 15: On Time Delivery data by facilities

OTD ≥90%	April 2016	May 2016	June 2016	July 2016	August 2016	September 2016	October 2016	November 2016	December 2016	January 2017	February 2017
CT CZ	92,40	92,40	90,70	93,02	92,00	89,25	92,00	92,00	90,75	95,00	91,50
CT RO	100,00	99,73	99,89	99,80	99,79	99,88	99,88	99,97	99,55	99,79	100,00
CT PL	89,55	90,42	84,56	88,94	81,25	85,76	93,28	90,59	81,77	83,33	82,30
CT	93,98	94,18	91,72	93,92	91,01	91,63	95,05	94,19	90,69	92,71	91,27

Source: internal Carbontech data, author

The data reveal continuous unsatisfactory performance of the Polish facility. This issue needs to be addressed to retain the position of a flexible and fast supplier.

The summary of Carbontech's strengths and weaknesses in the area of production and operations is shown in Table 16.

Table 16: Production and operations – strengths and weaknesses

Strengths	
S.7	Conformity with the ISO 9001:2015 standards
S.8	Reject rate evinces decreasing trend
Weaknesses	
W.7	Investments into facilities needed (technology, building)
W.8	Poor performance of Polish facility in the context of OTD

Source: author

⁴ Computed as $\frac{\text{orders delivered on time}}{\text{total amount of orders}}$

3.3.5 Marketing analysis

In Carbontech, marketing plan is designed annually, setting budgets and main activities, which are to be performed in the following year. The emphasis is laid on the consistency of planned marketing activities and the company's mission and vision. Therefore, the activities are formulated to foster the company's desired image as the leader in high-tech coating solutions in CEE.

The following is a brief report on Carbontech's marketing activities and performance. In 2016, the overall marketing expenses made up 26 000 Euros. The proportion of budget was spent primarily on following marketing activities:

- E-marketing (Web, Google AdWords, Sklik campaigns, Icontact)
- Events
- Getfeedback (Customer survey)
- Sponsoring
- Printed brochures
- Advertisements.

All of the listed activities intend to foster current marketing goals, which are focused on sales promotion, obtaining customers' feedback and raising brand awareness.

Carbontech subscribes licences for customer relationship management (CRM) systems Salesforce, iContact and Getfeedback. The systems are integrated with each other and serve as efficient tools for gathering information about current customers. Moreover, the systems enable to reach customers with surveys, campaigns, webinar invitations and company's news. Therefore they present effective tool for addressing existing as well as new customers.

Getfeedback is online customer survey creator connected directly to Salesforce. In May 2016, Carbontech launched the customer satisfaction survey, which is being sent with every invoice. The data obtained from the survey evaluation for the year 2016 are provided in Appendix 3. The resulting rate of response in 2016 was 16 percent, with more than 80 percent of respondents confirming that they were satisfied with delivered services. The annual cost of the Getfeedback tool is 3 700 Euros, therefore the low level of response arouses concern if such a tool is efficient for obtaining customer comments and feedback. According to the company's top management, the company wants to provide customers with an easy and direct way of evaluating Carbontech's services. Since the tool is used solely for automated surveys attached to invoices, it is being

strongly underutilized. The marketing manager should actively use the prepaid CRM systems to obtain information from customers and continuously look for ways how to improve current services according to their needs.

With regards to obtaining new customers, the customer acquisition strategy is carried out through Google campaigns, as well as Carbontech’s presence on trade shows. Relative to marketing activities focused on existing customers, the spending on new customers is very high. For further analysis of this topic, the sorting of different lead sources was performed. The term lead is generally understood as a potential sales contract. In Carbontech, new lead is created when a firm shows an interest for Carbontech’s services. Table 17 provides the breakdown of lead sources according to particular months in 2016.

Table 17: 2016 Leads by source

Lead Source	Month												Total
	1	2	3	4	5	6	7	8	9	10	11	12	
Partner	1	0	1	0	0	1	2	1	0	0	2	0	8
Tradeshaw	0	2	2	0	0	2	0	0	0	1	0	0	7
Web	0	0	0	0	7	18	13	15	18	18	18	10	117
Recommendation	0	0	0	0	1	0	0	0	0	0	0	0	1
Other	0	0	0	0	0	1	6	1	0	0	0	0	8
Received inquiry	34	35	51	27	23	25	9	14	17	14	16	6	271
E-mail	0	0	0	0	0	0	0	0	1	0	1	0	2
Total	35	37	54	27	31	47	30	31	36	33	37	9	414

Source: internal Carbontech data, author

From all received leads, 28 percent came from Carbontech’s website, where potential customers directly filled in and sent an inquiry. Leads originating from receiving an inquiry via email made up 65 percent of all received leads. It must be mentioned, that email inquiries were mostly based on information obtained from the company’s websites. The findings demonstrate that from various activities and tools used for obtaining new customers, the promotion of website is the most effective one. It was found out that most of the visitors of Carbontech’s websites click their way through the Google AdWords. Therefore, Google campaigns can be considered as successful source of new customers. E-marketing activities were evaluated as the most optimal way of investing into new customers acquisition.

During the examination of Carbontech’s marketing department and through interviews with the marketing manager, it was observed, that long-term marketing strategy for the whole group is missing. The job activities carried out by the marketing manager consist of mostly administrative issues connected to e-marketing. The communication between marketing and sales department is not coordinated very well. Therefore, information is not forwarded to be used effectively. The marketing manager lacks crucial information about the most important customers and about Carbontech’s strategic markets and their profitability. This situation results in the inefficiency of performed marketing activities.

Another problem is an insufficient level of personal contact and partnership with the most valuable customers. These relationships should be reinforced in order to gather information and boost potential business.

The overall summary of strengths and weaknesses revealed by the audit of Carbontech’s marketing department is shown in Table 18.

Table 18: Marketing analysis – strengths and weaknesses

Strengths	
S.9	Interconnected CRM systems
S.10	Possibility to easily address and reach customers through CRM systems
Weaknesses	
W.9	Absence of long-term marketing strategy for Carbontech Group
W.10	Absence of market analysis and market segmentation
W.11	Insufficient communication between marketing and sales managers
W.12	Underutilization of CRM systems
W.13	Insufficient social engagement with the most important customers
W.14	Insufficient PR activity

Source: author

3.3.6 Research and development

Currently, Carbontech does not have any specific strategic goals set in the area of research and development (R&D). The R&D activities are performed at the operational level, focusing mainly on continuous improvements of internal processes and successful implementation of innovative technologies in the production. Activities with regards to quality are performed in laboratories and sampling workplace located in the Czech facility.

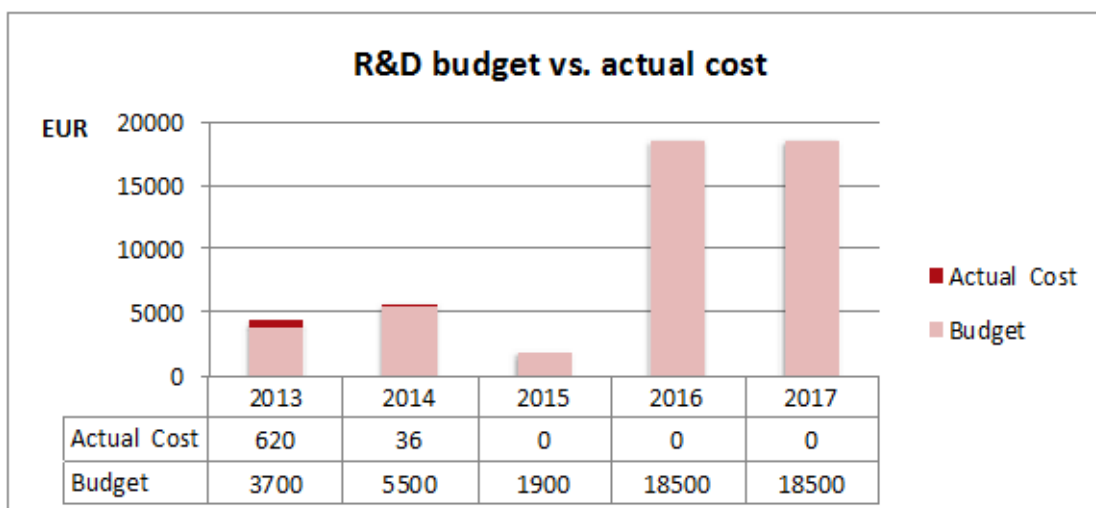
The development of new coating materials is left upon Carbontech's suppliers, who formulate innovative industrial coating solutions. The formulators possess appropriate capacity to develop and test new coating solutions. The innovative materials are subsequently offered to Carbontech. Moreover, the suppliers assist Carbontech in case the company receives claims for replacement of particular defective goods. The suppliers analyse surfaces and find roots of problems. On the other side of the supply chain, customers themselves provide feedback to Carbontech about properties of different coating solutions. They perform stress and other functional tests on parts coated by Carbontech.

Although such an arrangement is very cost effective, since the suppliers and customers bear most of the costs needed for innovation and new coating solutions testing, it also puts Carbontech in the situation when it is almost completely dependent on third parties in the area of R&D.

The partnership with Brandt Group is an important factor that has direct impact on the field of R&D and enables Carbontech to retain at least certain level of independence. In Brandt, there are adequate facilities with laboratory technicians, who are able to modify the coating materials and test desired functionality. Therefore, Brandt assists Carbontech to certain extent by providing R&D support. However, there is certain distance that the partner keeps in order to preserve his know-how. Since the top managers of Carbontech agree that investments in an in-house laboratory would not be currently repayable, there seems to be a big potential in enhanced cooperation in R&D activities with Brandt. For this to happen, the partners shall find common capacity and competent people and by sharing costs cooperate more closely.

Each year, Carbontech sets budget for R&D activities. The planned budget and actual cost for time period since 2013 is represented in Figure 8.

Figure 8: R&D budget vs. actual spending



Source: internal Carbontech data, author

The budget was merely utilized, since currently majority of R&D activities are performed in form of various projects, within which specific types of coatings and their functionality are examined, as explained in the previous paragraphs. The costs connected to such activities are not recorded as R&D costs, causing ineffective cost optimization as well as inability to evaluate the return on R&D investment.

Table 19 gives an overview of Carbontech's above-mentioned strengths and weaknesses in the area of R&D.

Table 19: Research and development – strengths and weaknesses

Strengths	
S.11	Close partnership with leading suppliers who assist Carbontech with R&D
S.12	Cooperation with Brandt Group
Weaknesses	
W.15	Absence of vision and long-term strategic goals in R&D
W.16	Unutilized R&D budget resulting in suboptimal cost allocation
W.17	Insufficient devotion to R&D activities
W.18	The dependence on third parties in the area of R&D

Source: author

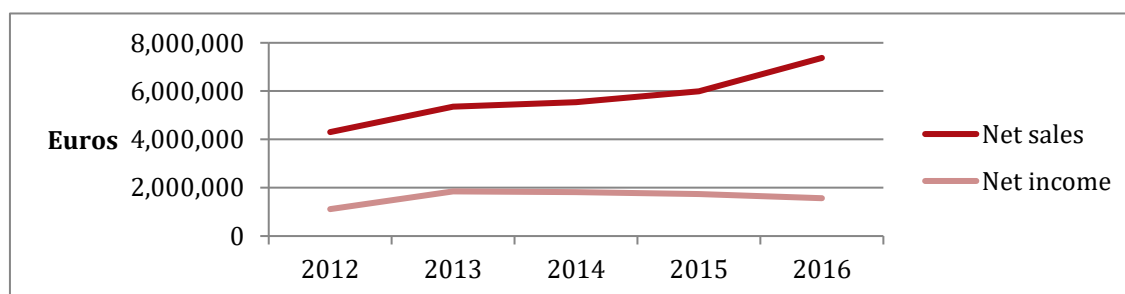
3.3.7 Financial analysis

The major objective of this part is to perform thorough analysis Carbontech's financial statements. Standard analytical tools and techniques will be used to convert available data into information useful for the strategy revision. Ratio change and trend analysis can provide an insight into significant relationships among variables as well as valuable clues to changes in underlying financial and operating conditions of Carbontech.

Carbontech Group consists of five subsidiaries and up to now, the national accounting standards did not oblige Carbontech to prepare consolidated financial statements. However, according to generally agreed accounting principles (e.g. Bernstein, 1984), the preferred method of presenting the financial statements of a holding company and its subsidiaries is in consolidated format. Therefore, financial statements for 2012-2016 from all facilities were consolidated for analytical purposes (see Appendix 4 and Appendix 5). Following analysis is based on the consolidated financial statements. However, precise examination of individual financial statements was performed to enhance the accuracy of the analysis. This approach helps to reveal any excessive influence of one of the facilities' performance on the consolidated results. The inability to obtain meaningful and valid data for comparison with companies in the same industry due the private nature of Carbontech's competitors made it impossible to compare the firm's financial results other than with its historical data and perform trend analysis.

Over the past five years, Carbontech has had good operating performance (see Figure 9).

Figure 9: Net sales and net income development 2012-2016



Source: internal Carbontech data, author

In 2012, net sales were only 4,3 million Euros as against 7,3 million in 2016, more than 70 percent increase. Over the same span, net income fluctuated in the range between 1,1 to more than 1,8 million Euros, with its peak in 2013. The steady decline in net income reflects sharply reduced operating margin due to lower amount of business received from oil & gas customers, who are the most profitable. Although 2013 and 2014 were the most prosperous years, even the company itself is aware of the fact, that such a setting was not sustainable in the long-run. Too much of the sales amounts was centralized around one key market, putting the company at a great risk. Carbontech has been able to overcome the oil crisis by pursuing more sales with other segments. For the future, the company plans to spend around 0,6 million Euros annually until 2020 on plant and equipment to become even more specialized in certain application processes and increase its production capacity.

In the next sections, all major aspects of Carbontech's financial condition and results of operations will be analysed.

Analysis of short-term liquidity. Table 20 presents some important liquidity measures over the past five years. It is noticeable, that in 2014 the indicators took on the best values and has been worsening since then. However, they are still at sound levels. Conceivably, the position in earlier years was unnecessarily strong and represented a wasteful tying of resources that did not earn an acceptable return for the company.

Table 20: Short-term liquidity analysis

		Liquidity Ratios				
	Units	2012	2013	2014	2015	2016
Current ratio	Ratio	2,66	4,82	7,32	4,76	3,21
Quick ratio	Ratio	2,37	4,46	6,91	4,54	3,00
Accounts receivable turnover	Times	4,34	4,49	5,44	3,27	2,56
Average collection period	Days	84	81	67	112	143
Inventory turnover	Times	18,71	24,52	23,50	25,41	22,05
Average days to sell inventory	Days	20	15	16	14	17
Cash to current assets	%	40%	50%	69%	59%	38%
Cash to current liabilities	%	107%	240%	507%	281%	122%
Working capital	€	1 783 117	2 040 269	1 699 340	2 649 225	3 132 227
Working capital turnover	Times		2,80	2,96	2,76	2,55

Source: author's computation

Both the current and quick ratio signify an appropriate level of buffer against losses that might be incurred. However, the quality of assets and liabilities that compose the ratios must be taken into account. The average collection period, which was 143 days in 2016, is an area of high concern. Upon closer examination, the Czech and Polish facilities seem to have problems with collecting payments from customers. Therefore, it is important to improve the collection and liquidity of accounts receivables, particularly at the facilities mentioned. Contrarily, the inventory turnover has had a stable trend over the observed period and is a sign of stable demand for Carbontech's services. There have been some changes in the composition of working capital. Since 2012, current assets increased 1,4 times and current liabilities increased 1,5 times while cash and cash equivalents balance increased to a level of 3 million Euros in 2014 and 2015 and dropped down to 2 million Euros in 2016. The cash ratios levels in 2016 reveal sound liquidity position of Carbontech and its capability to pay current obligations. Stable working capital turnover is a sign of efficient utilization of Carbontech's working capital to support its sales.

Analysis of capital structure and long-term solvency. Looking at Table 21, it is noticeable that the contribution of debt to the total funds invested in the company increased more than twice since 2014. This trend is given by the fact that Carbontech made an investment into purchase of a personal aircraft in 2014 and decided to finance the purchase with a bank loan. Therefore, the upward trend must be interpreted in the light of management's intent. The interest coverage ratio gives a clear sign that Carbontech is in a very good financial position and will be able to fully repay its long-term debt and meet its annual interest costs.

Table 21: Capital structure and long-term solvency analysis

Analysis of capital structure and long-term solvency					
	2012	2013	2014	2015	2016
Total Debt-to-Total Capital	27%	19%	14%	25%	32%
Long-term Debt-to-Equity ratio	6,5%	1,4%	0,0%	9,4%	10,3%
Total Debt-to-Total Assets ratio	1,5%	1,2%	0,0%	7,1%	7,0%
Total Debt-to-EBITDA	5%	3%	0%	22%	26%
Interest coverage ratio	440,07	1562,39	-517,64	16015,40	900,70

Source: author's computation

Analysis of return on investment and asset utilization. The return that Carbontech realizes on total assets has been on the decline in recent years, having declined from 43 percent in 2013 to 23 percent in 2016. The negative trend over the past three years requires further investigation. Return on total assets can be computed as a product of two components: net profit margin and asset turnover. It can be seen from Table 22 that both components reached their maximal values in 2013, resulting in extraordinarily high value of return on total assets. Several additional asset utilization ratios have been computed to allow for closer examination of what the drivers of decreasing return on total assets are. The asset category, where the turnover rate has dropped most sharply since 2013 are receivables, an issue already discussed in the section of short-term liquidity analysis. Only fixed and other assets showed an increase, considering 2013 as a base year. This can be seen as a good sign in the view of the fact that there have been quite significant fixed assets additions. The increase in fixed assets turnover proposes an efficient use of new fixed assets for generating sales. However, most of the asset categories do not show any evident trend. Therefore, the decrease in return on total asset has been influenced primarily by the drop in net profit margin.

The decline in return on equity has had a trend very similar to that of return on total assets. Total equity experienced a growth of over 80 percent since 2012, whereas net income increased only 40 percent compared to net income level in 2012.

Table 22: Analysis of return on investment and asset utilization

Analysis of asset utilization					
	2012	2013	2014	2015	2016
Return on Total Assets	32%	43%	33%	25%	23%
Total asset turnover	1,22	1,26	1,02	0,86	1,07
Net profit margin	26%	34%	33%	29%	21%
Sales to cash and equivalents	5,10	3,74	1,88	1,96	3,64
Sales to receivables	4,34	4,49	5,44	3,27	2,56
Sales to inventories	18,71	24,52	23,50	25,41	22,05
Sales to working capital		2,80	2,96	2,76	2,55
Sales to fixed assets	2,98	3,88	4,68	3,29	4,58
Sales to other assets	144,15	71,56	61,53	77,05	87,81
Sales to current liabilities	5,47	8,97	9,55	5,51	4,46
Return on Stockholder's Equity	43%	54%	39%	33%	33%

Source: author's computation

Analysis of operating performance. Table 23 presents the summary of indicators that were utilized to assess the Carbontech’s operating performance and efficiency.

Table 23: Analysis of operating performance

Analysis of operating performance					
Net sales (EUR)	4 303 985	5 357 190	5 538 039	5 996 337	7 374 436
Sales growth		24%	3%	8%	23%
Gross profit margin	57%	62%	62%	63%	49%
SG&A-to-sales ratio	31%	27%	28%	26%	24%
Operating profit margin	26%	35%	34%	37%	25%
Net profit margin	26%	34%	33%	29%	21%

Source: author’s computation

The gross profit margin reached its peak of 63 percent in 2015 and dropped down to 49 percent in 2016. Regardless the quite significant decrease, such a value is a sound result considering the turmoil there has been in the sales mix structure. Net sales have been gradually growing with an increase of 70 percent in 2016 against 2012 level. The production costs more than doubled over the observed period. This was given by switch from oil & gas customers to customers in markets, which require application processes more demanding in terms of production costs. Contrarily, selling, general, and administrative expenses as a percentage of sales have been on a decline. The result was an unchanged operating profit margin when compared to 2012. In 2013, at 34 percent, the net profit margin reached its maximal value and has had a decreasing tendency since then. In 2016, net profit accounted for 21 percent of sales.

This analysis has examined Carbontech’s operations and financial position, which needs to be taken into account when revising its strategy (see Table 24).

Table 24: Financial analysis – strengths and weaknesses

Strengths	
S.13	Increasing net sales
S.14	Low level of debt
S.15	Increasing inventory turnover signifying stable demand for coating services
Weaknesses	
W.19	Decreasing trend of net and gross profit margins
W.20	Long average collection period in Czech and Polish facility

Source: author

3.3.8 Internal factor evaluation matrix

The IFE Matrix summarizes the internal factors evaluated as the most influential in the context of future strategic direction of the company (see Table 25). Carbontech receives a 2,39 total weighted score, which on a 1-to-4 scale is less than average, indicating there is room for improvements of the internal condition.

Table 25: IFE Matrix

IFE Matrix				
Key Internal Factors		Weight	Rating	Weighted Score
Strengths				
S1	Flexibility to replicate the business model + gained experience with expanding to new markets	0,06	2	0,12
S2	Fast and flexible process of decision making	0,08	3	0,24
S3	Capable managers with growth potential	0,03	2	0,06
S4	Promotion of vocational training programs	0,03	3	0,09
S5	Highly developed CRM systems	0,06	3	0,18
S6	Strong and innovative partner in the context of technologies and R&D	0,08	3	0,24
S7	Low level of debt + up to 2,5 million Euros available for investments	0,06	4	0,44
S8	Stable demand for Carbontech's services	0,06	3	0,18
S9	Certification ISO 9001:2015, very good audit results from customers, licences from suppliers	0,04	3	0,12
Weaknesses				
W1	Unsupportive corporate culture (disharmony between some managers and the CEO)	0,1	2	0,2
W2	High level of employee turnover connected with high costs	0,04	1	0,04
W3	Poor performance of Polish facility (OTD, revenue etc.)	0,1	1	0,1
W4	Unsatisfactory condition of Polish facility and necessary investment into new technologies in Czech facility	0,05	4	0,2
W5	Absence of long-term marketing strategy and insufficient communication between marketing and sales managers	0,06	1	0,06
W6	Insufficient PR and customer events	0,02	2	0,04
W7	Fail to pass FMC Technology audit in 2016 in full scope	0,01	1	0,01
W8	Insufficient devotion to R&D	0,04	2	0,08
W9	Decreasing trend of net and gross profit margin	0,05	2	0,1
TOTAL		1		2,39

Source: author

3.4 SWOT Matrix

On the basis of the comprehensive internal and external analysis performed, SWOT Matrix, serving as a starting point for the revision and update of Carbontech's strategies, was developed (see Appendix 6).

Table 26 presents strategies generated on the basis of given SWOT Matrix. In the comments column, each of the strategies is assigned to a more general long-term strategic topic.

Table 26: Strategies selected on the basis of SWOT Matrix

			Comments
SO Strategies	O1 + S9	Cooperate with suppliers in pursuance of environmentally friendly coating materials	Become more environmentally responsible
	O5,O6 + S7,S10	Keep track of current market trends to spot possible market penetration or related diversification opportunities	Increase sales in key markets, search for new markets opportunities
	O8 + S2,S7	Keep track of possible investment opportunities in CEE	Expand current market share to ensure the position of the leading supplier of high-tech fluoroplastic coatings in CEE
	O2,O3,O5 +S5, S9	Develop new strategic partnership with customers from current markets	Increase sales in key markets
	O2,O3+S5	Increase profit margin by pursuing sales with the most profitable customers	Add and retain high-value customers
ST Strategies	T2 + S6,S7	Pursue R&D partnership with Brandt Group and key suppliers in order to maintain technology competitiveness	Maintain the position of a leading supplier and ensure the best productivity driven by technology
	T3+S3,S4	Increase employee motivation and engagement	Develop supportive and stimulative corporate culture
WO Strategies	O4 + W3	Optimize human capital by practising knowledge transfer, best practice transfer, and cross-training among facilities	Higher employee productivity
	O2,O3 + W5	Better understand market needs (customers, services, products) to increase sales with existing customers and to gain new customers	Increase sales
	O4,O7 + W2	Employ people from Eastern Europe	Higher employee productivity
	O2,O3+W5	Deliver superior customer value to customers from key markets	Increase customer value to ensure the position of the leading supplier of high-tech coatings in CEE, increase sales and maintain high profit margins
WT Strategies	T1 + W6	Increase communication with media and customers to enhance Carbontech's visibility	Enhance visibility
	T7 + W6	Pursue image of a flexible high quality supplier	Be the leading supplier of high-tech coatings, increase sales
	T5 + W1	Develop supportive and stimulative corporate culture	Employ motivated and engaged people
	T2,T8 + W7	Increase investments into R&D	Maximal productivity and maintaining the position of a leading supplier in CEE
	W1,W2 + T5	Increase customer satisfaction	Expand sales to current as well as new customers

Source: author

After an analysis of information gathered in Table 26, six long-term strategies for Carbontech were selected (see Table 27). Selected strategies in the financial perspective are in conformity with the current Carbontech’s strategy and are oriented on further growth of the company in terms of sales. However, these strategies are complemented with non-financially oriented strategies focusing on encouraging employee engagement, increasing productivity, as well as enhancing environmental and social responsibility. Such set of comprehensive and mutually supportive strategies present a key to sustainable success of the company, when implemented thoroughly.

Table 27: Long-term strategies for Carbontech Group

Based on the SWOT Matrix, the following long-term strategies were selected:	
1.	Maintain high profit margins to be able to self-finance further growth and development, as well as satisfy expectations of shareholders
2.	Increase sales in key markets as well as in secondary markets
3.	Maintain a position of an independent leading applicator of high-tech fluoroplastic coatings in CEE
4.	Improve productivity by implementing competitive technologies and efficient processes, as well as by retaining skilled motivated employees
5.	Pursue supportive and stimulative corporate culture
6.	Enhance the company's image in context of engineering competences, environmental and social responsibility

Source: author

3.5 Critical Success Factors

In this section, factors that are critical for Carbontech’s future success will be presented. Revised long-term strategies form the basis for identifying critical success factors (CSFs). The CSFs indicate the key areas that Carbontech needs to focus on to maintain competitive performance. As the CSFs influence more of the Balanced Scorecard perspectives at once, proper identification of CSFs ensures, that selected strategic goals, initiatives and performance indicators are chosen with a systematic relationships to a broader strategic topic. Carbontech’s CSF that were identified follow.

Customer orientation. Since its establishment, Carbontech has proved to be a flexible applicator of industrial coatings, willing to meet even more complex customers’ needs. Thanks to its fast and effective system of decision-making, the company is able to adjust its production processes to meet various customers’ requirements. It is crucial, that Carbontech remains such an approach to continually changing customer needs. Carbontech applies coatings on industrial parts according to varying customer

specifications. Therefore, each of the coating processes is specific to some extent. For this reasons, it is important that Carbontech is aware of costs of the various processes and therefore is able to focus on the most profitable segments.

Implementation of the most modern technologies. In conformity with Carbontech's strategy of being the leader in its markets, having modern technologies that ensure customer needs can be met is one of the most important factors. Installing new technologies in the production is a way, how to maintain competitiveness, retain current customers as well as attract new customers. Moreover, the productivity is improved and repetitiveness of production is ensured. Since Carbontech's philosophy is to put emphasis on current application processes and continually strive for excellence, technological innovations are the principle part of the organizational future success.

Effective and efficient processes. Currently, process management in Carbontech is perceived as an insignificant area. Process structure diagrams are considered as an inapplicable administrative necessity. However, understanding and updating the process structure presents a great opportunity, how to improve the company's performance. Processes adhere to daily activities that are performed in Carbontech and are interlinked with each other. Analysing current processes is believed to reveal the inconsistencies that nowadays prevail in the company's functioning. Updating and creating completely new processes that would link the strategic needs to the operations can enhance communication within departments and lead to overall increase in productivity. Implementing process improvement methodologies presents a great chance for Carbontech how to foster effectiveness and efficiency.

Great relationship with Carbontech's partner. Already close relation to Carbontech's German partner presents one of the most important strengths. Furthermore, a great opportunity is seen in tightening the connection and pursuing more common projects. There is a wide range of strategic topics that should be communicated in order to come up with solutions beneficial for both partners. Great potential is seen in technology and innovation transfer, as well as in outsourcing application services that the other party is not capable of providing. Creating such a network would enhance the competitiveness of both firms. Moreover, it is supposed to increase the attractiveness of both firms for customers because of ability to offer wider service portfolio and cover broader geographic scope.

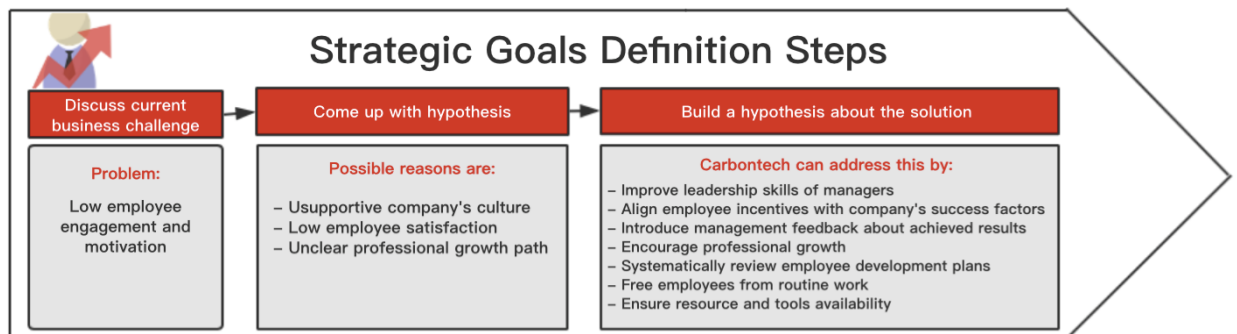
Employee engagement. Even though Carbontech sees its biggest opportunity in increased automation of production processes and therefore is very technology-oriented, human capital has still fundamental influence on the company's functioning and cannot be ignored. Engaged and motivated people can present the biggest strength of the company and can be the driver of its performance. With expansion of its operations, Carbontech cannot be further a company led by several competent proficient managers. The top managers have to learn how to create proactive work environment and positive relationships with other employees, give meaning to their daily activities and clarify their contribution to the company's success. Only if employees feel as a part of the company and put their effort in pursuing Carbontech's strategic objectives, success can be achieved.

4. Strategy Implementation

Strategy implementation is believed to be the most complex phase of the strategic management process. Strategic managerial system Balanced Scorecard will be employed to implement long-term strategies that were selected as the most suitable for Carbontech. The company has already employed several financial and operational performance measures. Yet, a coherent strategy implementation plan that aims to gauge its performance with regards to strategic plans is missing. Introducing BSC as a new comprehensive performance measurement and managerial system will present vital change for Carbontech.

External and internal audit analysed current position of Carbontech and served as means to identify current challenges. In the next step, hypothesis about what the company can do to address these challenges need to be made. By doing so, one can get more complex image of which strategic goals to set in order to pursue the revised strategy. Figure 10 gives an illustration of how the strategy “Develop supportive and stimulative corporate culture” can be elaborated into specific strategic goals. The process starts with a proper and clear definition of the current business challenge, which is low employee engagement and motivation. Another step comprises of identifying all possible causes of the problem. Finally, hypothesis about how Carbontech can increase employee engagement and motivation are transformed into strategic actions. These will be incorporated into final BSC matrix.

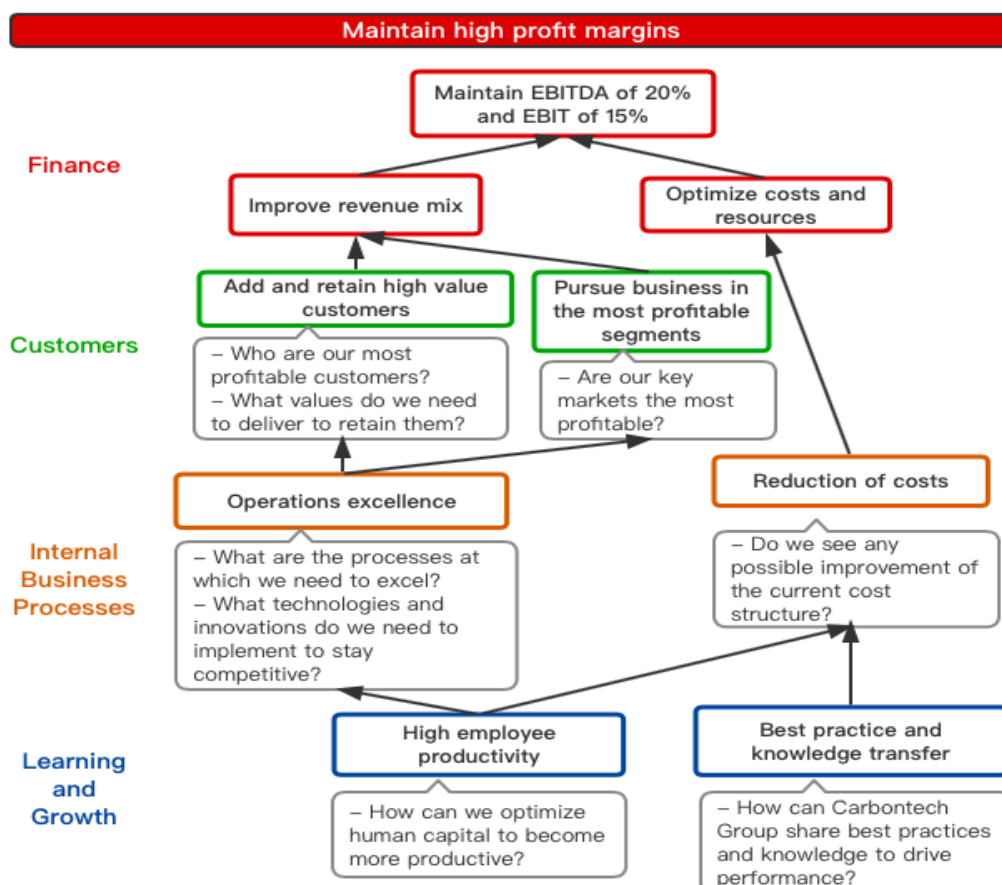
Figure 10: Elaboration of strategy “Develop supportive and stimulative corporate culture” into strategic goals



Source: author

Such a process of stating hypothesis about possible problem solutions needs to be performed for each of the selected long-term strategies. This way, it is ensured that strategies will be executed in a rational manner. BSC framework provides a systematic tool, which serves as a guide for breaking down selected long-term strategies into more specific strategic goals and for specifying relationships between them. This tool, called the cause-and-effect model, will be utilized to ensure the selection of proper strategic goals in all four BSC perspectives. Moreover, cause-and-effect models facilitate the selection of suitable performance indicators in which vision and strategies of Carbontech are embedded. Figure 11 gives an illustration of the cause-and-effect model, in which the selected strategy “Maintain high profit margins” is analysed and decomposed into strategic goals in all four BSC perspectives.

Figure 11: Decomposing strategy “Maintain high profit margin” into BSC perspectives



Source: author

The model visualizes interconnections between goals in all four perspectives and provides a framework for action in the sense that it shows how strategic goals' achievements in different perspectives jointly support Carbontech's strategy to maintain high profit margins. Cause-and-effect model provides an excellent base for rational discussion about how the company achieves its strategies. Moreover, it enables making more educated hypothesis about linkages between various goals.

Techniques described above were utilized in order to select strategic goals, which would capture Carbontech's long-term strategy. In the following subsections, strategic goals, introduced in each of the four perspectives, are summarized. Strategic goals are further decomposed into strategic initiatives and aligned with leading and lagging performance indicators. The final Balanced Scorecard matrix is presented in Appendix 9. The selection of suitable performance indicators presents a building block for appropriate evaluation of the company's progress towards its strategies. One to three performance indicators were selected for each strategic goal and initiative. Furthermore, frequency of measurement was recommended and person responsible was assigned to each indicator.

4.1 Financial Perspective

In consistency with current Carbontech's strategies, strategic goals in the financial perspective are focused on sales expansion in the company's key as well as secondary markets, and on maintaining high profit margin on coating application services. Since Carbontech is currently lacking a coherent action plan for pursuing these strategies, proper strategic initiatives were developed to increase the awareness of how various actions are interweaved and back the overall company's strategy. The thorough description of strategic goals and initiatives set in the financial perspective follow.

F1. Reach revenue of 11 million Euros in 2020

F1.1 Develop long-term sales plan for key markets and regions

For the purpose of achieving steady sales growth, Carbontech must come up with a detailed plan, stating how the projected future revenue is going to be realized. Annual plans with projected revenue by segments and regions must be developed to be able to effectively evaluate Carbontech's future performance. The sales forecast should involve considerations such as the past trends of sales volumes, production and financial capacities of Carbontech, current industry conditions and competitor forces. All of these factors were closely assessed in the sections of external and internal audits. Therefore, Carbontech can facilitate the information gathered when developing long-term sales plans.

F1.2 Develop investment plan to ensure capacity and technology required

As revealed by the internal analysis, Carbontech needs to make several investments into capacity and technology to be able to achieve desired revenues by 2020. For this purpose, managers shall come up with a coherent investment plan to be able to meet projected sales volumes.

F2. Maintain EBITDA of 20% and EBIT of 15%

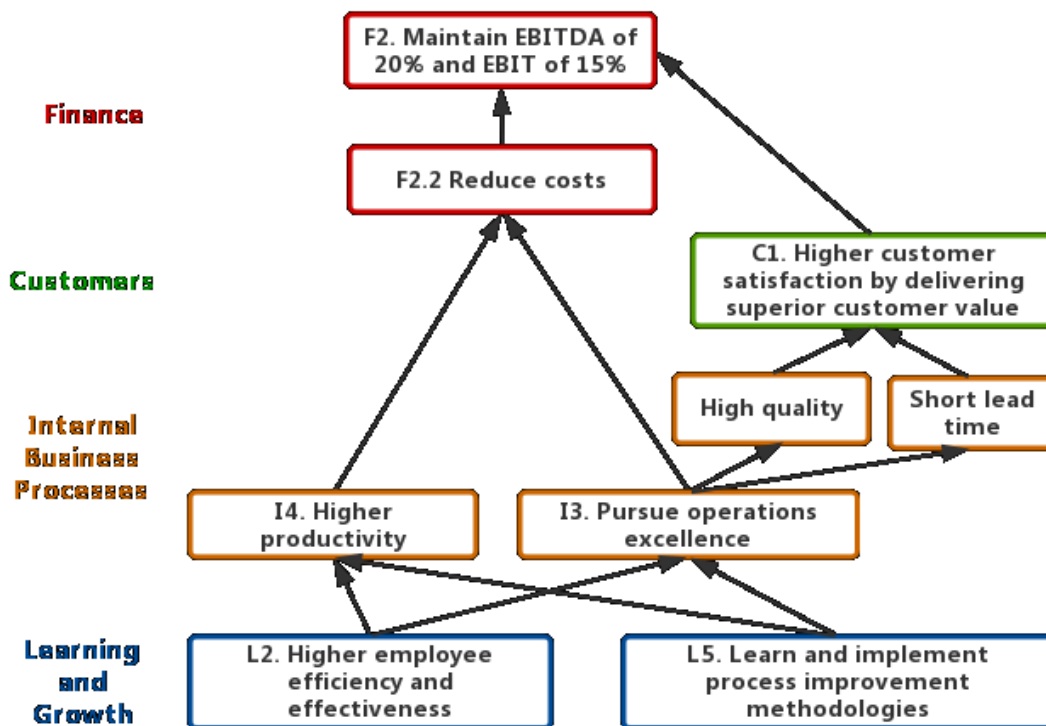
F2.1 Assess the optimal revenue mix

The main purpose of this initiative is to clearly define Carbontech's focus markets and assign their profitability. Also, it is recommended to determine the most profitable coating application services and processes to enable the company to concentrate on expanding sales to current as well as new customers demanding this type of services.

F2.2 Reduce total costs-to-revenue ratio by 5% until 2020

Recommended approach to maintaining high margins is to continuously exert pressure on cost reduction. Reducing costs must not decrease the value delivered to Carbontech’s customers, therefore, processes in the company need to be analysed to find areas with potentials for improvements and reduction of resource wasting. Effective sequence of initiatives that aim for cost reduction is introduced within other perspectives in more detail. Figure 12 shows the cause-and-effect model explaining the logical path of how the strategic initiative of cost reduction is planned to be achieved. From the scheme, it can be seen that emphasis is laid on effective utilization of resources, thus improvement of productivity, process optimization and valuing those, who contribute to problem solving.

Figure 12: Cause-and-effect model for initiative F2.2



Source: author

Strategic goals and strategic initiatives presented in the financial perspective were assigned performance indicators with the aim to measure Carbontech’s success in achieving given goals and initiatives (see Table 28).

Table 28: Performance indicators for the financial perspective

Strategic goal/initiative	Indicator	Calculation	Frequency of measuring	Responsibility
F1	Total revenue	cumulative sum per month	monthly	CEO, plant managers, business developer managers
F1.1	Revenue by markets	cumulative sum per month	monthly	business developer managers
	Revenue by regions	cumulative sum per month	monthly	plant managers
F1.2	Investment expenditures as a % of revenue	$\frac{\text{investment expenditure}}{\text{total revenue}} \times 100$	annually	CEO, plant managers, technical manager
	% of executed investment plans	$\frac{\text{executed investments}}{\text{planned investments}} \times 100$	semiannually	CEO, plant managers, technical manager
F2	EBITDA margin	$\frac{\text{EBITDA}}{\text{total revenue}} \times 100$	monthly	financial manager
	EBIT margin	$\frac{\text{EBIT}}{\text{total revenue}} \times 100$	monthly	financial manager
F2.1	Profitability by markets	EBITDA by markets	quarterly	financial manager
	Profitability by services	EBITDA by services	quarterly	financial manager
F2.2	Total costs to revenue	$\frac{\text{total costs}}{\text{total revenue}} \times 100$	monthly	financial manager

Source: author

4.2 Customer perspective

In the customer perspective, Carbontech should focus on strengthening its position as the leading high-tech coatings applicator in CEE. For this purpose, it is necessary to expand sales to the existing customers, and to acquire new customers. Carbontech’s focus should lay in delivering superior value to its customers and creating more long-term relationships with its customers. An essential part of the success in the customer perspective is providing excellent customer service. The strategic goals and corresponding initiatives in the financial perspective are presented in the following text.

C1. Higher customer satisfaction by delivering superior customer value

C1.1 Launch customer survey on value propositions

The aim of this initiative is to discover, which service aspects do customers value the most and how they are satisfied with them when cooperating with Carbontech. Once the information is gathered, Carbontech can concentrate on improving the processes, which ensure delivering the most important values to customers.

As a part of this thesis, an action towards executing the initiative has already been taken. A proposal of customer survey on value propositions had been developed and subsequently presented to the marketing manager in Carbontech. Subscribed application Getfeedback was utilized for designing and distributing the survey. The unabridged survey questions and the design of the questionnaire can be found in appendices (see Appendix 7 and Appendix 8). Because the questionnaire results have not been collected yet, it is not in the scope of this work to analyse the results.

C1.2 Pursue continuous investigation of customer satisfaction

The activity of continuous customer satisfaction investigation is already implemented in Carbontech in a form of survey on customer satisfaction attached to every invoice sent. In the future, focus should be on optimizing the costs of the questionnaire service provider. Nowadays, the subscribed application is extremely costly in the context of percentage of responses received. Also, the process of getting feedback from customers should be unified. Currently many of issues are discussed directly by phone with the sales agents and complaints are not recorded among the feedback obtained from the customer surveys.

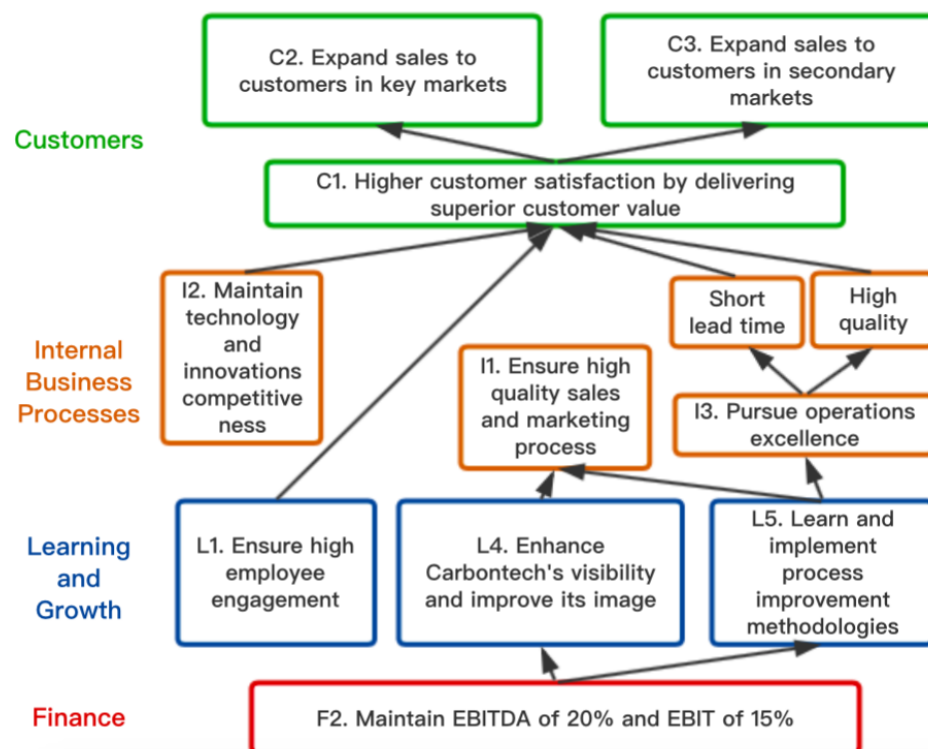
C1.3 Provide excellent customer support

To deliver excellent support to customers, while retaining reasonable level of productivity of its sales agents, Carbontech is recommended to implement online customer community software provided by Salesforce. The customer cloud can be integrated with the company's other IT platforms and therefore unify and simplify business processes. The connection to production would enable customers to see in which stage their order is. Communication between customers and sales agents can be held online, ensuring that all relevant data are stored. Thus, the data can serve for further analysis and optimization. Customer community software would free sales agents from routine work and reduce time spent answering customers' questions. This way, productivity can be enhanced. After implementing the software, various metrics

can be introduced to assess Carbontech’s performance in providing customer support according to data available. Suggested metrics are number of active issues and average resolution time. Identifying customers, who are the most demanding in terms of requested support, is recommended.

The cause-and-effect model represented in Figure 13 shows, how strategic goals in other BSC perspectives aim to higher customer satisfaction and how increased customer satisfaction influences other strategic goals in the customer perspective.

Figure 13 Cause-and-effect model for strategic goals in the customer perspective



Source: author

C2. Expand sales to customers in key markets

The analysis of external environment revealed, that automotive and bakeware industries are forecasted to grow until 2020. Stabilization of oil & gas market is expected as well. This constellation presents great opportunity for Carbontech to promote sales in its key markets in order to meet its financial goals. This strategic goal is directly supported by initiative I1.3 in the internal business processes perspective, whose intent is to develop new job positions of business developers. Each of

the business developers would be responsible for increasing sales in one of the key markets. The corresponding initiatives for ensuring sales expansion in key markets are:

C2.1 Annually increase in sales to current customers from key segments by 10%

C2.2 Add 2 high-value customers in each of the key segments

The term high-value customer refers to a customer, with whom required revenue can be generated and with whom business on repetitive basis is arranged. With the help of Carbontech's sales department, the required realized annual amount of revenue was set at a level of 40 000 Euros.

C3. Expand sales to customers in secondary markets

Thanks to the recent trend of cost downsizing, there will be more opportunities to obtain business from customers in its secondary markets. The goal of expanding sales to customers in secondary markets requires Carbontech to undertake an action of continuous monitoring of the market and creating better understanding of target customers' needs. Moreover, the objective of this goal is to retain proper level of diversification, therefore reduce risk coming from excessive focus on the three key markets. Initiative capturing the success in achieving this goal is:

C3.1 Annually increase of successfully closed deals in secondary markets by 5%

C4. Create long-term strategic partnerships with customers

Since Carbontech sells to other businesses, there is an opportunity to create long-term mutually beneficial relationships with these firms by sustaining the position of a flexible customer oriented provider of complex coating services. Carbontech should put effort into pursuing long-range projects and cooperation with its customers by finding a win-win partnerships. The initiative that captures this strategic goal is:

C4.1 Annually develop 2 new strategic partnerships with customers

With the help of Carbontech's CEO, the term strategic partner was defined. Carbontech shall consider its customer as strategic, if annual sales with the customer reach the level of 100 000 Euros and the business is set on repetitive bases for a time span of at least three years.

Table 29 presents the performance indicators that aim to gauge Carbontech's performance in the customer perspective.

Table 29: Performance indicators in the customer perspective

Strategic goal/initiative	Indicator	Calculation	Frequency of measuring	Responsibility
C1.1	Value propositions by importance	importance score	one-time	marketing manager
	Level of customer satisfaction with value propositions	index of customer satisfaction with value propositions	one-time	marketing manager
C1.2	Level of customer satisfaction with delivered services	customer satisfaction index	quarterly	quality manager, sales department
	Number of complaints by reasons	cumulative sum per quarter	quarterly	quality manager, sales department
C1.3	Average time of customer service	time from application submission to customer request satisfaction/number of requests satisfied	annually	sales department
C2	Total sales in key markets	cumulative sum per month	monthly	business developer managers
C2.1	Number of events with top 10 existing customer in key markets	cumulative sum per customer	semiannually	business developer managers
	% change in revenues with existing customers in key markets	$\left(\frac{\text{revenues}_t}{\text{revenues}_{t-1}} - 1\right) \times 100$	annually	business developer managers
C2.2	Number of new high-value customers in key markets	cumulative sum per year	annually	business developer managers
	Revenue generated with new customers in key markets	cumulative sum per month	monthly	business developer managers
C3	Total sales in secondary markets	cumulative sum per month	monthly	plant managers
C3.1	% of successfully closed deals in secondary markets	$\frac{\text{closed deals}}{\text{qualified leads}} \times 100$	annually	sales department
C4.1	Number of new strategic partnerships	cumulative sum per year	annually	CEO, plant managers, sales department

Source: author

4.3 Internal Business Processes Perspective

The key goal of the internal business processes perspective is to define processes, in which Carbontech needs to excel in order to achieve strategic goals in customer and financial perspectives. On the basis of internal audit, the following strategic goals were set:

II. Ensure high quality sales and marketing process

The strategic goal aims to improve the performance of sales and marketing departments, since it is crucial for generating desired revenues. The position of the marketing manager has been underestimated in the context of its contribution to the company's strategy achievements. Therefore, to achieve selected goals in customer and financial perspective, radical change in the conception of marketing is inevitable. Marketing has to become more strategy oriented. The marketing manager must begin to cooperate more closely with the sales department. Furthermore, implementation of the new sales structure is recommended to improve the sales process. The suggested initiatives are:

II.1 Improve efficiency and effectiveness of marketing and sales

In an attempt to improve sales performance, an analysis of customer segments and customer needs has to be performed together with continuous identification of market trends. Once the company gathers required information, the resources for targeting and acquiring new customers can be optimized. In order to select the most efficient and effective marketing campaigns, marketing decisions in Carbontech should become more data driven. Corresponding costs have to be assigned to each of the marketing activities and campaigns currently being carried. Then marketing activities can be evaluated according to number of customers reached and leads generated. In this manner, return on marketing investments can be appraised and the best way how to interact with potential and current customers can be selected.

II.2 Improve communication between sales and marketing department

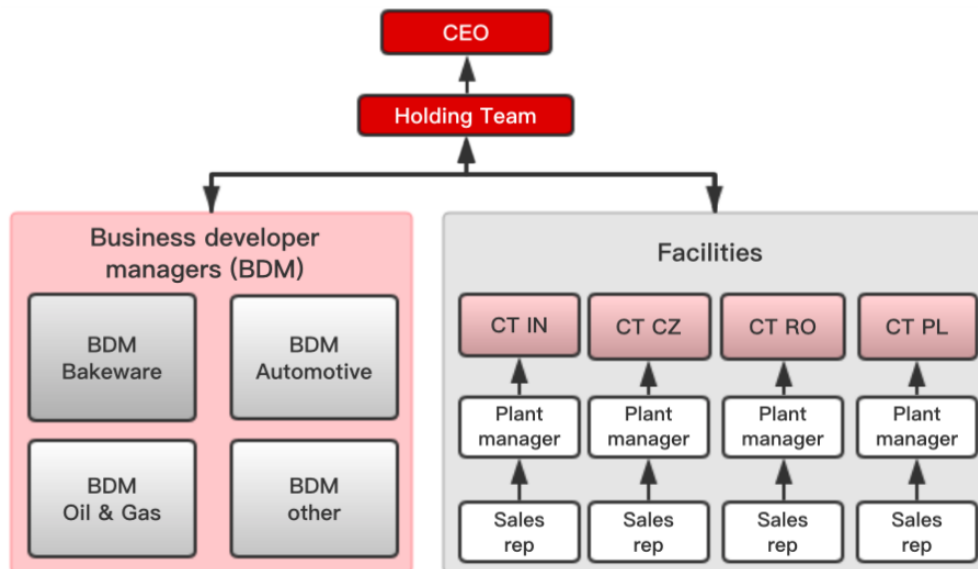
This initiative aims to enhance cooperation between sales and marketing departments. Up to now, the marketing manager lacked important strategic information about customers and key markets. Moreover, some important marketing functions were embedded in sales. Both departments have to agree on what their roles are in the sales process. This way they can collaborate and pursue the business strategies together.

Communication might mean meetings on weekly basis or sharing important information in the CRM system. The marketing role should consist of activities including the development of source materials that help the sales department with attracting customers and closing deals.

11.3 Implement new sales structure

Carbontech Group has designed a project within which new sales structure is supposed to be implemented. Within this new structure, new roles of business developers are introduced in the company. Business developers are supposed to be in charge of developing key markets and maintaining relationships with strategic customers in respective markets. Similarly, plant managers are supposed to be responsible for sales in the area where specific plant is located. This system can be characterized by a matrix structure with vertical and horizontal sales plans (see Figure 14).

Figure 14: New sales structure design



Source: author

Due to lack of time and key sales agent's departure from the company, the sales project has not been launched yet. It is recommended that Carbontech implements the new sales structure until the end of the current fiscal year. Once the roles are assigned to qualified managers in Carbontech, the long-term sales plan developed within financial strategic initiative F1.1 can serve as a basis for defining the particular responsibilities.

12. Maintain technology and innovation competitiveness

This goal directs at ensuring that Carbontech keeps pace with new technology and innovation trends. Installing new technologies and automated lines could bring great increase of productivity and ensure process repetitiveness. Continuous implementation of new process technologies presents the building block of future success, as well as means, how the company can outperform its competitors. Strategic actions that aim to ensure technology and innovation competitiveness are described in the following text.

12.1 Invest 5% of revenue into new technologies

12.2 Pursue strategic partnership with Brandt in the context of technology and innovations

Carbontech is highly recommended to seize the opportunity to cooperate more closely with its partner Brandt. Brandt is supposed to be more advanced in the field of technologies and R&D. This cooperation can take a form of common projects pursued. With regards to R&D, the project execution would take place in Brandt's facilities, since Carbontech's facilities are not equipped with laboratories and testing workplaces. Concerning the technology innovations, Carbontech shall pursue educational visits to Brandt's facilities to increase the awareness of possible new technological installations. Alternatively, in conformity with the idea of increasing the specialization of each facility, the partners could agree on providing certain specialized services for the customers of the other partner, who is not capable of such types of coating applications. Such a stance would bring great reduction in investment costs. Therefore, the issue of how Carbontech will approach improvements of R&D and technology equipment is undecided and will have to be discussed by the top management to come to the best possible solution.

12.3 Proactive approach to suppliers' innovations

Since EU environmental regulations put pressure on both Carbontech suppliers and the company itself, the best solution is to cooperate together with suppliers and find a solution how to lower the amount of substances of high concern in the coating materials. Carbontech should engage in proactive conversations and communications with its suppliers about effective cooperation in this area and show its willingness to test new innovative composition of coating materials.

13. Pursue operations excellence

As a part of Carbontech's effort to pursue operational excellence, the company should focus on optimizing business processes to allow for highly effective and efficient operations. It is crucial to focus on the company's capabilities that aim to deliver desired values to its customers. Up to now, the clear and convincing value propositions that Carbontech focused on were quality and short lead times. Therefore, the goal of pursuing operations excellence addresses the need for delivering high quality services to Carbontech's customers within as short time as possible. Throughout the ISO 9001 standards, there are requirements for reporting on performance of the Quality Management System and evaluating its effectiveness. It seems that Carbontech faces trade-off obstacles by trying to provide superior quality services and meet delivery dates on 100 percent at the same time. Internal quality control of finished products has been tightened up to ensure the best quality is delivered to customers. However, this technique prolongs the time of dispatch. Logical way how to address this issue is to make each of the facilities specialized in certain coating application services to ensure excellence in quality and lead time. Strategic initiatives that aim to capture the operations performance are:

13.1 Strengthen the internal quality audit requirements

High standards need to be set in the area of internal quality audits, since some inconsistencies between internal quality control and customer audits occurred. The internal quality audit requirements were met on 100 percent in all Carbontech's facilities. However, customer audits revealed several "minor deviations from otherwise well-implemented process". To be able to defend the position of an expert applicator of high-tech coatings, it is necessary to address this issue by reviewing and setting more effective quality management systems in all production plants. Moreover, Carbontech should continue to strive for reducing costs for internal and external non-conformity products.

13.2 Meet On Time Delivery requirements at all plants on 95%

Because short lead time is one of the most important values Carbontech offers to its customers, this initiative focuses on tightening the required OTD percentage.

I4. Higher productivity

The issue of not being able to increase productivity up to desired levels is very complex and has its roots in other organizational inefficiencies. First, Carbontech's ongoing problem with high employee fluctuation is connected with repetitive hiring of new employees, providing trainings, and other costly activities. Therefore, it pulls the productivity down. Secondly, stress and communication problems at the workplace have negative impact on employee productivity as well. Initiatives in the learning and growth perspectives address both mentioned problems. Furthermore, automation of processes within the production presents great opportunity how to stay competitive and enhance productivity. Adopted philosophy of pursuing operational excellence leads to ongoing improvements of current activities in the company and therefore contributes to better utilization of resources. From the abovementioned it is clear, how other factors affect productivity. The initiatives that capture the progress in productivity development are:

I4.1 Keep wages to turnover ratio under 20%

I4.2 Keep production costs under 40%

I4.3 Create competence centres to optimize productivity

Carbontech's management plans to modify current layout of competences within its facilities. Up to now, the effort was to provide wide variety of coating services at each of its location. The new philosophy is to create competence centres that would specialize in several coating application processes. Although such organization will decrease the level of flexibility and independence of each production facility, the focus on narrower service portfolio shall enhance the overall productivity and support the position of Carbontech as an expert company. Therefore, this initiative aim is to design and plan the optimal distribution of competences between existing facilities and to decide on the final service portfolios. On the basis of such plan, specific investments into new technologies can be projected with the intent to increase automation. Therefore repetition of processes and further reduction of costs is ensured.

Performance indicators recommended in the internal business processes perspective are presented in Table 30.

Table 30: Performance indicators in the internal business processes perspective

Strategic goal/initiative	Indicator	Calculation	Frequency of measuring	Responsibility
I1.1	Number of opportunities	cumulative sum per month	monthly	marketing manager
	Number of qualified leads	cumulative sum per month	monthly	marketing manager, sales department
	Average cost per lead	$\frac{\text{total money spent on marketing campaigns}}{\text{total number of leads generated}}$	annually	marketing manager
I1.2	Number of complaints about lack of information	cumulative number per month	monthly	marketing and sales department
	Number of meetings	cumulative number per month	monthly	marketing and sales department
I1.3	Implementation of the new sales structure	-	one-time	CEO, sales department
I2.1	% of revenue invested into new technologies	$\frac{\text{technology investments}}{\text{total revenue}} \times 100$	semiannually	technical manager
	% of automated processes	$\frac{\text{number of automated processes within production}}{\text{total number of processes}}$	annually	operations manager, technical manager
I2.2	Number of collaborative projects carried out with Brandt	cumulative number per half-year	semiannually	CEO, plant managers, operations manager
I2.3	Number of times when innovative materials were discussed with suppliers	cumulative number per year	annually	purchasing manager
I3.1	Non-conformity products by costs (internal and external)	total costs of non-conformity products	monthly	quality manager, operations manager
	Non-conformity products as a % of total output (internal and external)	$\frac{\text{reject costs}}{\text{sales}} \times 100$	monthly	quality manager, operations manager
	% of repetitive quality problems	$\frac{\text{value of non-conformity products with a specific quality problem}}{\text{total value of non-conformity products}}$	semiannually	quality manager
I3.2	On-Time Delivery to Commit	$\frac{\text{orders delivered on time}}{\text{total amount of orders}} \times 100$	monthly	operations manager
	Manufacturing cycle efficiency	$\frac{\text{value-added time}}{\text{throughput time}} \times 100$	semiannually	operations manager
I4.1	Employee productivity	$\frac{\text{wages}}{\text{total revenue}} \times 100$	monthly	HR manager
I4.2	Production costs to turnover	$\frac{\text{production costs}}{\text{total revenue}} \times 100$	monthly	financial manager
I4.3	Establish competence centres	-	one-time	CEO, plant managers

Source: author

4.4 Learning and Growth Perspective

The pursuance of strategic goals set in this perspective might bring the most radical change to the company's functioning. As the internal audit revealed, promoting systematic and good relationship with employees is the area that the company has been struggling with over the past years. Strategic goals selected in this perspective should lead to higher employee motivation and engagement in the company's functioning and lower their fluctuation. Achievement of these goals shall result in improving employee productivity. Another field that has much room for improvements is the encouragement of knowledge and best practice transfer across facilities.

L1. Ensure high employee engagement on Carbontech's strategic goals

The initiatives that were formulated to foster employee engagement are:

L1.1 Align employees with overall long-term organizational success factors

Although the system of employee remuneration being linked to performance indicators is already established in Carbontech, an alignment between long-term company's achievements and employee rewards is missing. This initiative involves linking long-term strategies with top managers' responsibilities and therefore motivating them to strive for longer-term success of Carbontech.

L1.2 Introduce management feedback about results achieved

Similarly as the previous initiative, this recommendation aims to increase employee motivation and engagement. Yet, it focuses on continuous reviewing of employee performance. Since employees like to feel valued and appreciated, regular feedback about their work and efforts is likely to increase their performance. Feedback should be used to create better working relationships in Carbontech. Within this perspective, it is recommended to develop effective plan for employee recognition. In pursuance of this, employees striving for achieving positive business results and coming up with smart solutions and positive change would be awarded.

L1.3 Improve leadership skills of managers to mobilize employees towards strategy

Top managers are recommended to improve their leadership skills to motivate employees towards achieving Carbontech's strategies and to assure employee commitment for working on the selected strategic goals. Top managers should inspire other co-workers to achieve their personal best and therefore the best for the company as well.

L1.4 Ensure the company's strategy is well understood at all levels

Inevitable part of successfully implemented strategy is the assurance that employees at all levels truly understand current strategy and feel engaged in the priorities and challenges the company needs to overcome. Therefore, an action towards informing employees about Carbontech's vision should be undertaken. Such an action might have a form of training sessions or meetings, where long-term strategies would be explained to employees. The employees need to understand, how their roles fit in the strategic plans. Internal communication systems can serve as a medium how to inform employees about the progress towards carrying out the long-term strategies.

L2. Higher employee efficiency and effectiveness

As a part of the strategic goal aiming to higher employee efficiency and effectiveness, continuous improvement of employee skills, knowledge and qualifications is pursued. This way, excellent employee productivity and performance can be achieved. Recommended actions are:

L2.1 Support employee-driven innovations at workplace

Well-organized employee suggestions program should be implemented within each of Carbontech's facilities. Enabling employees to share their ideas for improvements is believed to have positive impact on the company's cost reduction. Furthermore, it can increase employee satisfaction and engagement at the same time.

L2.2 Improve skills by providing trainings

Within this perspective, proper plans for trainings and qualification of employees should be developed and budget for such plans set. The skills of permanent employees should be continuously improved according to company's needs.

L2.3 Pursue cross-trainings within facilities

Cross-training presents a dynamic up-to-date method how to achieve higher productivity and efficiency within production. Its goal is to ensure that employees are able of multiple job functions and that they understand how other processes are being done. Since employees develop new skills and become able to perform various specialized tasks, they become more efficient and effective at their jobs. This initiative might be carried out by selecting employees who shadow each other and learn from each other in different areas of expertise.

L2.4 Pursue worker exchange across facilities

Since all Carbontech's plants differ in terms of operational as well as administrative performance, scheduling rotation of workers across facilities would ensure that best practices are shared among the facilities. It is recommended to develop a coherent plan for workers exchange.

L2.5 Implement knowledge and best practice transfer

The fact that Carbontech's facilities differ in their performance reveals the opportunity for implementing a process of knowledge and best practice transfer among the different production plants. As a first step, existing knowledge sources need to be identified. The knowledge is embedded in processes and procedures carried out. The knowledge can also have an explicit form of information about customers and competitors kept in various databases. It is crucial to map, categorize and evaluate the knowledge assets, so an effective access to knowledge and best practices can be ensured for all the facilities. An essential part of the process is to create collaborative IT systems that would provide relevant data. Therefore, it is necessary to create shared documentation with ideas and knowledge.

L2.6 Promote teamwork and shared projects

Promotion of teamwork increases employee efficiency because a group of co-workers can solve issues faster. Moreover, sharing common goal and responsibilities enhances communication skills of the employees and is believed to have a positive effect on the overall working relationships.

L3. Lower employee fluctuation

In the section of internal audit, problems with high employee fluctuation were analysed. High employee fluctuation has been of high concern for Carbontech. The desired fluctuation levels were not met. The following initiatives aim to cope with the persistent issues.

L3.1 Improve employee satisfaction

The overall employee satisfaction has the highest influence on an employee decision to stay in the company. This initiative is connected with other initiatives in the learning and growth perspective. For example, initiatives for achieving higher employee engagement directly contribute to overall employee satisfaction. Therefore, employee satisfaction is a result of many other actions. Top managers can contribute to

increase employee satisfaction by creating positive and supportive work environment on daily basis.

L3.2 Encourage professional growth

Having clear prospects of future career plays an important role in employee loyalty. Professional development plans need to be in alignment with Carbontech's long-term strategy and take into account the particular employee capacity for further skills acquisition. Carbontech designs development plans on regular basis. However, the focus should be on more frequent reviews and updates of the plans. Therefore, the aim of this initiative is to schedule more frequent meetings with employees and evaluate the development and progress made.

L4. Enhance Carbontech's visibility and improve its image

Since Carbontech provides services to other businesses, it has quite clear understanding of who its customers are and what their needs are. The company can exploit this knowledge to launch more sophisticated, mainly online marketing campaigns, which would increase Carbontech's visibility among customers. If Carbontech wants to position itself as the leading expert company, it needs to undertake actions to foster such image. The easiest and most efficient way is to become more active on the internet. As a first step, Carbontech has to add news and articles on its website and LinkedIn page more frequently. To prove its expertise, summary articles from industry trade magazines or opinions on new legislation, that impacts the company as well as its customers, could be posted online. It is crucial to keep focus on content that customers find interesting and helpful. Regular webinars arranged for current as well as potential customers would be a great way, how to present Carbontech, its current challenges and news, as well as answer customers questions. Secondly, Carbontech is recommended to start cooperating with industry magazines and other media. Moreover, membership in communities such as trade associations, chambers of commerce and various coatings associations would definitely increase Carbontech's prestige. To enhance Carbontech's position as a social responsible company, participation in educational and environmental programs is suggested.

On the basis of the forementioned, following initiatives are recommended:

L4.1 Improve the quality of online marketing campaigns

L4.2 Increase communication with business associations and media

L4.3 Become involved in educational programs and environmental initiatives

L5. Learn and implement process improvement methodologies

This strategic goal aims to learn and implement techniques and methodologies that serve as the drivers of effective and efficient internal processes. This way, productivity and competitiveness can be enhanced. There exists a wide range of well-proven methodologies, that seek to achieve improvements in work-flow processes and are instrumental in pursuing operations excellence. The logical sequence of recommended actions starts with a definition of fundamental processes and their analysis. It is important to gather relevant data and determine the productivity gain that each of the current processes brings. In this manner, major issues can be identified and interventions that would improve and optimize processes can be designed. Both operational and non-operational areas should be examined and cause-and-effect relations between processes assessed to obtain a more complex view. Another way, how to improve performance, is benchmarking. It is highly recommended that Carbontech designs a benchmarking project with its partner firm, which is very advanced with its processes. The initiatives for this strategic goal are:

L5.1 Analyse current process structure and seek for improvements opportunities

For this initiative, it is recommended to implement process improvements systems such as Six Sigma. It presents a structured and highly quantitative-based approach to improvements of organizational performance. Six Sigma seeks to reduce variations in business processes as well as to introduce completely new processes. The result is increased quality and productivity. Six Sigma improvement projects identify and apply steps to reach targets including reduced costs or cycle times and increased customer satisfaction.

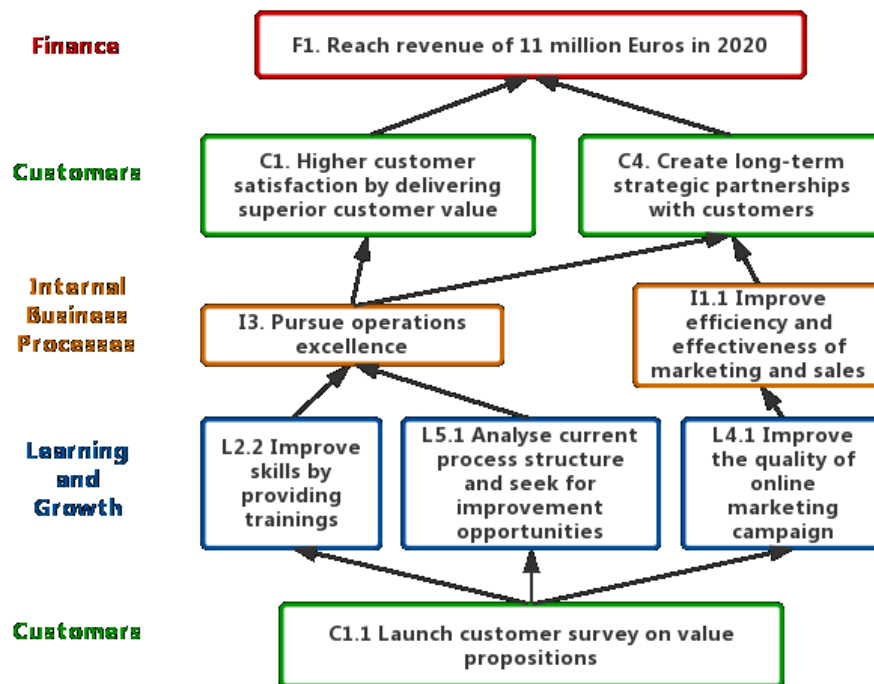
Six Sigma is an example of a tool, which can be utilized to achieve process improvements. However, it depends on the preferences of Carbontech's top management, which techniques will be selected for process analysis. It is recommended that trained personnel with performance measurement and statistical analysis experience is outsourced to execute the designed project.

L5.2 Allocate actual resources to processes

Since Carbontech does not have any method established for systematic cost analysis, it is recommended to implement certain methods, such as Activity-based costing, to get better understanding of the current cost structure. By doing so, Carbontech can assign costs to specific coating application processes and continuously strive for rational cost reductions.

It is important to emphasise the crucial principle of leveraging customer requirements in process redesign efforts. Investigating on customer value propositions ensures the right direction of attempts for improvements. Figure 15 summarizes, how the initiative of launching a customer survey on value propositions enables Carbontech to collect relevant data for further work-flow improvements.

Figure 15: Cause-and-effect model for initiative C1.1



Source: author

Table 31 shows a summary of performance indicators that are recommended to be implemented in the learning and growth perspective.

Table 31: Performance indicators in the learning and growth perspective

Strategic goal/initiative	Indicator	Calculation	Frequency of measuring	Responsibility
L1.1	% of employees whose remuneration is linked to long-term strategic goals	number of employees whose remuneration is linked to long-term strategies/total number of employees	annually	HR manager
L1.2	Number of employees who receive recognition for excellent performance	absolute value	quarterly	top management
	Number of feedback sent to employee	cumulative number per quarter	quarterly	top management
L1.3	Number of top managers who participated in coaching programmes	absolute value	annually	HR manager
L1.4	Percentage of staff who can identify organization's strategic priorities	number of employees aware of the company's strategy/total number of employees	annually	HR manager
L2.1	Number of implemented innovations	cumulative number per quarter	quarterly	operations manager
	Number of improvement suggestions per employee	number of suggestions/total number of employees	semiannually	operations manager
L2.2	Training effectiveness evaluation	internal training evaluation survey	semiannually	HR manager
	Employee development vs. plan	executed development activities/planned activities	quarterly	HR manager
L2.3	Number of employees participating in cross-trainings	absolute value	annually	HR manager
	Number of employees participating in exchange	absolute value	annually	HR manager
L2.4	Number of best practice ideas employees identified and used	absolute value	quarterly	operations manager
	% of employees that transferred ideas into shared database	participating employees/total number of employees	quarterly	operations manager
	Number of employees who used the system	active employees/total number of employees	quarterly	operations manager
L2.5	Number of teamwork projects executed	cumulative number per quarter	quarterly	HR manager
L3	Employee fluctuation	number of departed employees/average number of employees	annually	HR manger
L3.1	Employee satisfaction	employee satisfaction index	semiannually	HR manager
L3.2	Number of employees who took on more responsibility/participated in projects/ got promoted	cumulative number per year	annually	HR manager
	Number of employees with development programs	absolute value	annually	HR manager
	Number of times manager systematically review employee progress	cumulative number per half-year	semiannually	HR manager
L4.1	Number of added online articles	cumulative number per month	monthly	marketing manager
	Number of scheduled webinars	absolute value	semiannually	marketing manager
L4.2	Number of collaborative projects with business associations and media	cumulative number per year	annually	marketing manager
L4.3	Number of undertaken actions aiming to enhance social responsibility	cumulative number per year	annually	marketing manager
L5.1	% of processes that were updated	updated processes/total number of processes	annually	operations manager
	Number of performance improvement methodologies implemented	cumulative number per year	annually	operations manager
L5.2	Processes by resource efficiency	resource intensity of processes	annually	operations manager

Source: author



4.5 Recommendations for implementation

Due to its complexity, the implementation of revised strategy is performed only to certain extent. It is not in scope of this thesis to elaborate an in-depth plan for implementation of specified strategic goals and initiatives. For the purpose of implementing the scorecard into daily functioning of the company, it is suggested that a specific team is set up. Such a team assumes responsibility to communicate the scorecard to employees, to integrate the scorecard into the company's management systems and to design a plan for proper evaluation of results. Strategic goals and initiatives determined in the previous subsections need to be elaborated into more details and aligned with a specified time schedule. It is also necessary to integrate recommended performance indicators into internal IT systems, to be able to implement continual monitoring of the company's performance.

Table 32 provides a timeline with activities that are recommended to undertake in the following eight months to ensure the company puts the revised strategy into action.

Table 32: Recommended BSC timeline

Steps	Activities	Responsibility	2017								2018
			6	7	8	9	10	11	12	1	
1	Update current marketing strategy	marketing manager									
1.1	Launch customer survey on value propositions										
1.2	Evaluate customer survey results										
1.3	Develop and implement long-term marketing plan										
2	Develop and implement new sales structure	CEO and sales departments									
2.1	Assign positions of business developer managers										
2.2	Test new sales structure in Carbontech Czech Republic										
2.3	Implement at all facilities										
3	Develop and implement a plan for optimal allocation of competences across facilities	CEO and plant managers									
4	Pursue technology and innovations partnership with Brandt	CEO, operations manager									
4.1	Communicate mutual options and opportunities in the context of technologies and innovations										
4.2	Develop and implement strategic partnership plan										
5	Optimize processes and costs	operations manager and respective process owners									
5.1	Analyse current process structure										
5.2	Analyse current cost structure										
5.3	Implement process improvement methodologies and optimize cost structure										
6	Implement recommended performance measures into internal measurement systems	selected team									
7	Link employee performance to the BSC	HR manager									
8	Collect data for the performance indicators	according to assigned responsibilities									
9	Evaluate the company's performance	selected team									
10	Conduct a review of performance indicators	selected team									

 Beginning of action
 Course of action

Source: author

Conclusion

The aim of this thesis is to present the application of standard strategic management frameworks using a case study on an existing entity strategy revision process. Since strategy planning and implementation are underutilized areas in organizational management of small and medium-sized enterprises, the purpose of this thesis is to raise awareness of the discipline of strategic management and its application in practice. The emphasis was given on presenting strategy as a driving factor of organizational performance. The process of strategy formulation and implementation was presented, including strategic analysis methods to ensure rational decision-making approach is deployed. Moreover, using the Balanced Scorecard concept, a managerial system for effective strategy utilization, aimed to offset a traditional focus on financial performance by opening a broader view on organizations, and developing strategic goals, initiatives and performance measures relative to several organizational perspectives.

The thesis has been designed to assess the current strategy of Carbontech Group, a company operating in high-tech coatings industry. Although certain strategic goals had been defined by the company's top management, a systematic approach to strategy formulation and implementation was absent. Moreover, plans enhancing long-term strategic objectives into short-term goals aligned with appropriate performance measures, were missing. The company's actions were identified as mainly reactive. The decision-making processes did not accommodate external and internal variables in a sufficient manner.

In reliance of Carbontech's current situation assessment, vision and mission statements were redesigned with the aim to clarify the company's future directions. External environment analysis revealed, that the company operates in fairly stable markets with positive growth prospects. Tightening environmental regulations and superior technical competences of Carbontech's competitors were identified as the most imminent threats for close future. Findings from the internal assessment suggest, that Carbontech's expected growth can be supported by the company's flexibility, fast decision-making process and financial independency. The company should build on long-term partnerships with both its customers and suppliers. However, poor performance was identified in the areas of marketing, R&D, and HR. On the basis

of the SWOT Matrix developed, six long-term strategies were selected. An excellent financial performance can be achieved mainly by becoming more customer-oriented, installing the most modern technologies, ensuring effective and efficient business processes, developing more supportive corporate culture and enhancing the company's image. Following the strategy formulation phase, selected long-term strategies were elaborated into strategic goals and strategic initiatives in all four BSC perspectives, presenting an outline, how the strategies should be put into action. Furthermore, linkages between strategic goals and initiatives were defined with a help of cause-and-effect models. For strategy realization purpose, strategic goals and initiatives were aligned with one to three recommended performance indicators, the frequency of measurement, and employees responsible for their execution. Setting strategic goals in other than the financial organizational perspective presents a vital change for the company. It is because the investment into people, processes and procedures is inevitable for ensuring a successful and sustainable future growth. As a result of this section, timeline with recommended action steps was designed. Better understanding of Carbontech's customers and values they expect to be delivered is required to be obtained in order to create a long-term marketing strategy. To ensure sustainable sales growth, new sales structure is recommended to be implemented in all facilities until the end of 2017. This structure shall enhance the quality and effectiveness of sales processes. Furthermore, it is necessary to improve the effectiveness of production. For this purpose, recommended steps are to design optimal allocations of competences among Carbontech's facilities. This way the company can gain more expertise in the application processes and can deliver superior quality within short lead times. A strengthening of a partnership with Carbontech's partner, Brandt, in the technology and innovations areas, as well as implementation of process improvement methodologies, is believed to enhance the company's endeavour in operations excellence. However, one of the most important actions that Carbontech needs to undertake is to ensure high employee satisfaction and their motivation in pursuing selected strategic goals. The key to successful implementation of revised strategies is to educate and train personnel in strategic management. Only if employees understand their roles in the company's strategy and become accordingly engaged, perceptible progress can be made. Loyal and motivated employees present the driving force of the changes in the company's functioning.

It is believed that Carbontech will benefit from the comprehensive approach to strategy formulation and implementation presented in this thesis. Carbontech can build its future growth and development on the introduced proactive and systematic methods, which unified and further specified the company's long-term direction. The subdivision of long-term strategies into specific measurable goals and initiatives provides the company with means, how to monitor and manage its progress on continuous bases. Carbontech's management shall revise and update the recommended strategic goals and performance indicators at the end of the fiscal year to allow for proper adjustments.

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Appendices

In order to respect the confidentiality of business secrets, the appendices are not published.