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Global Expansion Strategies and the Balanced Scorecard –
A Comparison of Chunghwa Telecom and Deutsche Telekom

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Acknowledgement

Hamburg, Germany: When I received confirmation for my exchange year at National Taiwan University as part of my bachelor's program in 2021, I was sitting on the riverbank in Germany and would never have dared to dream of living abroad for the long term. At that time, my only goal was to use Taiwan as an academic refuge to expand my academic career with new life experiences and discover a new world – back then I was just a dreamer.

Moving to Taipei, Taiwan: Almost three years have passed since I arrived in Taiwan, and my initial life as an exchange student has changed. By starting my consecutive studies in the Global Master of Business Administration at the National Taiwan University, I not only fulfilled my dream of obtaining a high academic education but also of moving the center of my life to Asia - back to my roots. Through demanding and renowned studies, my work as an intern at Taiwan's largest telecommunications company, and inspired by the impressive philosophy of life of the Taiwanese people, I have grown not only academically but also professionally and personally. These experiences have shown me that as a career and life changer, I can establish myself in a new professional field and confidently make a name for myself.

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My thesis is therefore not only proof of my obtaining an academic degree but also a manifesto to myself that I can achieve anything if I don't give up and always work hard to achieve my goals. Regardless of the content of this scientific work, I would like to convey a message to people - especially those from lower social backgrounds and having limited access to education: it doesn't matter where you come from, what matters is where you want to go.

Duc Tiep Dang

Taipei, May 2024

Executive Summary

At the turn of the millennium, the introduction of the Internet catalyzed the growth of the networking dimension, particularly in the areas of telecommunications and information and communications technology. The expansion plans in the USA of the Taiwanese Chunghwa Telecom (CHT) and the German Deutsche Telekom (DT) are therefore examined in this study, thereby making the diverging milestones of the two internationalization processes clear.

The comprehensive balanced scorecard analysis diagnoses that the knowledge pool of both companies must be consolidated through transformation and innovation in personnel development (learning and growth) and thus efficiency is increased through the implementation of innovative technology and knowledge (internal business processes). This increases customer satisfaction and loyalty (customers), which ultimately determine financial success (finances). Despite these same objectives, both companies prioritize different strategic approaches in their execution, revealing key insights: contrasting corporate cultures lead to contrasting strategic approaches to vision and mission, US customers, and financial performance. Ultimately, CHT focuses on the capital market and DT on the product market.

This study shows how important the consolidated examination of the financial and non-financial dimensions is because the interlinking of these business areas as pillars of a company ensures long-term competitive advantages in a global, highly networked environment.

Keywords: Telecommunication Industry, Chunghwa Telecom, Deutsche Telekom, Balanced Scorecard, Comparative Analysis, Global Expansion

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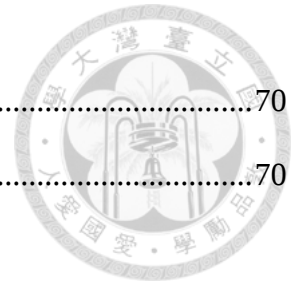
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List of Abbreviations



3G	3rd Generation Mobile Network
5G	5th Generation Mobile Network
ABC (method)	Activity-Based Costing
AI	Artificial Intelligence
ADSL	Asymmetric Digital Subscriber Line
ADR	American Depository Receipts
ATM	Asynchronous Transfer Mode
B2B	Business-to-Business
B2C	Business-to-Customers
BSC	Balanced Scorecard
CHT	Chunghwa Telecom Co., Ltd.
CHTG	Chunghwa Telecom Global, Inc.
CHTJ	Chunghwa Telecom Japan Co., Ltd.
CHTI	Chunghwa Telecom International Business Group
CHTS	Chunghwa Telecom Singapore Pte., Ltd.
CHTV	Chunghwa Telecom Vietnam Co., Ltd.
CRM	Customer Relationship Management
DSL	Digital Subscriber Line
DT	Deutsche Telekom AG
DTE	Deutsche Telekom AG shares, listed on Xetra
EBITDA	Earnings before Interest, Taxes, Depreciation and Amortization
EPS	Earnings per Share
ESG	Environmental, Social and Governance
EU	European Union

EUR	Euro
FTTX	Fiber-to-the-X
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
KPI	Key Performance Indicator
ICT	Information Communication Technology
IDC	Information Data Center
IoT	Internet of Things
IP	Internet Protocol
IPO	Initial Public Offerings
ISDN	Integrated Services Digital Network
IT	Information Technology
M&A	Merger & Acquisition
NASDAQ	National Association of Securities Dealers Automated Quotations
NTD	New Taiwan Dollar
NYSE	New York Stock Exchange
OMTI	Objectives, Measures, Targets and Initiatives
OTCQX	Over-the-Counter Trading
PESTEL (analysis)	Political, Environmental, Social, Technological and Legal
POP	Point of Presence
VPN	Virtual Private Network,
R&D	Research and Development
ROI	Return on Investment
SEC	Securities and Exchange Commission
SI	System Integration



SMART (model)	Specific, Measurable, Realistic, Timely
TAIEX	Taiwan Stock Exchange
TC	Telecommunication
TQM	Total Quality Management
UMTS	Universal Mobile Telecommunications System
USD	US Dollar
VoIP	Voice over Internet Protocol
XETRA	Exchange Electronic Trading



1. Introduction

1.1 Context

At the end of January 2024, Taiwan's largest telecommunications company (TC) Chunghwa Telecom (CHT) not only published its recent positive development in terms of strong significant financial indicators but also announced very good news for investors in its press release: CHT will establish a new subsidiary in Germany in the first Established in the first half of 2024 (CHT, 2024-b). This development suggests that CHT will expand its international presence as a global player in the telecommunications market to demonstrate its positioning in the global market.

This motivation is no coincidence: when entering one of the main CHT buildings in Taipei, Taiwan, visitors cannot miss the sign at the entrance that reads “Leading the Change – Connecting the World” (see Picture 1 in the appendix). With this slogan, CHT has not only created a brand identity but also formulated a corporate strategy: CHT sees itself as a link, be it a physical connecting cable (internet cable or submarine cable) or of an intangible nature, by acting as an interface in the sense of connection and connectivity.

Therefore, in line with the company's vision and mission, CHT aims to not only build connections within the island but also position itself in the global telecommunications and information and communications technology (ICT) market, including the 5th generation mobile network sectors (5G), Artificial Intelligence (AI), Internet of Things (IoT) and Information Technology (IT) (CHT, 2022b). A closer look at its business strategies could underline its actions: According to CHT (n.d.-c), in addition to its parent company in Taiwan, the company also has a presence in Japan (“Chunghwa Telecom Japan Co., Ltd.”), Singapore (“Chunghwa Telecom Singapore Co., Ltd.”) and Vietnam (“Chunghwa Telecom Vietnam Co., Ltd.”) as well as in other countries, whether it is the establishment of a representative office, a point of presence (POP) or a landing station or a “real” subsidiary outside of Taiwan – CHT’s

global expansion has taken an increasingly prominent position in the global ICT and telecommunications market in recent years.

With the establishment of its subsidiary Chunghwa Telecom Global Inc. in the North American market in 2002, the parent company CHT not only diversified its international portfolio but also dared to leave its comfort zone in the East Asian region (CHT, n.d.-a). By expanding into the USA, CHT is entering direct competition with an important player in this market of the global TC industry: Deutsche Telekom (DT) from Germany. But how can the different results be explained in terms of finances, brand appearance, customer perception, etc. despite the same goal of entering the US market? What insights can be gained from comparing both companies?

A brief comparison shows that the circumstances surrounding CHT and DT have parallels: (1) Both TC companies entered the US market almost simultaneously. (2) In this context, both companies, which come from different continents, are pursuing international expansion with the common goal of gaining significant market shares in the USA and positioning themselves there as a new geographical area. Finally (3), in addition to classic telecommunications services, their business models also include services in the areas of IoT, AI, ICT, IT, and big data. Interestingly, the two companies differ in their expansion strategies and their implementation, which is reflected in financial metrics that illustrate DT's more pronounced and dominant presence in the US market compared to its Taiwanese counterpart (CHT, 2022b; DT, 2022). A comparative analysis based on these premises is essential.

To get to the bottom of this, balanced scorecard analysis (BSC) makes it possible to understand the reasons for the divergence in strategic decisions of the two flagship companies, although they have some entrepreneurial starting points in common. Specifically, this involves a detailed examination of the expansion strategies developed by CHT and DT in the USA using BSC analyses to examine their perspective on global expansion in the various financial and

non-financial dimensions. The subsequent comparative analysis leads to a discussion and conclusion that explains why the track record of Taiwan's CHT is still solid but still has more room for improvement compared to DT.

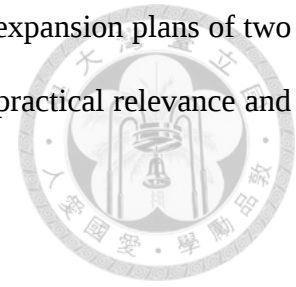
Since this work focuses primarily on CHT's global expansion from the Taiwanese market to the international market, the analysis is tailored to its corporate perspective but is still viewed critically. The results of the study “Strategy for a Successful Strategy” in turn provide recommendations for CHT to learn from its previous strategies to secure its competitive advantage in the future through global “networking”.

1.2 Research Aims and Objectives

The comparative analysis of two leading companies from the TC industry may seem unspectacular at first glance. Nevertheless, the scope of this study is unique as it deals with the different expansion strategies of CHT and DT - two flagships from two contrasting continents, Asia and Europe, pursuing a common goal: international expansion in the USA. The general objective is therefore to examine and analyze these strategies. With the help of a comparative BSC analysis, the respective global expansion goals and approaches are specifically examined. The BSC serves as a tool for determining the goals, performance, and implementation of individual strategies. The comparative study of CHT and DT makes it possible to examine the perspectives on finance, customers, internal processes, and learning and innovation, with a focus on the economically “lagging” CHT.

The findings from this comprehensive comparison are intended to serve as a basis for recommendations, which in turn will be derived for CHT's future global expansion plans. By gaining deep insights into the differences and similarities of the two TCs overall, the comparative analysis serves to identify the strengths and weaknesses of CHT's US expansion plans and contributes to the generation of possible new strategic decisions. These results are

intended to answer the research questions about the divergence of the expansion plans of two international companies despite the same general conditions, with the practical relevance and importance of academic research being expressed in this work.



1.3 Research Methodology

The latest developments in the global TC and ICT market show how market participants need to adapt and redesign their strategies to market dynamics. This circumstance provides the starting point for this study, as a comparative comparison between DT and CHT in their expansion strategy into the USA is intended to examine the question of divergence between the two corporate strategies. The methodology chosen as the basis of this scientific work is an inductive, qualitative study, combined with a specially developed comparative BSC analysis. The qualitative approach allows for in-depth exploration of the intricacies of the topic, providing flexibility and the opportunity to collaborate with these research groups.

The decision to use the BSC as a key resource in this research is based on its ability to provide a comprehensive framework for monitoring, measuring, and evaluating goals, performance, and implementation (financial and non-financial dimensions). As part of global expansion plans, this analysis method enables a deep insight into the strategies and their impact on individual companies as well as a meaningful comparison. In particular, the BSC provides a holistic framework for defining strategic goals, monitoring implementation, and evaluating performance in various dimensions, which makes a comparison of both companies appear more reliable.

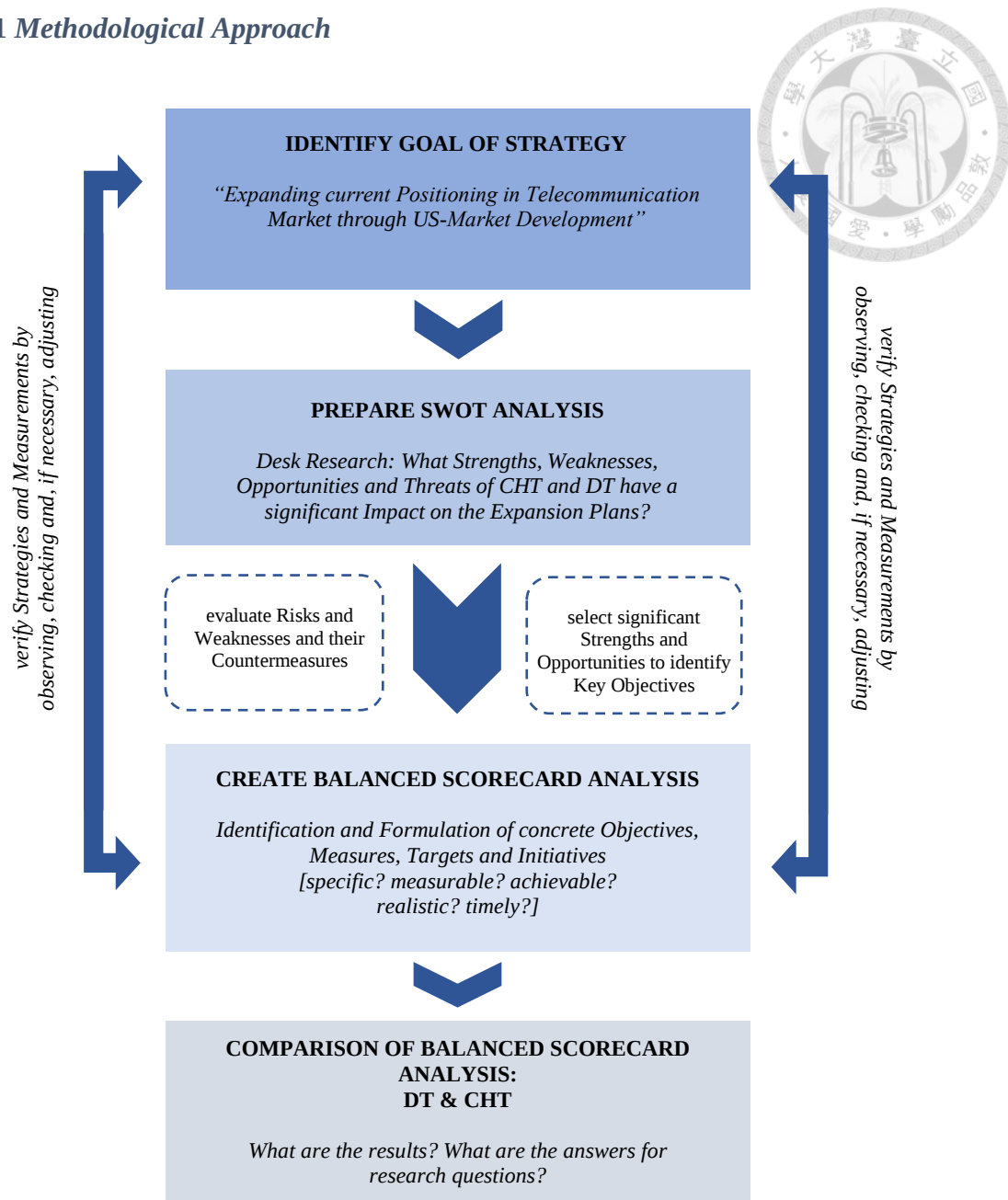
The preparatory phase for the development of the BSC analysis is based on the secondary research of the two companies CHT and DT. Specifically, this means that all publicly accessible data and publications such as annual reports, financial reports, and press releases as well as online reports are included in the research as primary sources. The decision

to use these public documents is based on the fact that expert opinions from both companies cannot be included in the research due to highly sensitive data, confidential trade secrets, and the topic itself. With the help of this desk research, a snapshot of the business structures, performance, and strategies of CHT and DT in the years 1999-2002 (US market penetration) is first created and the temporary results are summarized in the form of the SWOT analysis. For this step, all available collected data was first assessed and checked for credibility and journalistic neutrality before being selected for processing in the next process.

The SWOT analysis aims to filter out the strengths and opportunities of both companies regarding the upcoming expansion strategy in the USA 2001/2002 (main goal) to identify the specific goals and objectives for the subsequent creation of the BSC analysis. These goals are the essence of BSC analysis, as this model measures performance and performance based on the set goals. At the same time, the weaknesses and threats of CHT and DT are recognized and also included in the BSC; countermeasures must be developed to achieve the main goal successfully and effectively.

All previous results now serve as the basis for the detailed creation of the BSC, with the individual goals being formulated taking the SMART model into account. With the conclusion of the author's BSC analysis (financial and non-financial dimensions), the study of the hypothetical objectives and measurements of the strategies begins, with actual performance as a subsequent control. If goals are not achieved, the strategy created must subsequently be corrected or replaced. The comparative analysis can only be carried out once the BSC for CHT and DT is completed. To answer the research question of the extent to which CHT can realign its strategic implementation based on DT, the individual parameters are compared, and important key findings are gained from them, which in turn serve as premises for subsequent recommendations to CHT.

Figure 1 Methodological Approach



Note. The visual representation serves to facilitate an understanding of the relationship between SWOT and BSC analyses using DT and CHT in this thesis. The figure shows that a common goal is crucial for the development and formulation of the individual strategies, with DT and CHT each pursuing their approach. Using the BSC created by the author, a comparative conclusion can be drawn about both strategies.

1.4 Importance and Significance of the Study

Rapid digitalization and progress have made the TC and ICT industry an indispensable industry in global and national markets. It is therefore not surprising that scientific research in engineering and research and development (R&D) is in full swing. This fact certainly cannot be denied, because technical achievements form the basis for the progress of companies and industry.

Similarly, research on strategic planning in the discipline of business administration is very advanced. Although there are numerous case studies and academic achievements in theoretical business strategy such as BSC, Ansoff Matrix, PESTEL and the 5 Forces Model for international expansion in general, the specific areas of business administration and global expansion within the telecommunications industry are limited or not at all receive attention under the scientific microscope.

This assumption is confirmed when examining the academic scenarios in both Taiwan and Germany: there is currently a limited number of case studies on CHT and the Taiwanese TC industry, primarily, the technological achievements such as software development and cloud computing or the reach of 5G are discussed, which underlie the nature of this industry. CHT's German competitor DT also contributes to research with numerous studies and collaborations with scientific projects¹. However, the focus of these studies revolves around digitalization and IT, lacking research on global expansion or a critical examination of corporate strategy in this industry.

This situation underlines the necessity and importance of expanding scientific work and international expansion strategies of - especially Taiwanese - companies. However, the unique

¹ Concrete examples of the existing studies are presented and explained in more detail in the chapter “2.3 (Missing) Evidence of Existing Studies: Global Expansion in Telecommunication Industry”.

selling point of this work is a comparative analysis between a Taiwanese and a German telecommunications company with expansion plans into a completely new area. The choice of this research topic aims to close several gaps at the same time: Firstly, it serves as introductory research for CHT - and thus as a representative of Taiwan – into the world of academic research and offers students a comprehensive insight into the business world of CHT. Second, this work embodies a special aspect in the academic field, as no previous research has examined the strategic preparations and implementation of an international expansion to a third continent by two companies from different continents.

However, this thesis is not only of great interest from a scientific perspective for academic readers from the discipline of business administration with a focus on strategy management but also from an investment perspective, this thesis can be of great interest to current and potential new investors. This analysis offers CHT a springboard forward to embark on a new global corporate strategy by deeply reflecting on past measures and thus attracting investors for the long-term success of the company. In this way, together with the CHT management level, they can achieve an even more effective and efficient competitive advantage.

1.5 Structure of the Thesis

To ensure a comprehensive exploration of the research question in this thesis, it is imperative to maintain a coherent line of argument and arrive at a logical conclusion. Consequently, the structure of this scientific work is outlined as follows.

Following this initial chapter of the introduction, the second chapter, titled "Literature Review", a compilation of relevant literature is presented, drawing upon significant studies related to global expansion and international strategies. The academic research approach used in this work and the introduction to comparative analysis facilitated by qualitative research

methods such as the BSC and Ansoff Matrix are also presented here. In addition, a look at the current (lack of) research on this topic is taken to bring the importance of this thesis to the fore. A critical analysis of the existing literature and the sources used is also included.

The subsequent chapter "Case Background" outlines the telecommunications industry and the importance of the US market for this industry and a brief introduction of CHT and DT. Based on this and with the help of desk research, meticulous SWOT analysis of CHT and DT are drawn up, with the results being incorporated into the comparison of the strategies in the following chapter.

Chapter four, titled "Results", delves into the findings of the qualitative comparative research. The self-created BSC analysis of CHT and DT's global expansion is presented, here the BSC addresses the aspects of financial and non-financial dimensions (finance, customers, internal processes, and learning and innovation). The subsequent comparative comparison of both analyses as a comparison table serves as the basis for the interpretation of the facts in the next chapter.

Building on the analysis of the BSC, chapter five, "Discussion," engages in a comparative debate on the diverging strategic methods. This includes an exploration of corporate strategy, successes, and failures in global expansion for CHT and DT. The discussion will include, with a primary focus on CHT, where the company can learn from its weaknesses and the strengths of its German counterpart DT and draw lessons for future expansion strategies. The chapter concludes with implications for future recommendations, limitations, and prospects for further research.

In the final chapter of the main section, "Conclusion", all pertinent results are synthesized to provide a definitive answer to the research question, serving as the concluding segment of this scientific work.

The bibliography and appendix are housed in subsequent chapters, encompassing all references, tables, and graphs for easy reference.



2. Literature Review

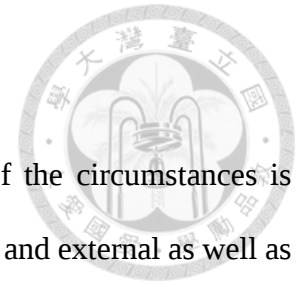
2.1 SWOT Analysis and Ansoff Matrix

To frame the investigation, a comprehensive understanding of the circumstances is essential. The SWOT analysis enables a meticulous analysis of internal and external as well as micro-macroeconomic factors that influence the operational and administrative business of CHT and DT. In this way, the results of the "Strengths and Opportunities" categories are of great importance in the creation of concrete goals and objectives for the BSC. Nevertheless, the “weaknesses and threats” from the SWOT analysis must also be identified, and countermeasures expected, which also flow into the BSC analysis (Johnson et al., 2008).

In addition to that, wherever the global expansion of a company is understood as a new strategy, growth is always a decisive factor. The exact methods both companies use for valuation can only be speculated on, the Ansoff Matrix is one of the most appropriate methods that provides perspective and identifies growth strategies. The focus is on two important parameters – products (or services) and market. This focus is expanded to include the respective terms “new” and “existing,” resulting in four different constellations that represent potential market penetration through corporate growth: “market penetration,” “product development,” “market development,” and “diversification” (Ansoff, 1957; Johnson et al., 2008; Meldrum & McDonald, 1995). With the decision to expand into the USA, this analysis was already taken into account in the strategy of CHT and DT, meaning that this framework plays a background role in this study.

2.2 Strategic Model: Balanced Scorecard

For the research question of this work, methods for a comprehensive, multi-dimensional analysis of a company is still required, since all business areas must be examined for the analytical comparison of two large TC groups, and in particular performance



measurement must be recorded, since results and outcomes provide sufficient evidence of the planned project and provide a tendency for further development. This leads us to explore approaches to assessing a company's performance: well-known methods such as Key Performance Indicators (KPI), Total Quality Management (TQM), Return on Investment (ROI), Customer Relationship Management (CRM), or Environmental, Social and Governance Performance (ESG) are certainly potential selection tools to choose from. However, it must be critically assessed that they only cover one specialist area or do not comprehensively cover all areas of the company. Due to their expertise in priority, these tools cannot be considered as primary methods in this work, however, some of the mentioned strategic tools will play a subordinate but not insignificant role in this research.

This circumstance ultimately led to the choice of the BSC, which considers not only the financial characteristics but also the non-financial dimension (customer perspective, internal business processes, and learning & growth) of a company when measuring company performance about a specific project and goal, both as objective and retrospective review (Kaplan & Norton, 1992, 1996). By examining BSC horizontally, according to Doran (1981), it is important to ensure that all goals are “specific, measurable, achievable, realistic and timely” (SMART model) to achieve the desired results. Specifically, this means that the objectives must be specifically formulated, followed by measurable instruments to measure the goals. These are reflected in terms of concrete goals, whereby the initiatives are methods to achieve these goals. It is important to note that these measures can be implemented realistically and promptly, which can be seen in Table 1.

Table 1 General Structure of a Comprehensive Balanced Scorecard

STRATEGY: [Clear formulation of the upcoming strategy/projects]

STRATEGY MAP

SMART MODEL				
	Objectives	Measures	Targets	Initiatives
Financial	Specific description of objective in terms of finance	Suitable measurement tool?	Is target achievable and actionable?	Is initiative realistic, relevant and timely?
Customer	Specific description of objective in terms of customers	Suitable measurement tool?	Is target achievable and actionable?	Is initiative realistic, relevant and timely?
Internal Business Process	Specific description of objective in terms of internal business process	Suitable measurement tool?	Is target achievable and actionable?	Is initiative realistic, relevant and timely?
Learning and Growth	Specific description of objective in terms of learning and growth	Suitable measurement tool?	Is target achievable and actionable?	Is initiative realistic, relevant and timely?

Note. Considering the SMART (Specific, Measurable, Achievable, Realistic, Timely) model structure and Strategy Map, the Balanced Scorecard proves to be a very comprehensive management tool for measuring and controlling strategies. Adapted from “Linking the Balanced Scorecard to Strategy”, by Kaplan, R. S., & Norton, D. P., 1996, *California Management Review*, 39(1), 53-79. Copyright 1996 by the President and Fellows of Harvard College.

Given the detailed analysis of the structure of the BSC, Table 2 lists possible measurements for the parameter finances, customers, internal business processes, and learning & growth based on the recommendations of Niven (2002). It is important to note that the measurements are the measured variables or indicators, the specific characteristics of the individual measures are specifically defined in the column (“Targets”).

The vertical view, on the other hand, serves the interpretation through the logical composition of the four dimensions from the reverse order from bottom to top: starting from

“Learning & Growth” through “Internal Business Processes”, which in turn has an impact on “Customers” and ultimately on the “Financial” performance of a company.



Table 2 Common Measures of Balanced Scorecard

	Objectives	Measures	Targets	Initiatives
Financial	[...]	• Net income • Dividends • Return on equity • Economic value added • Return on total assets	[Ratio, Value in %, etc.]	[...]
Customer	[...]	• Customer satisfaction • Customer loyalty • Market share • Customers lost • Customer retention	[Ratio, Value in %, etc.]	[...]
Internal Business Process	[...]	• Breakeven time • On-time delivery • Cycle time improvement • Average lead time • Inventory turnover	[Ratio, Value in %, etc.]	[...]
Learning and Growth	[...]	• Turnover rate • Employee satisfaction • Lost-time accidents • Value added per employee • Training hours	[Ratio, Value in %, etc.]	[...]

Note. This is just an excerpt from common measures for measuring finances, customers, internal business processes, and learning & growth. Adapted from “Balanced Scorecard Step by Step: Maximizing Performance and Maintaining Results (2nd ed.)” (p. 148-162), by Niven, P. R. 2002. Copyright 2006 by John Wiley & Sons.

It shows that the BSC is a kind of translation of a management's vision and mission into the language of implementation and practice, and also enables the visualization of careful strategic planning and its implementation. These measurable tools can then be used as reflective analysis, in turn, the BSC also serves as an early warning system, because by

continuously monitoring performance, countermeasures or new strategies can be developed to reduce or promote possible errors or successes.



2.3 (Missing) Evidence of Existing Studies

Numerous studies deal both academically and with the practical application of strategic management tools. In addition to the BSC, Ansoff Matrix, and SWOT Analysis, other models such as the PESTEL Analysis, Porter's Five Forces Model, and Blue Ocean Strategy enjoy great recognition in the real strategic business world and the academic milieu. Works such as *The Competitive Advantage: Creating and Sustaining Superior Performance* (Porter, 1985/1998) *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (Porter, 1980/1998), *The Practice of Management* (Drucker, 1954) and *Blue Ocean Strategy* (Chan & Mauborgne, 2005) primarily represent the academic examination of the management tools, which are used across modern industries, especially by strategy and planning departments companies are taken over. However, research databases provide sober results considering the strategic management of the telecommunication industry. Rather, technical achievements and engineering innovations dominate, as well as the discussion in the sense of the financial and accounting aspects, such as *Racing into the 5G Era: Generational Technological Change and Firm Strategy in Mobile Telecommunications*² (Li et al., 2020) or *AT&T Versus Verizon: A Financial Comparison*³ (Narayanan & Heilprin, 2017).

Focusing on Taiwan, it can be seen, that there are currently a limited number of case studies on CHT and the Taiwanese TC industry. Primarily, technological achievements such

² Li et al. (2020) examine the potential of 5G innovation and its historical and technological development in this study. This study aims to implement the novel technology in the corporate strategies of TC companies, but the focus is on the importance of 5G for companies and not on specific strategies. This study serves more as a didactic tool for students who use this study to develop new strategies.

³This study deals with the comparative financial analyses of the large US TC companies Verizon and AT&T, using financial metrics from accounting to compare the respective company performance with each other (Narayanan & Heilprin, 2017).

as software development and cloud computing or the reach of 5G are discussed, which underlie the nature of this industry. These studies include, for example, *Industry Track: An Effective Approach for Content Delivery in an Evolving Intranet Environment – A Case Study of the Largest Telecom Company in Taiwan*⁴ (Liang et al., 2005), *A study of the 5G network service types and the related telecommunications regulations and policies*⁵ (Taiwan Institute of Economic Research, 2021).

CHT's German competitor DT also contributes to research with numerous studies and collaborations with scientific projects. The most current examples of DT studies are *Digitalisierungsindex Mittelstand 2020/2021* (Digitization index for medium-sized companies 2020/2021) (techconsult GmbH, 2021)⁶, *Next Communication*⁷ (zahnvier research & strategy and Scion Research Labs, 2022) and *Be a future maker – Nachwuchskräftestudie der Deutschen Telekom*⁸ (Be a future maker – Deutsche Telekom young talent study) (Forschungsinstitut für Bildungs-und Sozialökonomie (FiBS), 2023). However, the focus of these studies revolves around digitalization, digital marketing, and the future of young employees, lacking research on global expansion or a critical examination of corporate strategy in the German TC industry.

The current state of research on this topic illustrates the need for a methodical examination of strategy management in the TC industry. In particular, the lack of scientific

⁴ Concerning internal product development, Liang et al. (2005) provide recommendations for CHT, addressing the development of intranet and content. This study is technology-based and does not provide strategic guidelines.

⁵ This study by the Taiwan Institute of Economic Research (2021) examines the legal framework and regulations for the TC industry about 5G, providing specific guidelines and strategies to Taiwanese authorities in the form of recommendations.

⁶ On behalf of DT, techconsult GmbH (2021) examined the progress of the digitization of trade, e-commerce and digital marketing in Germany, achieving a degree of digitization of just over 54 out of a maximum of 100 points.

⁷ According to this study, the fusion of corporate communication and digitalization in corporate strategy and marketing will be inevitable as the new age of digitalization has significantly changed through Generation Z (zahnvier Research & Strategy and Scion Research Labs, 2022).

⁸ This study was commissioned by DT to obtain a forecast of its future offspring, especially young people. The profile of potential young talents, their motivation and ideal expectations of DT as an attractive employer is examined here (Research Institute for Educational and Social Economics (FiBS), 2023).

case studies on CHT's strategic management is the driving force for the processing of this thesis, with significant existing models being applied. In turn, it is not the methods that are taken for further critical examination, but rather the exclusive research question with never-before-researched framework conditions that give this thesis a special positioning.

2.4 Critical Subject

A critical examination of selected strategic management instruments is essential in academic work to ensure scientific integrity. It should be noted that when researching the literature on strategic theory, older sources such as Kaplan and Norton were deliberately used, as their models are still significant and of great importance for modern management. BSC in particular proves to be of great advantage in practical application for comparing key performance indicators, but some critical points should not be neglected:

Despite comprehensive analysis and the creation of a meticulous overview, the BSC only captures four key perspectives of finance, customers, internal business processes, and learning & growth. However, aspects such as competitive and market behavior or environmental risk factors are not taken into account. This is because this model was developed in the last 20th century, but has not undergone any innovative modifications since then. As part of further research in this area, the research would have to be expanded to include at least these parameters.

Another aspect is the complexity of the BSC, as not only the development of the BSC but also the continuous monitoring of the measured values requires a lot of time and qualified manpower. As Niven (2002) emphasizes, the comprehensive analysis requires a lot of preparatory work and preliminary examination of documents and forecasts - whether a company can manage this in terms of time and finances is questionable. For this to be implemented just as meticulously in the real economy, qualified personnel or at least the

department responsible for it must be familiar with the principle of the BSC, otherwise, an effective analysis of the BSC is not possible. Cross-company training via the BSC is the prerequisite for the successful implementation of the BSC as a management tool, but this in turn involves training and costs. Ultimately, this framework in the textbooks acts as a very efficient means, but the extent to which it can be implemented in practice remains questionable.

Chapter 5.3 "Limitation and Outlook for Further Research" reflects on other critical points that emerged during the research.

3. Case Background

3.1 Chunghwa Telecom and Deutsche Telekom: Corporate Portraits

As a result of the privatization and associated liberalization of the TC sector by the government of China (Taiwan), CHT was founded on July 1, 1996, and headquartered in Taipei. The company has been listed on the Taiwan Stock Exchange (TAIEX) under the trading code "2412" since October 2000 and internationally on the New York Stock Exchange (NYSE) under the symbol "CHT" since July 2003. In the course of privatization, CHT became the largest TC service provider in Taiwan, which still maintains its dominant market position today. With over 691 locations within and outside Taiwan, CHT not only serves private customers but also international business partners in terms of national and international landlines, mobile communications, and data communications. The service portfolio includes services such as mobile communications, fixed network, broadband services, ICT, cloud, IoT, IDC and big data as well as cyber security. In 2022, CHT underwent a strategic realignment with a stronger focus on a customer-centric structure, with "Always Ahead" as the new corporate philosophy. To achieve this more efficiently and precisely, the new organizational structure creates new business areas Consumer, Enterprise, and International Business Groups as well as technical groups such as Network Group, Information Group, and Research Lab. In its annual reports and ESG reports, CHT always emphasizes the core values of customer trust, integrity, innovation, value creation, and responsibility through the integration of ESG policy, which secures and further expands CHT's strong market share at home and abroad in the long-term (CHT, 2023-b, 2023-c).

Similar to CHT, DT also underwent a change from a state-owned company to a private stock corporation due to the liberalization of the telecommunications market in Germany in 1995. After DT's IPO, DT also developed into a global telecommunications market participant. In Germany, the share is traded on all stock exchanges and in the electronic trading system



(XETRA) as well as over-the-counter trading (OTCQX); in the USA it is traded due to the delisting on the NYSE has not traded since 2010. Through the IPO, DT has taken a leading position in the telecommunications industry, particularly in Europe, North America, and Asia; it currently serves private and business customers in more than 50 countries worldwide. The most important milestones in internationalization include the co-foundation of the Global One joint venture with France Telecom and Sprint in 1996, the takeover of MATAV in Hungary in 1993 and One 2 One (today T-Mobile UK) in 1999, as well as the significant acquisition from T-Mobile USA and Powertel in 2001. The innovative and diverse product portfolio includes products and services such as landline, mobile, internet and television services, ICT, big data, etc. DT divides its strategic orientation into four business areas (four-pillar strategy): T-Com for network access and services, T-Mobile for mobile communications, T-Systems for data communication and system solutions for large customers, and T-Online for Internet services for consumers. With immense major investments in infrastructure, innovation as well as M&A and sustainability, DT wants to further expand its already dominant market position on the global telecommunications market and is already realizing these goals (DT, n.d.-a, n.d.-b, 2008).

The following Table 4 lists an excerpt with selected significant financial indicators and other metrics; This table is neutral and should initially be viewed without any comparative evaluation.

Table 3 Financials of Fiscal Year 2023 of Chunghwa Telecom and Deutsche Telekom

(Excerpt)



Significant Metrics	CHT	DT (consolidated)
Net Revenue	NT\$22,20 billion (increased by 3.0%)	€112,0 billion (~NT\$3,876,40 billion; increased by 0.6% organically)
EBITDA	NT\$86,01 billion (decreased by 0.3%)	€40,5 billion (~NT\$1,402,60 billion; increased by 4.0% organically)
Net Profit	NT\$38,06 billion (increased by 2,74%)	€17,8 billion (~NT\$617,3 billion; doubled)
Equity Ratio	0.75	0.31
Debt Ratio	0.25	0.68
Share Price	NT\$ 39,07 (as of December 29, 2023)	€21,01 (~NT\$729; as of December 29, 2023)
EPS (accumulated)	NT\$4,76	€3,57 (~NT\$124)
Dividend per Share	(to be declared at our annual general stockholders' meeting scheduled on May 31, 2024)	€0,77 (~NT\$27)
R&D Expenditure	NT\$3,79 billion (1.7% of revenues)	€25,0 million (~NT\$867,53 million)
Number of Employees	32,383 (worldwide, 99% based in the ROC)	205,000 (worldwide)
Broadband Coverage	using Fiber-to-the-X (FTTx) networks, network coverage is higher than 93.7%, as well as nationwide 4G/5G mobile networks coverage	approx. 96% of households in Germany are equipped with the 5G network; a total of 730,000 km of fiber optic cable in Germany relocated; 80,000 antennas operate in 5G

Note: This table lists a selection of important financial indicators as well as other characteristics of CHT and DT from the fiscal year 2023. The converted currency from Euro to NTD is based on the exchange rate as of April 22, 2024, which is 1 EUR = 34.67 TWD. (CHT, 2024; DT, n.d.-b, 2024).

3.2 Telecommunication Industry of US-Market

Concerning the expansion plans of CHT and DT in the USA, it is worth taking an analytical look at the telecommunications market there between 2000 and 2003. During this

period, the TC industry was characterized by numerous changes and challenges that favored the expansion plans of these two companies.

According to Modica & Chansky (2019), the rise of the TC industry was largely due to technological achievements and innovations, after all, the invention and commercialization of broadband Internet access (DSL, cable and fiber optic services) and data transmission have changed the technological landscape. At the same time, mobile phone providers are contributing to the change from analog radio signals (1G) to second-generation digital technologies (2G), with modern communication now being understood as a combination of telephony and the Internet.

The US market showed strong momentum in the telecommunications industry, with high spending on TC equipment and services being interpreted as robust growth as it accounts for around 5.6% of the US GDP. Major TC players such as Cisco Systems, Lucent Technologies, Nortel Networks, MCI Worldcom, Sprint, and AT&T played a significant role due to their leading positions and global reach, and these companies are also investing heavily in expanding their networks and services. This expansion was in response to increasing demand at the turn of the millennium to protect their market share (Isom, 2000; U.S. Census Bureau, 2021).

The customer landscape showed a great need for digital communication options such as Internet access, mobile communications, and more efficient data transmission. It was an interaction between technological innovation and evolving customer behavior that led to predictions that data and Internet traffic would account for 90% of all TC network traffic by 2005. It is becoming clear that customers in the United States are increasingly demanding high-speed Internet connections and intelligent communications solutions (Isom, 2000; Modica & Chansky, 2019; U.S. Census Bureau, 2021).

It is evident that the telecommunications industry was currently under strong pressure to innovate, as the dynamics of ever-changing customer demands, and technological advances drove these companies to continually invest in research and development - it was a dynamic competition against time and for market share. The one who provided the fastest and earliest innovations of innovative technologies such as VoIP, faster Internet, or SI could ensure its competitiveness in this market (Isom, 2000; Modica & Chansky, 2019).

This brief analysis highlights the rapid growth of the TC industry, with wireless technologies representing a dynamic and promising future for this industry, particularly in the U.S. market, there.

3.3 Significance of SWOT Analysis

3.3.1 SWOT Analysis: Chunghwa Telecom

Concerning CHT (n.d.-a), the US subsidiary CHT Global was founded in 2002. Therefore, the SWOT analysis in Figure 2 is based on official annual reports from 2001 and 2002 as well as public reports from 2000-2002 to present the strengths, weaknesses, opportunities, and threats as a snapshot of CHT at that time.

Strengths. In the Taiwanese domestic market in 2002, CHT had a dominant position with a high number of mobile users and a market share of almost 50% in mobile, data, and fixed lines. CHT took first place in particular in the mobile, data, and fixed-line markets, but CHT was also strongly positioned in the broadband and mobile markets. It recorded strong growth in ADSL broadband services, giving it a 92% share of the ADSL market. In the mobile phone market, CHT had a market share of 31% in terms of subscribers (Chen, 2002; CHT, 2002, 2003; MoneyDJ 理財網, 2001).

In addition, in 2002, despite a slight decrease in total sales, CHT recorded a significant increase in net profit, largely due to successful and effective cost-reduction measures. This shows that CHT wants to improve its financial performance and thus remain profitable. The slight decline in total revenue to NTD 176 billion, a decrease of 3.3% compared to 2001, is offset by the significant increase in net profit over the same period to NTD 43.2 billion (an increase of 16%) (CHT, 2002, 2003).

In addition, CHT demonstrates a better understanding of the needs of its customers, especially business customers, through a comprehensive structural realignment and a focus on core areas such as mobile communications and data. The diversification and associated focus of business activities in various areas of fixed-line, mobile, data communications, and Internet services help CHT to achieve sales and profit growth in various market segments and to establish itself in the market (Chen, 2002; CHT, 2002, 2003).

CHT also pursues internationalization strategies by establishing subsidiaries to conduct international business in mainland China and Southeast Asia. The aim is to increase CHT's presence in the international market, with a particular focus on services for Taiwanese business customers abroad. In addition, by issuing American Depositary Receipts (ADR) abroad, it is also possible to attract international investors to invest in CHT, which expands the company's investor base and increases the liquidity of CHT shares (Chen, 2002; Lai, 2001).

In addition, thanks to continuous investments (a total of NTD 42.9 billion in capital expenditure in 2002) in research and development and innovative products and services, CHT has the most comprehensive TC network infrastructure such as the construction and expansion of broadband infrastructure, fiber optic cable systems and data communication lines, but also for research and development, employee training and other projects. In this way, it can provide

integrated services and achieve a dominant position (CHT, 2002, 2003; MoneyDJ 理財網, 2001).

Weaknesses. Although CHT has some representatives abroad, CHT can only have expertise mainly in the domestic market (CHT, 2002, 2003). CHT lacks experience and knowledge of the specific requirements and dynamics of the US market, which can lead to unexpected difficulties on the ground. In addition, CHT focuses on more traditional telecommunications services such as fixed line and traditional business customers (CHT, 2002, 2003). Previously limited expertise and an excessive focus on business customers are causing CHT to become overly dependent on one customer segment and miss potential opportunities in the consumer market, thereby limiting growth potential.

In addition, CHT has repeatedly reduced the prices of mobile tariffs, international calls, and ADSL Internet services domestically to compete with new private operators in the market. If CHT is already facing strong price wars in its home market, this could affect its profitability, and this behavior could continue in the US market, with negative consequences for financial performance (Hong, 2001; Liu, 2001-a).

Additionally, CHT is experiencing difficulties in acquiring ADSL equipment in Taiwan, indicating a lack of necessary infrastructure and technology. If CHT does not address this problem, it will be unable to serve the US market and effectively provide broadband services in the long term (Liu, 2001-a). Furthermore, the structural challenges associated with privatization and the high personnel costs, as well as the adherence to the mentality of a state-owned company, indicate a lack of resources and flexibility (MoneyDJ 理財網, 2000).

Opportunities. The increasing use of the Internet and the growing importance of data center services offer new business opportunities. By providing innovative broadband services and tailored infrastructure solutions to data centers and business customers, CHT could

increase its customer satisfaction and thereby strengthen its competitiveness in the US market (Liu, 2001-a, 2001-b).

In addition to that, due to the liberalization of the TC industry in Taiwan, CHT has been able to become more efficient and develop innovative strategies to maintain its competitiveness. The newfound adaptability now enables CHT to compete in an open market environment with a more flexible business strategy. New strengths and experiences help CHT better prepare for the challenges of expansion into the United States (CHT, 2002, 2003). Furthermore, financial incentives from the Taiwanese government will be beneficial for CHT to secure financial resources for its expansion plans in the US, thereby overcoming financial hurdles. Both CHT and the Taiwanese government benefit from having a foreign subsidiary, thereby increasing their visibility in the international market and thus increasing their credibility in the international market (Lai, 2001).

Also, the listing of various Taiwanese high-tech companies on the US stock exchange NASDAQ indicates the potential and competitiveness of Taiwan's technology industry at the international level. This could increase the confidence of US market participants and potential new investors in CHT and support expansion (Wei, 2001).

Furthermore, by exploring new market opportunities and providing tailored solutions to customer needs, CHT could accelerate its revenue growth and further consolidate its position as a leading TC provider, including in the global market (CHT, 2002, 2003; MoneyDJ 理財網, 2000).

Threats. Intense competition in the domestic TC market is already negatively affecting CHT, with new competitors such as Taiwan Fixed Network and New Century InfoComm Tech Co., Ltd., and Eastern Broadband Telecom Co., Ltd. entering the market, leading to an aggressive and highly competitive scene. It remains uncertain whether CHT will be able to

withstand the pressure of intense competition in the unfamiliar US market and may have to scale back its expansion plans (Chen, 2002; CHT, 2003; Hong, 2001; MoneyDJ 理財網, 2000).

Furthermore, diplomatic tensions between the US and China were very tense at the time and the question of Taiwan's political status quo posed a major risk for CHT. An escalation of the conflict between the US and China could harm Taiwanese companies in the US. Especially as a partially state-owned company, CHT must comply with all regulations and laws and wait for the green light from the US and Taiwanese governments (Lai, 2001).

In addition, technological and regulatory challenges, as well as the ever-increasing push for innovative solutions, may impact CHT's resources and thus lead to a loss of customer satisfaction in the United States, significantly limiting CHT's performance (CHT, 2003).

Figure 2 *SWOT Analysis of Chunghwa Telecom*

S	W	O	T
Dominant Market Positioning	Insufficient Experience Abroad	Demand for Internet and Data Centers	Intense Competition
Financial Strength	Missed Opportunities: Product and Customers	Liberalization of the TC Market	Diplomatic Tensions
Restructuring: Organization and Business Areas	Excessive Demands in the Price War	Foreign Investment	Technological and Regulatory Challenges
Trend of Business Customer Business	Supply Chain Issues	Competitors listed on NASDAQ	
Path to Internationalization	Structural Challenges	Strategy: Market Development	
Investment in Technological Innovation			

Note: This visual representation illustrates DT's strengths, weaknesses, opportunities, and threats given its expansion strategy into the US before 2002 based on the author's research.



3.3.2 SWOT Analysis: Deutsche Telekom

Linked to the swot analysis from CHT, it is important to portray DT to demonstrate its entrepreneurship before its decision in 2000 to enter the US market through the complete acquisition of VoiceStream Wireless Corp. ("VoiceStream") and Powertel Inc. ("Powertel"), to advance its level of internationalization, whereas the SWOT analysis in Figure 3 allows a fundamental look behind the scenes at DT.

Strengths. The diversified business strategy as a 4-pillar strategy includes mobile TC, data communication and system solutions, Internet services for consumers, and network access and is of great importance as a vision and mission for DT (DT, 2000-a, 2000-b, 2000-c, 2001-a; 2001-b). This is also reflected in very strong financial indicators, as for the 2000 financial year, for example: Net sales (+15.4%) to 40.9 billion euros, net income of 5.9 billion euros, an EU dividend of 0.62 per share, foreign subsidiaries accounted for 19% of net sales (+7.6%) and increased earnings per share by EUR 1.96 (comparison: 0.43 in 1999), 0.82 in 1998 (DT, 2000-b, 2001-a; 2001-b).

In addition, the possession of a strong, innovative infrastructure enables DT to expand customer communication solutions and mobile communications and to take a strong market position. DT is not only the market leader in Germany, but is also established worldwide, for example as the world's leading ISDN operator (DT, 2000-a, 2000-b, 2000-c, 2001-a, 2001-b; Regulierungsbehörde für Telekommunikation und Post, 2001).

Furthermore, since 1993, DT has made significant investments totaling an estimated 18.9 billion euros, particularly in research and development, talent acquisition, and company

acquisitions, particularly in cost-intensive patents and licenses as well as research and development. In addition, DT expects to gain freedom on the international market by exiting the international joint venture “Global One” with France Télécom and Sprint in 1999 (DT, 2000-a, 2000-b, 2001-b).



In addition, the upcoming investment in the future strategic partner VoiceStream Advantages brings advantages for DT, as VoiceStream's sales more than quadrupled within one year to USD 453 million (1999), and the customer base growth was +365%. With the takeover of VoiceStream, it then takes over Powertel and thus further strengthens DT's positioning in the US market (DT, 2000-a).

Weaknesses. DT's significant investments have increased its financial liabilities and increased its risk profile. Specifically, liabilities increased by 42.6%. With the impending takeover of VoiceStream and Powertel, the financial risk ultimately lies with DT, which will lead to excessive indebtedness (DT, 2000-b, 2000-c, 2001-a, 2000-b, 2000-c, 2001-b). In addition, the TC industry in Germany is subject to strict federal and EU regulations and requires expensive licenses, which can put a strain on companies' cost structures (DT, 2000-a, 2000-b, 2000-c, 2001-a, 2001-b; Regulierungsbehörde für Telekommunikation und Post, 2001).

In addition, with the rapid spread of the Internet, DT must increase its performance in terms of technological achievements in order not to lose its competitive advantage. Close dependence on suppliers is highly susceptible to shortages and unreliability in procurement, and too narrow a focus on traditional mobile and network services can lead to a lack of portfolio diversity (DT, 2000-a, 2000-b, 2000-a, 2000-a).

Furthermore, despite major investments in internationalization, there are many risks associated with the USA as a new market to be developed. Since DT primarily has expertise

with German business customers abroad, it reaches its limits when it comes to customer segmentation. (DT, 2000-a, 2000-b, 2000-c, 2001-a, 2001-b).

Opportunities. Currently, only 30% of the US population owns a cell phone, so the American market is still in its infancy, so DT can catalyze their mobile upsurge. With the acquisition of VoiceStream and Powertel, Telekom is forecast to gain access to 140 million people by 2001 and hopes to gain large market shares to become the world's leading GSM provider. Given the positive forecast of the USA's strong growth rate of 5.1%, DT allows us to make a positive forecast for its new business market (DT, 2000-a, 2001-a, 2001-a, 2001-b).

Based on the vision of the four-pillar strategy, DT has clear management separation and thus tailor-made solutions for the different customer segments, which leads to increased efficiency.

In addition, DT continually invests in research and innovative technologies to stand out from the competition and open up new markets. New products and further developments of UMTS, GPRS, IP, GSM, ISDN and ATM, data and online services as well as other system solutions are intended to revolutionize the market based on the existing strong international network infrastructure (DT, 2000-a, 2000-b, 2000-c, 2001-b).

In addition, DT can further expand its international presence and open up new markets: further major investments (planned 1.5 billion euros in the coming years) and new opportunities for DT through the sale of the former Global One joint venture, greater internationalization (restrictions and bans on previous strategic partners are no longer applicable) (DT, 2000-a, 2000-b, 2000-c, 2001-a, 2001-b).

Threats. The TC industry in Germany and the USA is characterized by high competition, which leads in particular to intense price competition and pressure on margins. The mobile phone providers Verizon Wireless, Cingular, AT&T Wireless, Sprint PCS, Nextel,

and other regional providers are currently already surrounded in the US market as highly competitive Red Ocean territory (DT, 2000-a, 2000-b, 2000-c, 2001-b).

In addition, the exorbitant investments that have been going on for years have led to an increase in liabilities, and the upcoming market development in the USA will lead to even higher costs in marketing, infrastructure development, etc. (DT, 2000-a, 2000-b, 2001-b).

Furthermore, DT is subject to strict regulatory guidelines and regulations not only nationally but also within the EU. These are exacerbated by the regulation of the US authorities (DT, 2000-a, 2000-b, 2000-c, 2001-a, 2001- b; Regulierungsbehörde für Telekommunikation und Post, 2001).

Besides, the Internet and communications industry is associated with innovation and disruptive technology. Countermeasures are constant further development and investments in research and development, which in turn are associated with high costs (DT, 2000-a, 2000-b, 2000-c, 2000-a, 2001-b).

In addition, general economic downturns or political uncertainties could affect the demand for TC services and affect DT's financial performance, but these external macroeconomic factors must always be taken into account in management (DT, 2000-a, 2000-b, 2000-c, 2001-a, 2001-b).

Figure 3 SWOT Analysis of Deutsche Telekom



S	W	O	T
Four-pillar strategy	High Financial Liabilities	Potential of the US Mobile Communication Market	Red Ocean: Competitive Pressure
Strong Financial Metrics	Costs for Licenses and Regulatory requirement	Four-pillar Strategy: Customer Segmentation	Does the Investment pay off?
Market Leadership	Dependence on Technology and Traditional Services	Innovation Potential	Regulatory Restrictions
Willingness to Invest: Acquisition and R&D	Lack of Market Development in the USA	International Expansion	Technological Disruption
Loyalty of Customer Base			Economic Risks
Importance of Voice-Stream			

Note. This visual representation illustrates DT's strengths, weaknesses, opportunities, and threats given its expansion strategy into the US before 2001 based on the author's research.

3.4 Brief Comparison of Strategies: Chunghwa Telecom vs. Deutsche Telekom

The two SWOT analyses result in a positive forecast for the US market entry of CHT and DT. Both companies emphasize in their annual reports that internationalization must always be pushed forward, even if this is associated with an increase in liabilities - and thus in financial risk. It therefore stands to reason that they want to use their growth to demonstrate their positioning outside of their home country.

However, upon closer inspection, clear differences can be seen in the two SWOT analyses. CHT initially wants to concentrate entirely on Taiwanese business customers abroad. With its advanced research and development solutions, CHT aims to provide customized services to its customers while maintaining connectivity - both tangible via networks and

undersea cables and intangible via communications - to its home country of Taiwan. CHT is entering new international markets more cautiously by already opening branches in mainland China and one of the Southeast Asian countries. This “fear” is also due to the complicated political status quo in Taiwan and the regulatory requirements of the Taiwanese government (partial owners). However, with the liberalization of the TC market in Taiwan, CHT is taking the step of expanding into the USA, with which CHT and Taiwan want to demonstrate their visibility in the global economic world. From this, CHT's expansion strategy can be formulated in such a way that CHT wants to establish its international presence through the controllable, stable development of new markets and the provision of solutions for Taiwanese business customers (B2B).

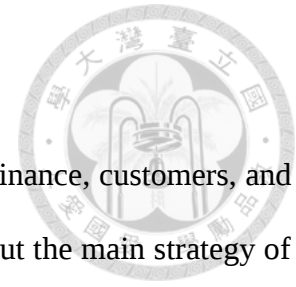
In contrast, DT will serve both business and end customers in the US. With a clear vision in the form of the four-pillar strategy, DT has a clear goal in mind to provide tailor-made, innovative solutions for both customer segments through extensive investments and aggressive development in research and development. In addition, since privatization, DT has been able to fully engage with market dynamics. DT initiated, prepared, and carried out the internationalization process over several years with the help of foreign representations, joint ventures, and acquisitions. This is also reflected in the financial characteristics, as DT is financially strong and can respond to unexpected market obstacles with higher investments and a greater willingness to take risks. This brief overview of DT shows that it has the following goal: a risky and aggressive establishment of the market development strategy with an innovative and diversified product portfolio for B2C and B2B customer segments.

4. Results

4.1 Balanced Scorecard Analysis of Chunghwa Telecom

The BSC analysis (Table 4) diagnoses the strategic aspects of finance, customers, and internal business processes as well as learning and growth of CHT about the main strategy of establishing its international presence by carefully approaching new markets and providing solutions for Taiwanese business customers (B2B) in the US. Although the individual strategies are focused on their area and are to be understood as independent, self-sufficient measures, the individual strategies must still be viewed as part of the overall business picture. It must be also emphasized that financial incentive and promotion options for managers and employees are also listed, serving as target motivation and compensation goals, but will not be explained in more detail in this subchapter.

From a financial perspective, CHT needs to significantly improve and expand its market position among Taiwanese business customers to increase TC's market share in the US by XY% within a year. To serve its potential customers in the US, CHT needs to diversify its product portfolio more and intensify sales and marketing activities in both Taiwan and the US to strengthen customer loyalty and attract new customers. If business customers in the home market already rely on strong cooperation with CHT, CHT can support them in their global expansion plans, giving CHT a competitive advantage. Through these expanded initiatives such as improved customer support, expansion of the distribution network, and introduction of new sales promotions and advertising campaigns, CHT will increase its visibility and presence in the domestic and US markets. Furthermore, CHT must particularly optimize its profitability metrics by reducing its operating costs by XY% and increasing profitability by XY% within a year, with continuous monitoring of financial metrics, costs and budget as well as profit analysis being essential. For example, operating costs, sales, profit margins, expenses, and profitability must be monitored and compared to previous periods or targets set so that a trend



can be identified. This monitoring serves not only for surveillance but also as an early warning system to counteract possible negative effects on the overall financial situation and to implement strategies to increase sales. Cost accounting methods like “Activity-Based Costing (ABC) method” can be used to measure and control operational costs, whereby indirect costs are also taken into account in addition to the direct costs. This method allows costs to be executed and controlled more efficiently, particularly by training transparency and cost awareness among all employees in the central sales and finance teams.

With a focus on customers, it must maintain a firm grip on its single customer segment (Taiwanese business customers in the US) to create a long-term competitive advantage. By building relationships with Taiwanese business customers in the US, CHT gains greater insight into the local telecommunications industry, US business in general, and the specific behavior and demand of local customers. To achieve the minimum target number of XY potential new US business partners within one year, CHT can achieve this through active participation in industry events and networking events to identify and network with potential US customers or partners. This also has a lasting impact on CHT's success, which is why it is important for CHT to significantly increase customer satisfaction by XY% within a year (customer satisfaction index) and thus increase customer loyalty and the company's reputation. Parameters defined by CHT itself based on customer surveys, feedback, and implantation of proper CRM enable an analysis of the customer insights of its Taiwanese business customers and thus optimize customer service.

The analysis of internal business processes implies, on the one hand, ensuring flawless supply chain processes about efficiency and quality. CHT must exploit its potential here and reduce the response time in the supply chain by XY% within a year. This index can summarize several different parameters such as: B. Time analysis (of a specific supply chain), benchmarking (industry standards and performance of other competitors), and process

optimization (automation, technological integration). In concrete terms, this means that sources of error such as bottlenecks or overly complicated workflows in the supply chain must be discovered and standardized so that the supply chain runs more smoothly and efficiently. Regular quality checks can prevent delivery bottlenecks and make adjustments if necessary. The improved efficiency (through the integration of technology and automation) and flexibility as well as quality can significantly increase the average response time to customer inquiries and therefore contribute significantly to customer satisfaction. The increased agility through independent individual decisions also contributes to this progress. The goal is that at least 70% of projects or decisions are implemented independently by individual employees without lengthy approval processes by superiors. What is important here is clear and transparent communication within the team, whereby trust and employee involvement are actively encouraged and promoted.

In the “Learning & Growth” area, CHT must acquire fundamental expertise for the US market to later satisfy the needs of its Taiwanese customers in the US. For this purpose, employees should complete at least 6 weeks of training sessions as part of setting up an office abroad. In collaboration with US market experts (internal and external colleagues), the training and development includes the understanding of the US market and customer target as well as intercultural and language courses. Additionally, as we improve internal talent development and employee retention, measures must be taken to increase job satisfaction and therefore productivity. The goal of reducing employee turnover by XY% and increasing internal promotions by XY% within a year can be achieved through the following initiatives: implementation of talent management program, active, feedback system, annual promotion opportunities, employee benefits and employee events, etc.

Table 4 Balanced Scorecard of Chunghwa Telecom



STRATEGY: *Establishing International Presence by a controllable, stable approach to New Markets and providing Solutions for Taiwanese Business Customers (B2B) in the US market*

	Objectives	Measures	Targets	Initiatives
Financial	Strengthening the market position among Taiwanese Business Customers in the USA	Market share in USA in %	increase by XY% within one year	Strengthening sales and marketing activities and expanding product innovation and product portfolio → reward system for sales and marketing teams: Bonuses for hitting sales targets with Taiwanese/Chinese customers or closing big deals
	Maintaining Financial Strength through Transparency and Control Mechanism in the US-Market	Financial metrics like operational cost and profitability in %	reduce operational costs by XY% and increase profitability by XY% within one year	Implementing a cost control system and monitoring profitability in all business processes; Providing advanced Training for Financial related Teams → managers receive performance-based compensation based on reducing costs
Customer	Expanding Taiwanese Customer Base through Relationships with local US prospects	Amount of new Network Partners in Numeral Data	at least XY potential new US-Taiwanese / Chinese speaking partners/ customers within a year	Attending US-Taiwanese / Chinese speaking Industry Events and Networking Events → Employees receive bonus payments for attracting and retaining Taiwanese customers
	Increasing Company Reputation among Taiwanese Customers by improved Customer Satisfaction in USA	Taiwanese Customer Satisfaction Index in %	Increase Customer Satisfaction Index by XY% in one year	Implementing of Customer Feedback System, Customer Loyalty Program, Improve Customer Service → Employees who are recognized for their outstanding customer satisfaction receive financial rewards
	Efficiency and increased Quality of Products and services through flawless Supply Chain processes to serve US-Taiwanese Customers	Supply Chain Reaction Time in %	increase by 15% within one year	Identify Bottlenecks and other Failures in Supply Chain to implement advanced process; control and monitor Quality Supply Chain Activities and Efficiency; Automating business

Internal Business Process				processes to increase productivity → for effective solutions to improve the supply chain, employees are rewarded with financial incentives or promotions
	Improving Agility through more efficient Work Processes in individual decision-making to serve US-Taiwanese Customers	Number of independent projects or decisions per month per employee in %	Implementation of at least 70% of projects or decisions by individual employees	Significantly shortened, faster response to market changes and customer requirement; implementation of decisions without long approval processes by higher managers, independent procedures without having to wait for lengthy approval process; reports for transparent communication within the team → Managers who actively promote employee empowerment receive bonuses
Learning & Growth	Acquisition of US-Market Expertise for later Competitive Advantage with Focus on Taiwanese Customers	Training units in weeks	at least 6 weeks per participating employee prior Launch of Oversea Office	in collaboration with US Market Experts, providing intensive Training and Development of US market Knowledge paying particular attention to the needs and preferences of Taiwanese business customers, Intercultural and Language Course → employees receive financial support
	Improvement of Internal Talent Development and Retention (Employees involved in this Project)	Employee Turnover Rate and Promotion Rate in %	reduce Employee turnover by 15% and increase Internal Promotions by 20% within one year	Implement a Talent Management Program including Feedback System, annual Promotion Opportunities, Benefits for Employees, Employee Events → actively involved managers receive bonuses

Note. Two specific strategies are each developed for the aspects of CHT's finance, customers, internal business process, and learning & growth about expansion into the USA.

4.2 Balanced Scorecard Analysis of Deutsche Telekom

Similar to the BSC analysis of CHT (refer to chapter 4.1), the following BSC analysis (Table 5) shows the strategic aspects of finance, customers, and internal business processes as well as learning and growth of DT considering the main strategy of successful and aggressive establishment of the market development strategy through acquisition with an innovative and diversified product portfolio for B2C and B2B customer segments in US-market. Financial incentive and promotion options for managers and employees are also mentioned but will not be explained in more detail in the following subchapters.

The financial goal is to maximize the profit margin in the US market through more efficient investments and use of resources. For DT, it must ensure a high return on investment of at least XY% within a year to continue to be the leader in the market. By further investing in technology, infrastructure, and network quality, as well as improving the quality of customer service (B2B and B2C) through greater efficiency in marketing and sales strategy. For management, continuous monitoring of ROI can be used to assess risks and integrate corporate strategy, thereby providing direction for new goals. Furthermore, diversification makes it possible to increase revenue sources while reducing dependence on individual revenue sources in the US market. Due to the new innovative portfolio, DT can increase its share of sales by 15% within a year. For private customers, for example, it could be new, attractive mobile phone offers and Internet services that reach the US market, such as unlimited data, attractive roaming plans, family specials, and high-speed broadband Internet services. Expanding the existing product portfolio is also worthwhile for business customers, for example by introducing tailor-made business solutions such as communication services, cloud computing, network solutions, and cybersecurity services or IoT solutions.

Concerning customers, DT must increase its market share in the US market, specifically, this means strengthening customer loyalty (by XY% within a year) and, ideally, winning over

new B2B/B2C customers through targeted marketing measures. The goal is to increase US customer retention rates. Through Effective CRM through loyalty and VIP programs, birthday or anniversary promotions, and active customer feedback systems, customer data can be collected and evaluated to determine better customer behavior and insights for more innovative approaches. In addition, DT must increase its customer satisfaction index in the US by XY% within a year to ensure its differentiated market positioning in the US market. Measures such as training customer service staff, implementing a complaint management system, and introducing customer loyalty programs are essential. Improving the customer experience can help capture US customers' behavior more effectively and understand their purchasing behavior to better target US customers' needs. For both index values, comparative values from the previous period must be used to identify a trend and, if necessary, initiate countermeasures.

The analysis of internal business processes reveals the need to increase efficiency by implementing automation of work processes to reduce waiting times for US customers. The aim is to reduce the throughput time by XY% within one year, whereby bottlenecks and inefficient processes must be identified in advance and countermeasures developed. Not only can integrating technology be of great benefit to customers, but also for internal processes, implementing an automated and optimized business process structure can increase efficiency while reducing costs. There is also a further goal to increase work productivity by XY% within a year through controlled, more efficient use of resources in B2B and B2C teams in the USA. The goal is to specifically adapt innovative capacity planning and automation to the requirements of US customers and thus balance flexibility and efficiency. This allows teams to focus on their assigned tasks and achieve more excellent results.

With a view to learning & growth, investments in the development and promotion of employees not only strengthen long-term employee satisfaction and retention but also contribute to expanding DT's knowledge pool. By creating modern and innovative workplaces,

DT can increase the working atmosphere among employees, flexible working hours, and attractive working conditions as well as reward systems. Mentoring systems and the promotion of a learning climate in the company for employee development also help employees not only recognize their strengths but also promote team building and cohesion within the workforce. Especially in the USA, the employee union is very threatening to companies, but as long as DT keeps the employee satisfaction of its employees high, DT does not have to be afraid of the union. Additionally, successful delivery requires a diverse innovative product portfolio tailored to the US market and its B2C and B2B customer segments. Therefore, another goal is to increase patent applications by at least XY% per semester. Here, close collaboration between the R&D and marketing teams is extremely important, as they design the solutions for the needs of the customers.

Table 5 *Balanced Scorecard of Deutsche Telekom*



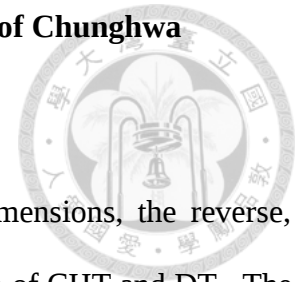
STRATEGY: *Risky and aggressive Establishment of the Market Development Strategy through acquisition with an innovative and diversified Product Portfolio for B2C and B2B Customer Segments in the US Market*

	Objectives	Measures	Targets	Initiatives
Financial	Maximize profit margin in the US market through more efficient investments and resource utilization to strengthen financial stability	Return on Investment (ROI) in USA as a ratio	at least XY% for all investments within one year	Investment in advanced Technology, Customer Retention, Infrastructure, Efficiency of Marketing and Sales Strategy tailored to B2B and B2C US-Customer needs → Sales bonuses or commissions for achieving efficiency and sales goals or marketing and sales goals
	Increasing financial potential by diversifying revenue sources and reducing dependence on individual revenue sources in the US market	Sales Share in USA in %	increase the share of sales by XY% within one year	Develop innovative and diverse products and services for B2B and B2C customers in the USA → Performance Bonuses for innovative Ideas or Participation in Profits from Product Development and Sales
Customer	Increasing market share in the US market by strengthening customer loyalty and acquiring new B2B/B2C customers through targeted marketing measures	US Customer Retention Rate in %	increase by XY% within one year	Introduce loyalty programs for individual and business customers in the US, focusing on seasonal offers and special promotions → Performance Bonuses for achieving Customer Satisfaction and Feedback Goals in USA
	Establishment of a differentiated market positioning in the US market through continuous adaptation to the specific needs of B2B/B2C customers in the USA	US Customer Satisfaction Index in %	increase by XY% within one year	Training of Customer Service Department, Implementation of After-Sale- and Customer Feedback Management System, Introduction of Customer Loyalty Program → Performance Bonuses for achieving Customer Satisfaction and Feedback Goals in USA

Internal Business Process	Increasing Efficiency by Implementing Work Process Automation: Less Waiting Time for US-Customers	Lead Time of Processes	reduce by XY% within one year	Identification of Bottlenecks and other inefficient Processes to develop Countermeasures in collaboration with employees and managers & → Bonuses for achieving Efficiency and Productivity Goals and successfully Implementing Automation Solutions
	More efficient customer segment support through controlled resource utilization in B2B and B2C teams in the USA	Labor Productivity in %	increase by XY% within one year	Use of advanced Capacity Planning and Automation to hit US-Customer demands → Bonuses for achieving Efficiency and Productivity Goals and successfully Implementing Automation Solutions
Learning & Growth	Increase Employee Retention by Empowering Employee Development for Employees involved in this Project	Employee Satisfaction Rate in %	increase Employee Satisfaction by XY% within one year	Creating an attractive working environment and providing annual team building and personal mentoring training for employees (based on US standards → Performance Bonuses for achieving Team Goals and encouraging Employee Development
	Investing and driving R&D to expand the knowledge pool to exceed the needs of B2B and B2C customers in the US market)	Patent rate in %	increase of at least XY% of innovative patent applications for the US market per six months	Targeted promotion and motivation of R&D team and close collaboration with the marketing team to provide new innovative products for the US market → Bonuses for achieving patent application targets and successful implementation

Note. Two specific strategies are each developed for the aspects of DT's finance, customers, internal business process, and learning & growth about expansion into the USA.

4.3 Comparative Analysis: Diverging Global Expansion Strategies of Chunghwa Telecom and Deutsche Telekom



About the interpretation of the analysis of the individual dimensions, the reverse, vertical view of the BSC is necessary to obtain an accurate comparison of CHT and DT. The reverse view from the “bottom-up” of the original BSC is therefore necessary since the BSC is to be assessed as a consecutive structure, as can be seen in Figure 4.

Based on the previous BSC analyses, it can be seen that both companies pursue the same “overarching goals” about the four dimensions: Through transformation and innovation in employee development, the company's knowledge pool is consolidated (*learning & growth*) and thus increased efficiency, through implementation of innovative technology and knowledge (*internal business processes*). This boosts customer satisfaction and loyalty (*customers*), which ultimately determine financial success (*finances*). However, a closer look at the BSC also reveals diverging points in the specific strategy and the associated measurement tools, targets, and initiatives to achieve these goals. This is because both TC companies prefer different focuses of their business models, which leads to different effects in their implementation and approach.

When it comes to learning & growth, CHT and DT focus on the further development of their employees, whereby CHT must maintain the employee satisfaction of its workforce at a high level in the long term to retain qualified talent in the long term who will develop innovative solutions on behalf of the CHT. In addition to preparing to send internal employees from Taiwan to the US, CHT must also prepare for the new work environment, which requires intensive training on customer profiles, language, and culture in the US market. DT, on the other hand, attaches importance to increasing employee satisfaction through attractive working conditions for the additional employees on site, which can be dampened by the promotion of

positive strikes by the union. In addition, DT must find attractive solutions to achieve an increase in the patent application rate with the long-term goal of diversifying the innovative product portfolio. It becomes clear that the establishment of modern organizational behavior is fundamental to this aspect of business.



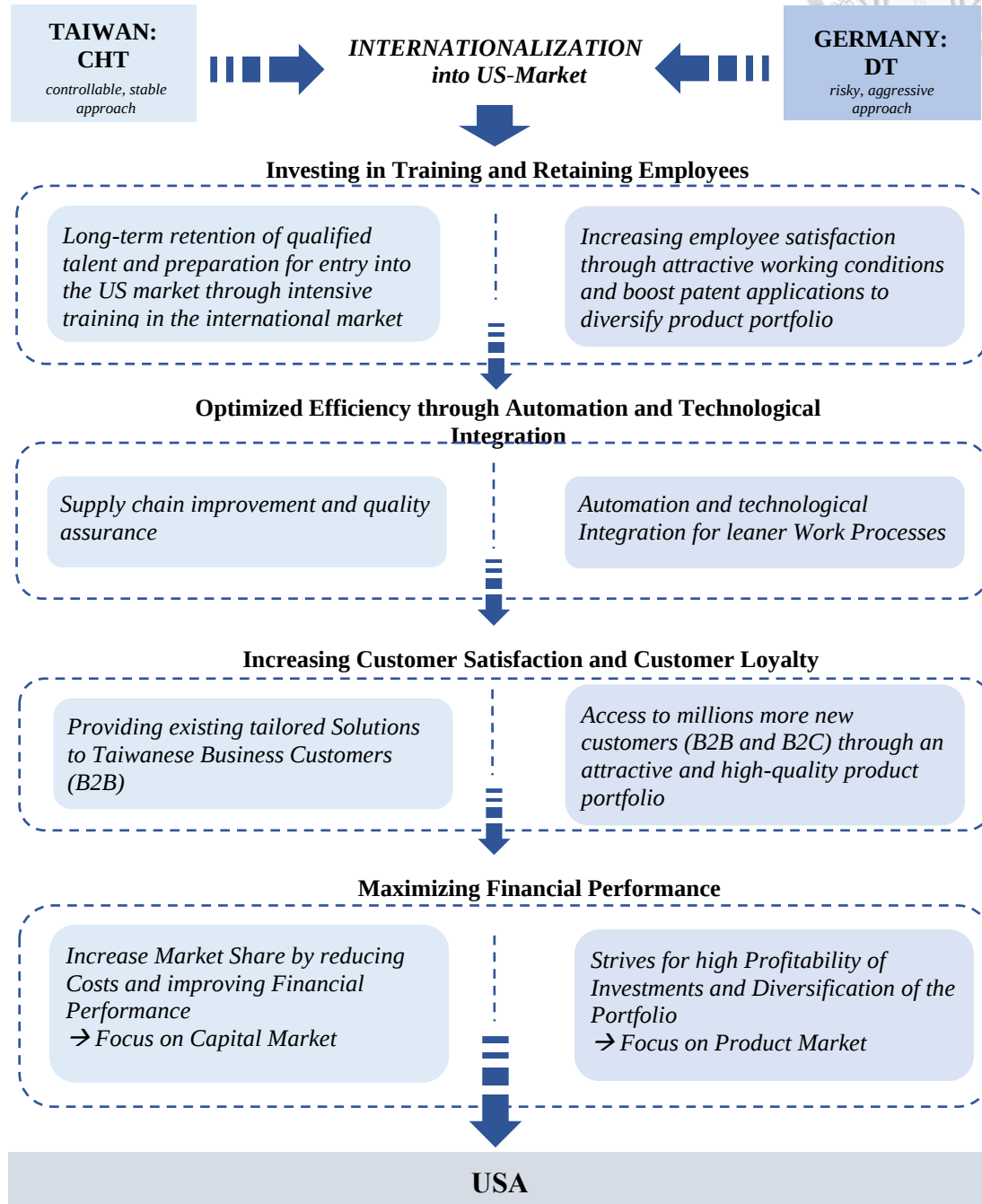
With the optimization of employee training, the internal business processes also change, because increasing efficiency and productivity through the use of technology and automation become new objectives for all CHT and DT employees. DT will focus more on automation and technological integration to achieve a leaner work process and higher work productivity. CHT will continue to focus on supply chain improvements and leaner decision-making processes, CHT will deliver on its customer promise and continually increase customer satisfaction. In this aspect, too, elements from organizational behavior and technological integration are used for the transformation.

With the improvements in internal business processes, both companies strive to remain top dogs in the market. CHT and DT must firmly integrate the “customer” factor into their strategy because both companies focus on increasing customer satisfaction and customer loyalty through the implementation of customer feedback systems and rely on better-tailored customer service. However, CHT As a completely new global player, CHT must prioritize focusing on Taiwanese business customers by providing customized solutions and services in the USA and sees itself as a significant participant in its customers' supply chain. In contrast, DT enjoys the advantage of gaining access to millions more new customers (B2B and B2B) in the USA through the acquisition of VoiceStream and Powertel, but must achieve a high level of customer satisfaction through an attractive and high-quality product portfolio. A major strategic difference in the definition of customer targets becomes apparent here.

Good customers pay good money, but keeping a financial overview of this is essential for CHT and DT for future investments and progress. In the (most) important financial area,

both companies testify to the importance of increasing financial performance, which demonstrates the success of the past period and predicts positive further development. CHT focuses on reducing operating costs and focuses on increasing profitability, while DT aims for return on capital and diversification of revenue through a diverse product portfolio and multiple customer segments, thus consolidating its financial strength. The biggest difference here is that CHT will use its US market entry to establish its positioning in the capital market, while DT will strengthen its position in the product market.

Figure 4 Diverging US-Market Penetration Strategies of Chunghwa Telecom and Deutsche Telekom



Note: The present figure is a graphical representation of the comparative BSCs of CHT and DT, the results of their different strategies are presented in reverse in the form to obtain the structure of a strategy map and ultimately serve for interpretation.

5. Discussion

5.1 Key Findings of Comparative BSC Analysis

The causal composition of the analysis yields the strategy map for CHT and DT that with a focus on international growth in the US market, CHT and DT must emphasize developing their employees and fostering an innovation-friendly culture to expand their knowledge and skills (Learning and Growth). The resulting newly expanded knowledge pool and positive employee loyalty lead to a constantly increasing quality of products and services as a result of an efficient, self-contained, and optimal internal business process. CHT and DT strive to increase efficiency and reduce response times in the supply chain and work processes through automation and leaner decision-making processes, making transformation and innovation essential (internal business processes). These are reflected in the expansion of the innovative product portfolio as well as improved excellent customer service. The resulting increased customer satisfaction and loyalty (customers) can be translated into increased financial strength, with the company's success now also becoming visible to shareholders (finances).

Based on these analysis results, Figure 5 shows that an important key finding lies in the difference in corporate culture for regional and cultural reasons (Taiwan vs. Germany). Modern organizational behavior as a comprehensive management tool is crucial here, as the different culturally determined corporate behaviors can have a strong influence on strategy, internal and external communication, and the degree of innovation and progress. These differences between German and Taiwanese business culture can be seen particularly in priorities, hierarchy and decision-making processes, communication style, willingness to take risks, and work ethic. This observation should be perceived without evaluation; rather, the emphasis here is on the significant importance of culture and national characteristics for a company.

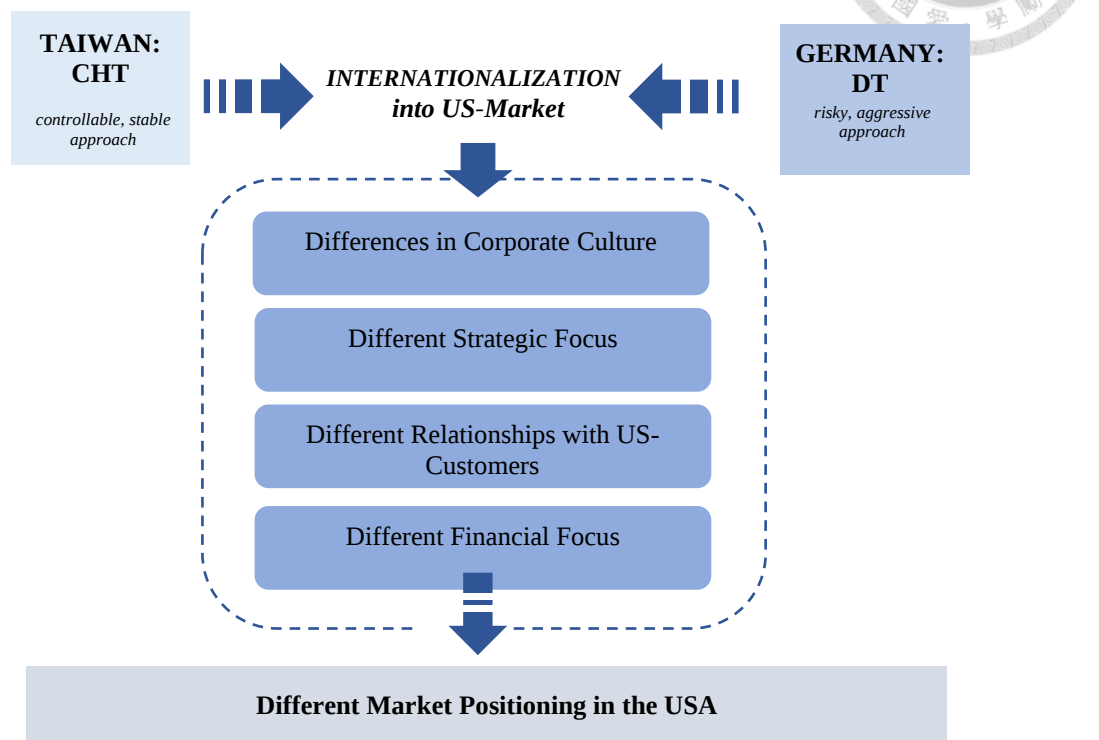


This is also reflected in the different strategic orientations, with CHT daring to enter the US market in a cautious, controlling manner, while the DT takes the aggressive, riskier route. The new strategic direction (entering the US market) of CHT and DT is crucial for their shareholders and new investors who aim for long-term profitability and viability of the companies. Although both are active in the TC and ICT industry, they have different priorities of focus, target groups, and product portfolios, which ultimately impact the formulation of their vision and mission. These different strategic focuses and business models of both companies are particularly visible in the annual reports, which represent important communication channels for shareholders and potential investors and make a significant contribution to influencing the trends and developments of CHT and DT. Specifically, the differences lie in the way they will position themselves in the US market in the future, their business practices, and how they will achieve their long-term goals. Their different strategies and approaches will have a direct impact on the company's vision and mission and thus on its long-term competitiveness and its future importance as a global player.

As part of their corporate strategy, CHT and DT must continue to expand their customer relationships and networks in the US to establish their initiating presence in the market and secure long-term growth. Here too, their interpretation and approach differ, with CHT focusing on providing tailor-made solutions for Taiwanese business customers in the USA, thereby acting as a significant link in the supply chain. Here their strategy for a controlled, safe development of the US market becomes very clear. DT will have to respond more aggressively and actively to the needs of its B2B and B2C customers in the USA and thus offer a wider range of innovative products. However, it is crucial for both companies to build a strong customer base in the USA and to maintain long-term relationships with customers (and also business partners) to be able to respond to the dynamic market conditions more flexibly and agilely.

Viewed comprehensively, all of the different strategic priorities mentioned flow into CHT and DT's efforts to maximize their financial performance and firmly anchor their market positioning in the USA. Here, too, both TC companies diverge in their priorities, with CHT focusing more on profitability and cost reduction, while DT focuses on return on capital and sales diversification. The capital market plays an important role for CHT, as it wants to use its market entry in the USA to strengthen its positioning on the capital market and global presence. CHT's goal here is to strengthen profitability and increase efficiency to gain the trust of shareholders (primarily the Taiwanese government) and new investors and to ensure long-term financial stability. DT, on the other hand, focuses on the product market by diversifying its product portfolio through innovation and technological integration and serving different customer segments simultaneously. With the help of successful sales diversification, DT strives for a strong positioning in the product market and the associated improved return on investment. Whether capital or product market, the different focuses ultimately lead to different assessments and trend forecasts by investors and significantly influence the long-term competitiveness of companies.

Figure 5 Key Finding resulting from the Comparative Analysis of Chunghwa Telecom and Deutsche Telecom



Note. Despite of same goal of penetrating the US market, the four differences result from the comparative BSC analysis, which are decisive for the different effects on the market positioning of CHT and DT in the USA: differences in corporate culture, strategic focus, relationship with US-customers and financial focus.

5.2 Implementation: Recommendation for Chunghwa Telecom regarding Future Global Expansion

With the announcement of the opening of a new foreign subsidiary - this time in Europe - in 2024, CHT will experience déjà vu. The Taiwanese TC company faces major challenges

like more than 20 years ago, but CHT can approach this project of internationalization process with more confidence, using the experiences and lessons from the past to its advantage for the future. Although this comparative analysis is only an excerpt from possible strategies that CHT and DT used for their expansion plans, CHT can still learn from DT's approach.

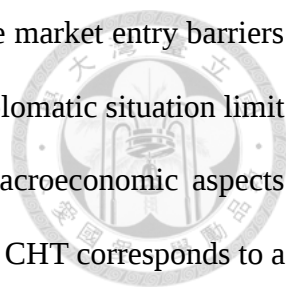


For example, CHT can adopt DT's aggressive market expansion strategy to create a stronger starting position. The Taiwanese CHT can learn from this strategy by making various advanced investments in acquisitions of foreign companies in the same industry. This would give CHT a clear advantage if it were to fully enter the market at a later date. For example, CHT can set up a joint venture with foreign telecommunications or ICT companies to gain more access to local customers and know-how in this market. Such an investment would also mean greater diversification of CHT's financial income and strengthen its financial strength. Through such collaboration, CHT can firstly build its visibility in this market and secondly gain fundamental insights into the local business world to gain expertise. Such joint ventures would both facilitate and accelerate future mergers and acquisitions (M&A). Such acquisitions involve high investments and risks, but such merger projects would provide CHT with a financial advantage and expand the diversification of the company's portfolio. This can be in the form of a vertical or horizontal level, although CHT may also invest in a completely new industry and expand its business pool.

In addition to Taiwanese business customers, CHT was also able to convince US business customers of its innovative products and thereby gain more visibility in the market. Such customer diversification not only helps CHT to free itself from dependence on a specific customer group and to gain more flexibility. CHT needs to be more confident in customer acquisition as the Taiwanese company is already internationally visible. By becoming more connected to local customers and partners, CHT gains greater insight into the market, making

CHT more flexible and offering more innovative solutions that are better tailored to customer needs. The current customer base consisting of Taiwanese business partners has certainly proven itself; after all, the sales figures of the foreign subsidiaries show a positive balance. However, CHT can fully utilize its resources and potential and leave its comfort zone. Whether this reluctance to acquire customers results from cultural backgrounds is certainly debatable, but by breaking out of its cocoon, CHT can not only gain more strength and self-confidence but also expand its customer segments. CHT is therefore strongly recommended to expand its marketing strategies for foreign customers and revolutionize them together with its previous strategies.

Another recommendation is to promote an innovation-friendly work culture and increase employee satisfaction. Especially when CHT opens up new markets abroad, you can't just rely on the expertise of Taiwanese employees. Collaboration and effective communication with local employees not only facilitate the internal business process but also create trust and greater visibility in foreign markets. It is not enough to provide language courses for Taiwanese employees; Rather, these employees must be prepared and trained for social, cultural, and market-related factors. Through close cooperation with foreign employees, CHT gains easier access to the newly developed market. It is important to emphasize that the knowledge and expertise of the Taiwanese employees sent abroad to set up the new subsidiaries is certainly above average, but they and the management continue to rely on the expertise of local employees and partners. The aim of CHT should not only be to set up a representative sales office abroad but rather to promote the establishment of CHT corporate values through a confident appearance with the help of a competent international team on site. Such a development shows company strength and trust, which has an impact on new existing and new potential customers.



For CHT, compared to the German DT, there are certainly more market entry barriers because the internal structures and external factors such as Taiwan's diplomatic situation limit the full development of CHT on the international market. These macroeconomic aspects cannot be ignored, which is why the risk management and evaluation of CHT corresponds to a different dimension compared to DT and other international TC companies. Taiwan's size as an island also only allows limited use of resources, but the last few years show CHT's sovereignty and willpower that it wants to keep up with its international competitors and will succeed. CHT must be able to shed its image of a conservative state-owned company without breaking away from the ownership of the Taiwanese government because CHT stands for innovation and progress: nationally and globally. So far, CHT's achievements, especially on the international market, are certainly to be praised, because Taiwan, as a small island, can boast of its flagship in the TC industry. CHT's company history proves that, after initial difficulties, it can overcome crises and challenges with flying colors and also achieve exponential growth. By continuing to invest in innovative, attractive solutions and large-scale internationalization, CHT will grow into a global player in the telecommunications and ICT market that can no longer be underestimated, as long as it conveys its vision and mission more clearly to the world.

5.3 Evaluating Case Studies: Diverging Expansion Strategies of Chunghwa Telecom and Deutsche Telekom

After the successful expansion into the USA, CHT and DT each point out the success of their level of internationalization in their annual reports, with a winner emerging from this comparison according to financial indicators: DT from Germany. According to DT's 2022 annual report (2023), the US subsidiary T-Mobile (formerly VoiceStream and Powertel) is now

dominant in the US market with sales of \$79.3 billion (EUR 75,436 million), ahead of local competitors Verizon and AT&T. In comparison, CHT (2023-a) reported total revenue of the equivalent of USD 20.4 million (NTD 641,218,000) in its 2022 annual report through its American subsidiary CHT Global.

It is clear that the DT is far superior financially and there is no denying that the financial aspect of a company is important when considering the overall performance of a company. The financial indicators reflect the performance in the form of the profitability of a company, not ignoring the efficiency of its resources and the profitability of investments. These financial measuring instruments certainly also indirectly include dealing with customers, competitors, market adjustment and market share, innovative strength, market worker satisfaction, corporate culture, product portfolio, etc., because all business areas mesh together like gears. It is questionable whether DT will perform better than its Taiwanese competitor CHT, as the necessary contextualization and external framework conditions for individual companies cannot be ignored. Ultimately, this study proves that, despite having the same goal, both companies prioritize different strategies and approaches and pursue them purposefully in the spirit of their mission and vision. In retrospect, it can be seen that DT is numerically larger as a company, but is no better than CHT in its comprehensive company valuation. CHT can proudly and self-confidently defend an international market position and showcase its company values because its previous successes can be tracked in the form of facts and figures in the annual reports.

Conversely, does this mean that a comparative comparison of CHT and DT using BSC analysis does not provide meaningful results and is therefore not useful for evaluating both services? The answer is no because these case studies provide important insights into CHT and DT's strategic direction, approach, performance, and challenges. Against the background of strengths, weaknesses, opportunities, and threats, the essential strategies for TC companies

were identified, and based on this, concrete strategies with goals and initiatives were designed. This case study proves that despite the same visions and missions, companies achieve different results due to different starting points and framework conditions. It is the dynamics – inside and outside – that influence this game. In addition, this case study offers learning opportunities for both companies: On the one hand, CHT can learn from DT's successes and worthwhile strategies on how it can expand its competitive advantage in the international TC market and position itself in the best possible way. But DT can also learn from CHT's previous strategies to minimize any risks and take countermeasures to ensure its corporate strategy is successful in the long term.

5.4 Limitation and Outlook for Further Research

Due to the highly sensitive secrecy of innovations and advances in the telecommunications and ICT industry, data availability is limited, which is why the selection is based on information that is only available to the public. Detailed internal processes and strategic decisions can only be made as diagnosis; Based on scientific expertise and ethics, the sources were checked and selected to the best of the author's conscience concerning their credibility and journalistic neutrality.

When considering CHT, it must therefore be explained that the research was very limited due to the difficulty of accessing data and therefore, due to the research question in the paper dealing with the extension, the results come mainly from online reporting from the years 2000-2002 native is planning a trip to the USA during this period. Official information from CHT itself turns out to be very limited or incomplete. There is only superficial information about the founding of the US subsidiary CHT Global; There are neither annual reports nor significant press releases about this Foreign Office. This leads to the primary application of the CHT annual reports 2000-2003. However, there is no word in any of the annual reports about

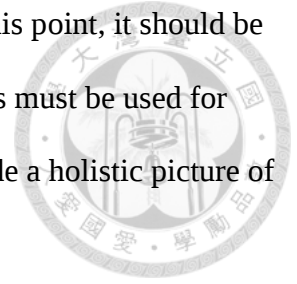
the global expansion into the USA or the establishment of the US subsidiary. There is a lack of concrete information on the business strategy and detailed information on the individual business areas. This is also the reason why the annual reports at that time were formally very poor and therefore have to be viewed critically in the context of this research. Explicit proof of data and source verification cannot be provided here. This allows for vague guesses and predictions, although the author has taken into account all the data provided.

In contrast, the research material on DT is more extensive, although here too the oldest data (in the form of annual reports) is dated to 1995. The 1999-2001 annual reports are indeed important for the investigations of this work; its annual reports are also significantly more detailed and detailed. This may be because DT, as a German company, has more experience with the formal requirements of published reports than its Taiwanese competitor. When researching expansion into the US, information about this is far more basic. Here, too, it must be emphasized that although the annual reports are written neutrally, they still represent the company's perspective, which is why all information used here is treated critically.

Another limitation is the lack of involvement of other stakeholders, as this work only considers the aspects of CHT and DT. Although the analyses take into account competitors, customers, and market dynamics, as well as local authorities, the comparative analysis focuses mainly on the perspective of the companies themselves. In complementary research, other stakeholders can also be identified and analyzed as important influencing factors, taking into account the complexity of international business activities is better lit.

However, the problems mentioned do not represent an obstacle to the methodology and results of the work. Rather, this circumstance illustrates the need for more comprehensive, in-depth research in this area; after all, this thesis only addresses a section of a large complex with a focus on Taiwan and Germany. Future research could use additional analytical methods or incorporate theoretical approaches such as PESTEL or Business Model

Canvas to provide a more comprehensive picture of globalization. At this point, it should be emphasized that in the real business world, several strategic instruments must be used for analysis, as all instruments are linked to each other and therefore provide a holistic picture of the situation.



6. Conclusion

The comprehensive comparative study of the business strategies and performance results of Chunghwa Telekom (CHT) and Deutsche Telekom (DT) in the context of their international expansion into the US market in the 2000s reveals clear differences and similarities. Although both telecommunications companies have similar goals of global expansion in the US, they take different strategic approaches, which are reflected in their financial results and market positioning. The comparative analysis in the form of Balanced Scorecard (BSC) analysis suggests that DT has rapidly expanded its international presence and dominance through an aggressive market expansion strategy and targeted acquisitions, resulting in significant revenue growth and a strong market position in the US market. Taiwan's CHT, on the other hand, takes a more conservative approach and focuses on developing new markets in the US and providing tailored solutions to Taiwanese business customers in the US.

Due to the different strategic approaches, both CHT and DT in finance focus on increasing financial performance, with DT placing greater emphasis on return on capital and diversifying revenue sources (product-market oriented), while CHT focuses on reducing operating costs and increasing profitability and its role as a link in its customers' supply chain (capital market-oriented). When it comes to customer centricity, both TC companies strive to increase customer satisfaction and loyalty through tailored customer support, customer loyalty programs, and better feedback systems. CHT could learn from DT to expand its current customer base of Taiwanese business customers in the USA to include B2C customers to successfully integrate into the market. Optimizing and automating internal business processes is another area where both CHT and DT need to increase their efforts. While DT relies on automation and technological integration to increase its efficiency and labor productivity, CHT could focus on improving and securing the supply chain and reducing response times. When it comes to learning and growth, both companies recognize the importance of employee

development and retention as well as increasing patent filings to expand product portfolios. DT and CHT must make progress internally that will enable both companies to achieve greater success and positive performance externally.

An important key result from the comparison lies in the differences in corporate cultures (Taiwan vs. Germany), which influence strategic decisions and thus vision and mission. The different focus on approaches and expansion of customer relationships and networks in the USA also shows the diverging interpretations and approaches. These different strategic priorities ultimately shape CHT and DT's efforts to maximize their financial performance and strengthen their US market position, which is why CHT is capital market-focused and DT is product market-oriented. One can say, that all financial and non-financial business areas are monitored and controlled across the company because they are the most important pillars for the existence of a company and long-term competitive advantages in the global environment.

Overall, comparing these companies helps us to learn from each other as strategic economic actors and at the same time allows the objective observer an analytical view of this dynamic economic world. For DT investors, this analysis means that DT's previous strategies have been quite profitable and still have a chance of success. For CHT investors, this analysis means that the establishment of the American subsidiary was quite successful and necessary because as CHT continued to expand, it ventured more and more into foreign subsidiaries in the following years. Ultimately, it is not about evaluating whether CHT services are good or bad, but about analyzing and forecasting sustainable growth, in particular especially in a very dynamic but promising industry like telecommunication

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Appendix A

Picture

Appendix Picture A 1 *Entry Foyer of Chunghwa Telecom Co., Ltd. International Business Group*

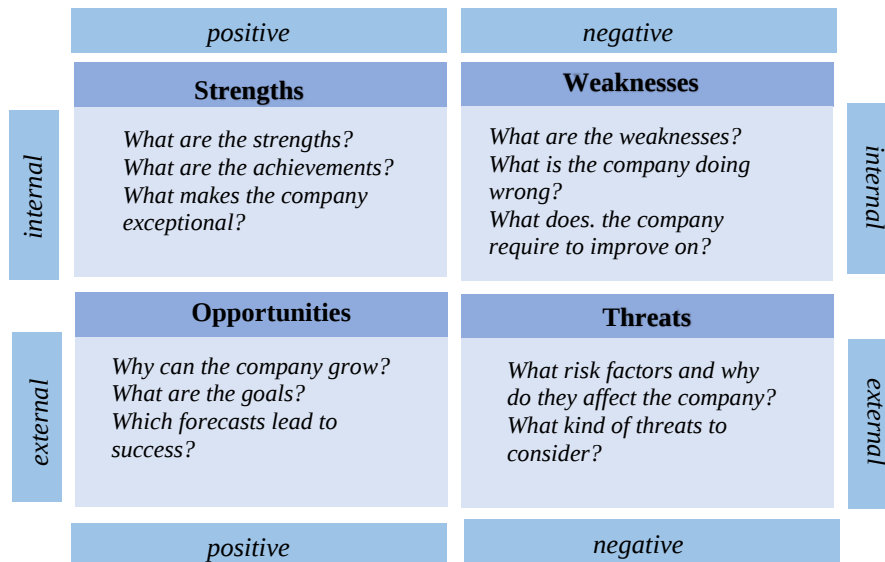


Note. This photograph describes the mission and vision of Chunghwa Telecom as a global player and a game changer when greeting guests directly in the entrance area of the Chunghwa Telecom International Business Group building—a photograph supplied by the author.

Figures

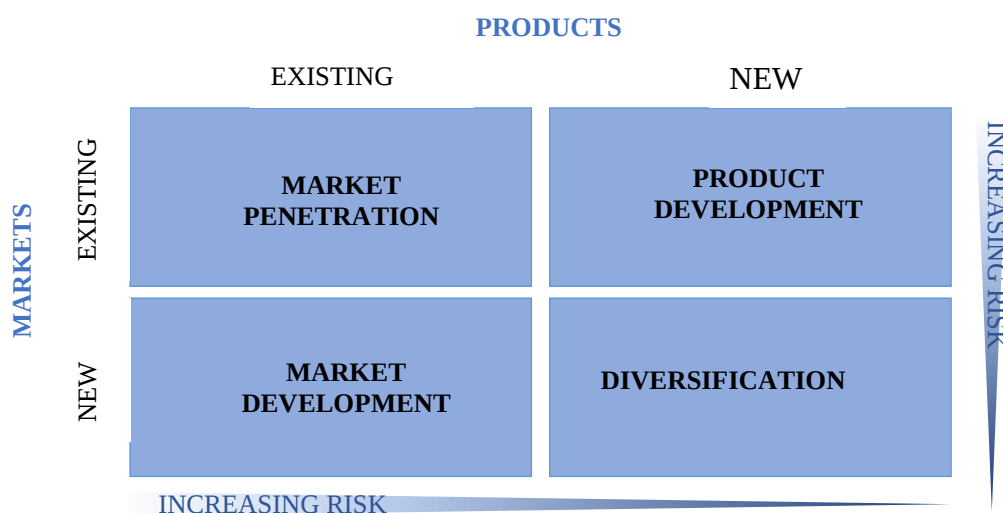


Appendix Figure A 1 *Meaning of SWOT Model*



Note: The SWOT analysis allows a snapshot overview of a company's strengths, weaknesses, opportunities, and threats. As a very elementary tool in strategy, the use of SWOT is essential. Adapted from "SWOT analysis for Pharmcare" in *Exploring Corporate Strategy* (p. 118), by Johnson et al., 2008. Copyright 2008 by Pearson Education Limited.

Appendix Figure A 2 *Model of Ansoff Matrix*



Note: As part of strategic planning, the Ansoff Matrix is particularly beneficial for market development strategy as it helps in decision-making for growth strategies. This figure is supplemented by the elements of risks. Adapted from “The Ansoff Matrix” in *Key Marketing Concepts* (p. 122), by Meldrum, M., & McDonald, M., 1995. Copyright 1995 by Mike Meldrum and Malcolm McDonald.

Appendix B



Machine-Translated Source 1

The following source has been machine-translated from the German language and is provided for reference purposes only. The source is as follows:

Title: Einstieg auf dem US-Mobilfunkmarkt. Mit VoiceStream und Powertel werden wir zum weltweit führenden GSM-Mobilfunkanbieter (p. 1-4)

Author: Deutsche Telekom AG

Published: 2000

Available at:

<https://www.telekom.com/resource/blob/328724/eb07c186147432159688f3a402dd0e3e/dl-2000-4-3-forum-t-aktie-direkt-data.pdf>

The following translation was generated using Google Translate and should be used with caution:

Title: Entry into the US mobile market. With VoiceStream and Powertel we are becoming the world's leading GSM mobile phone provider (p. 1-4)

Translated by: Google Translate

Translate Translation Date: January 30, 2024

Through the planned acquisition of the US mobile phone providers VoiceStream and Powertel, Deutsche Telekom is gaining access to the largest telecommunications market in the world. These transactions, which still require the approval of the responsible authorities and

corporate bodies, will in particular strengthen Deutsche Telekom's mobile communications business, which is essentially consolidated in T-Mobile International - and thus a central growth area within the 4-pillar growth strategy. 400 million potential customers in the shared license area ensure first-class growth potential that can be achieved in the relatively short term.

Found the “ideal partner” with VoiceStream

“VoiceStream is the US company that best fits Deutsche Telekom – and in an ideal way. "Fit and significantly strengthens our position in mobile communication as a central component of our 4-pillar growth strategy." With these words, Dr. Ron Sommer explained the reasons for the desired partnership with VoiceStream at the press conference announcing the transaction. In fact: VoiceStream is an excellent partner for Deutsche Telekom, both in terms of the attractiveness of the US market and the strategic direction of the company and its growth prospects. Two further aspects that are also crucial in addition to the industrial logic of the transaction: VoiceStream is led by a very experienced management team, and the agreed purchase price is appropriate, and fair compared to similar transactions. Please also read the explanations on page 4 in particular. The planned Powertel acquisition will significantly expand the VoiceStream network in the USA. Our future strategic partner VoiceStream has also announced that it wants to take over the US mobile communications company Powertel, which has licenses for areas with 25 million inhabitants and also operates a GSM network. At the end of June 2000, Powertel served around 727,000 customers in the southeastern United States and had achieved sales revenues of around \$212 million so far in 2000. VoiceStream does not currently operate cellular services in this area, so this could fill one of the few gaps in its coverage area.

The purchase of Powertel is expected to be completed immediately after Deutsche Telekom acquires VoiceStream, which has yet to be approved. The transaction represents a

value of under \$6 billion and is primarily made on the path of share exchange. The main shareholders of VoiceStream and Powertel have confirmed their approval.



US market – enormous growth spurt predicted

As one of the largest mobile communications markets in the world, the USA is facing an enormous growth spurt: by 2003, customer growth is expected to be stronger than that of the four largest European economies combined. Experts estimate that the USA is at least two years behind Europe in mobile communications. The main reason is that different and often incompatible transmission standards have so far prevented dynamics like those in Europe. With the planned acquisition of VoiceStream and Powertel, we are selectively entering the most interesting market segment in the USA against the background of this great pent-up demand. 400 million potential customers make us the largest GSM mobile phone provider in the world. A few selected figures already demonstrate the growth prospects that we will be able to develop in the US market in the short term with VoiceStream alone. In the USA, our future partner can operate with its licenses in 23 - including Powertel even in 24 - of the 25 largest regional US markets. The network coverage currently ensures access to 100 million potential customers - if you add Powertel, the figure is almost 120 million. By the end of 2001, there should be a total of 140 million. Including all licenses to which VoiceStream and Powertel have access, the company has access to 245 million potential US customers. Together with the approximately 155 million customers that it can reach in Europe with its subsidiaries and majority holdings in the mobile communications sector, Deutsche Telekom will immediately become the world's largest GSM mobile communications provider.

VoiceStream and Powertel also use GSM, the most widely used mobile communications standard in the world. Still crucial from a strategic point of view: VoiceStream is the only US mobile phone provider that operates a nationwide network based on the GSM

standard. Around 345 million of the currently estimated 500 million mobile phone users around the world make GSM-based calls. T-Mobil and all subsidiaries and holdings of Deutsche Telekom and T-Mobile in the mobile communications sector also use GSM. Success factor number 1: Only we will have a seamless transatlantic mobile network. This results in significant competitive advantages for us in the short term. Together with VoiceStream and Powertel, we will not only have a uniform technical network platform but will also be the first GSM mobile provider to be able to offer our European and American customers seamless transatlantic mobile communication. With far-reaching potential for marketing innovative mobile services: the increasing internationalization in all economic sectors - as well as, for example, extensive tourism in or between Europe and the USA - will ensure increasing demand.

VoiceStream – one of the fastest-growing US providers

VoiceStream, based in Bellevue, Washington, is now the only U.S. wireless company with a nationwide GSM network. VoiceStream continued to increase its high growth rate in the second quarter of 2000: The customer base was expanded by 365 percent to 2.6 million compared to the same period last year.

The license area is being expanded at high speed

This year, the license area was significantly expanded by the previously acquired GSM providers Aerial and Omnipoint: including in such strategically important regions as New York, the New England states as well as in Florida, Texas, and other regions - i.e. in areas that are, in comparison to the US -On average, consistently have a high population density and have a correspondingly large potential for above-average customer growth.

Strong growth in customers and sales

On this basis, VoiceStream has the best conditions to continue growing at an above-average rate. Customers are expected to reach the 4 million mark by the end of the year. VoiceStream is also clearly on a growth path in terms of sales. In the completed 1999 financial year, sales of around DM 1 billion were achieved. This total was already reached in the current financial year at the end of the first half of the year: sales revenue amounted to around 453 million US dollars compared to 109 million in the same period last year. This makes VoiceStream one of the fastest-growing mobile phone providers in the USA.

Excellent long-term prospects for success through aggressive Marketing

The high pace of new customer acquisition was achieved in particular through aggressive marketing. As expected, this also placed a considerable burden on the cost side, so that the amount recorded in the second quarter of 2000. The loss increased to almost 420 million US dollars. However, there are inevitable start-up costs that every fast-growing provider in a still comparatively underdeveloped market has to take into account - it was no different for the mobile phone providers in the German market. However, the rapid expansion of the customer base is crucial for the medium and long-term prospects of success. A look at T-Mobile's success story in Germany shows that this strategy is the right one especially since the conditions are excellent for VoiceStream to introduce very soon attractive and, in particular, high-quality offerings such as m-commerce services based on the common, transatlantic GSM network.

- One of the fastest-growing US wireless providers
- Only US provider with a nationwide GSM network
- Licenses in 23 of the 25 largest U.S. regional markets

- Current access to potential customers: 100 million
- Additional access to potential customers through access to additional licenses: 120 million
- Expected number of customers at the end of 2000: 4 million



We have better arguments when it comes to competing for new customers. Another very crucial advantage is closely related to this: the full technical compatibility of T-Mobile and VoiceStream or Powertel. Based on the common GSM standard, we will be able to enable our European mobile customers to access their usual services in the large VoiceStream and Powertel distribution areas. Our customers can then easily use useful services that are already in high demand today, such as mobile account balance inquiries or stock trading via cell phone, even during their stay in the USA. And not just making mobile calls and being reachable on your usual number. Conversely, this will of course also apply to VoiceStream and Powertel customers as well as the many millions of potential American mobile phone users. Decisive competitive advantages when acquiring new customers. In addition, we will be able to offer customers very quickly on both sides of the Atlantic completely new products and services that they cannot get in this form from the competition. This is a compelling argument when it comes to acquiring new customers, not least in light of the next wave of innovation in mobile communication that is already emerging - for example through the new megamarket mobile commerce. And since this will not be possible for other companies in this form, this will significantly increase the attractiveness of our mobile phone companies in Europe and the USA compared to their respective national competitors. Megamarkt Mobile Commerce - here too we are far ahead of others. Best example: T-Mobil was the first mobile phone provider in the world to begin building a nationwide GPRS network in Germany that enables transmission speeds comparable to ISDN. VoiceStream will also launch with GPRS later this year. The

result: In the future, Deutsche Telekom will be able to market and offer the fantastic prospects of the mobile Internet across its transatlantic distribution area.

While others are still discussing, we are already preparing to launch European m-commerce services. In addition, we recognized the immense potential resulting from the convergence of mobile communications and the Internet very early on and responded to it with a clear strategy - earlier than others. While other providers are still discussing these strategies for this mega market and often have to bring the necessary know-how in-house through partnerships, we started work with T-Motion, the joint venture between T-Mobile and T-Online, at the beginning of the year. T-Motion is already working hard on marketable solutions. The joint venture will operate a European Internet portal that provides a unique product and service portfolio in the areas of financial transactions, security services, shopping, entertainment, and information specifically for the mobile Internet. All resources for convergence markets are under one roof. T-Motion is an outstanding example of Deutsche Telekom's first-class positioning around the converging TIMES technologies. We have all the know-how in the group under one roof. This means we are not dependent on external partners, and that means a minimum of frictional losses as well as high efficiency and speed. In addition, T-Motion can draw on all the knowledge bundled in the Telekom Group - for example at T-Systems - and has outstanding marketing potential thanks to the brand capital it has built up under the sign of the "T". Mobile data communication – VoiceStream is already one of the pacesetters in the USA. It is our goal to offer such innovative services very quickly in the US market. The prospects for this are excellent and once again impressively demonstrate why the planned acquisition of VoiceStream is so promising for Deutsche Telekom. The USA has developed into an Internet nation faster than any other country in the world. Given the high penetration rate of the stationary Internet, the demand for mobile data communication is likely to be all the greater there.

VoiceStream purchases mainly through a share exchange

The transaction essentially takes place via a share swap. Specifically, it was agreed that VoiceStream shareholders would receive 3.2 T shares plus \$30 in cash. Based on the 259 million VoiceStream shares issued, this results in a purchase price of 50.7 billion US dollars based on a closing price for the T share on July 21st of a good 55 euros. To this end, Deutsche Telekom will issue around 829 million T shares from the total capital of 1.5 billion T shares approved at the last general meeting. In addition, VoiceStream's net financial liabilities of approximately \$5 billion will be assumed. This means that the total number of T shares after completion of the transaction will be around 3.85 billion. As a result, the federal government's share falls from currently around 58 to 46 percent. Considering the planned acquisition of Powertel, the federal share will further reduce to around 44 percent. Management and major VoiceStream shareholders support the transaction. More than 50 percent of VoiceStream's share capital is currently held by several major shareholders. They expressly supported the planned acquisition by Deutsche Telekom. VoiceStream's management team is also fully committed to the company's partnership with the Telekom Group and will assume entrepreneurial responsibility for Deutsche Telekom's mobile communications activities in the US market in the future. A so-called lock-up agreement was agreed upon with a majority of the core shareholders, which provides for holding periods for the T shares issued as part of the transaction. The transaction is expected to be completed by mid-2001. Based on the current planning stage, we assume that the VoiceStream acquisition will be completed by mid-2001. The planned purchase of Powertel is to be completed immediately afterward. The integration of future subsidiaries can then begin quickly but with due care. The entire scheduling is subject to approval by the relevant regulatory authorities and corporate bodies.

The planned acquisition of VoiceStream makes a new design required by the T-Mobile IPO

Previously, the plan was to take our extremely successful mobile communications activities public in the fall of 2000. The planned purchase of VoiceStream and Powertel, which we want to complete quickly but with the necessary care, will prepare the necessary listing prospectuses considerably more complex. In addition, the demands of potential shareholders to explain the future direction of our mobile communications business and, above all, of T Mobile International AG are also increasing. Because comprehensive information for our shareholders always has top priority, we have decided to reschedule the preparations for the planned IPO. A final decision for the IPO has not yet been made. As a member of the T-Aktie Forum, we will, as usual, inform you promptly about further planning.

However, the possibilities of the mobile Internet have not yet been fully recognized there - especially because the acceptance of mobile communication has so far lagged well behind the European level due to the lack of uniform standards. With its almost comprehensive GSM network - and its seamless connection to the shared transatlantic mobile communications network - VoiceStream is better positioned than any other company to benefit significantly from this backlog.

The agreed purchase price for VoiceStream is appropriate

The purchase price of 50.7 billion US dollars (based on a T share price of around 55 euros) appropriately considers the large potential of VoiceStream that can be realized in the relatively short term. The decisive factor in assessing the purchase price of this transaction is not the number of current contract customers, but rather the reach, i.e., the number of customers that can be reached in the license area.

In the US mobile communications market, customer potential is the key evaluation criterion. In comparatively saturated markets that are already well developed and characterized by high penetration rates, such as European mobile communications, the current number of customers is the relevant and generally accepted criterion for assessing the value of a mobile communications company. In Europe, for example, around 60 to 70 percent are currently making phone calls of the population mobile. In the USA, however, only around 30 percent of the population has a cell phone. The US market is therefore at a much earlier stage of development - with significantly greater growth potential for companies.

Consequently, as in the case of VoiceStream, you have to evaluate a company based on what area coverage it has and how many potential customers it can reach. Compared to other transactions, the purchase price is low. This approach, which adequately takes into account the individual framework conditions of the transaction, shows that the agreed purchase price is quite appropriate, and fair compared to similar recent transactions. What's more: In terms of customer access in the license area, the total is by no means in the top group, but in some cases even significantly behind comparable transactions. When Vodafone purchased the US mobile phone provider Airtouch, it paid almost \$340 per accessible customer. With VoiceStream, however, this sum is only around 265 US dollars, and with Powertel it is only around 236 US dollars.

Machine-Translated Source 2

The following source has been machine-translated from the German language and is provided for reference purposes only. The source is as follows:

Title: Jahresbericht 2000. Marktbeobachtungsdaten der
Regulierungsbehörde für Telekommunikation und Post
Author: Bundesnetzagentur

Published: 2001

Available at:

https://www.bundesnetzagentur.de/SharedDocs/Mediathek/Jahresberichte/JB2000.pdf?__blob=publicationFile&v=1



The following translation was generated using Google Translate and should be used with caution:

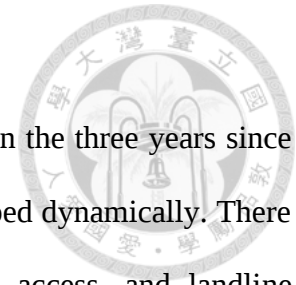
Title: Annual Report 2000. Market observation data from the Telecommunications and Postal Regulatory Authority

Translated by: Google Translate

Translate Translation Date: January 31, 2024

Page 7: Workplace development

Telecommunications sector. The number of employees in the telecommunications services sector rose to 239,000 at the end of 2000. This continued the positive development of previous years. The number of employees at telecommunications service companies that compete with Deutsche Telekom (providers requiring a license and those not requiring a license, including providers in the broadband cable segment) rose to a total of 61,000. That is 8,000 more employees than in the previous year (+ 15 percent). Deutsche Telekom (DT AG and domestic subsidiaries) employed around 178,000 people. The increase in the number of employees compared to 1999 is almost entirely due to an expansion of the scope of consolidation, which became effective for the first time in the fourth quarter of 2000. Without taking new acquisitions into account, Deutsche Telekom's reduction in employees in the consolidated group continued from 1994 from 172,200 (as of December 31, 1999) to approximately 165,000 employees at the end of 2000. This development is primarily determined by the reductions in the parent company DT AG.



Development of markets for telecommunications services. In the three years since full liberalization, the German telecommunications market has developed dynamically. There has been a strong increase in mobile phone connections, Internet access, and landline connections as well as connection volumes. At the same time, prices for landlines, cell phone services, and Internet access have fallen. Overall, the increased traffic volumes more than compensated for the price declines.

Page 19: Market development of mobile phone service

Participants and penetration. In 2000, the previous strong growth in the German mobile phone networks (D1, D2, E1, E2) was once again exceeded. While there was still 68.7 percent growth in 1999, the number of participants increased from 23.4703 million to 48.145 million in 2000. This corresponds to a relative increase of 105 percent. The penetration rate of mobile phone service in Germany was around 59 percent at the end of 2000. Measured in terms of the absolute number of participants, Germany is at the top in a European comparison, ahead of Italy and Great Britain. In terms of penetration rates, Germany is gradually approaching the leading countries Finland, Norway, Sweden, Iceland, and Austria, which had already achieved penetration rates of over 70 percent at the end of 2000. Despite declining growth rates in German mobile phone service in the future - compared to the year 2000 - it can be assumed that the current peak penetration rates in some Western European countries will also be achieved in Germany this year. The number of participants and penetration rates developed exponentially between 1992 and 2000.



License class 1: UMTS/IMT-2000. The third generation of mobile communications, UMTS/IMT-2000, brings together the two major growth markets of mobile communications and the Internet. The issuing of the new mobile phone licenses should primarily enable mobile multimedia applications, such as fast mobile access to the Internet or music, image, and video transmissions with high transmission rates. The decisions of the President's Chamber of February 18, 2000, on the award conditions and the auction rules for UMTS/IMT-2000 licenses, made comprehensive preparations for the implementation of the auction of these licenses. Of the eleven applicants admitted to the auction at the end of May 2000, seven took part in the auction. The auction process began on July 31, 2000, and ended on August 18, 2000. For a total of almost 100 billion DM, the following six bidders, including the four GSM network operators, purchased licenses - with a configuration of 2 x 10 MHz paired and - except one company - with 1 x 5 MHz unpaired spectrum.