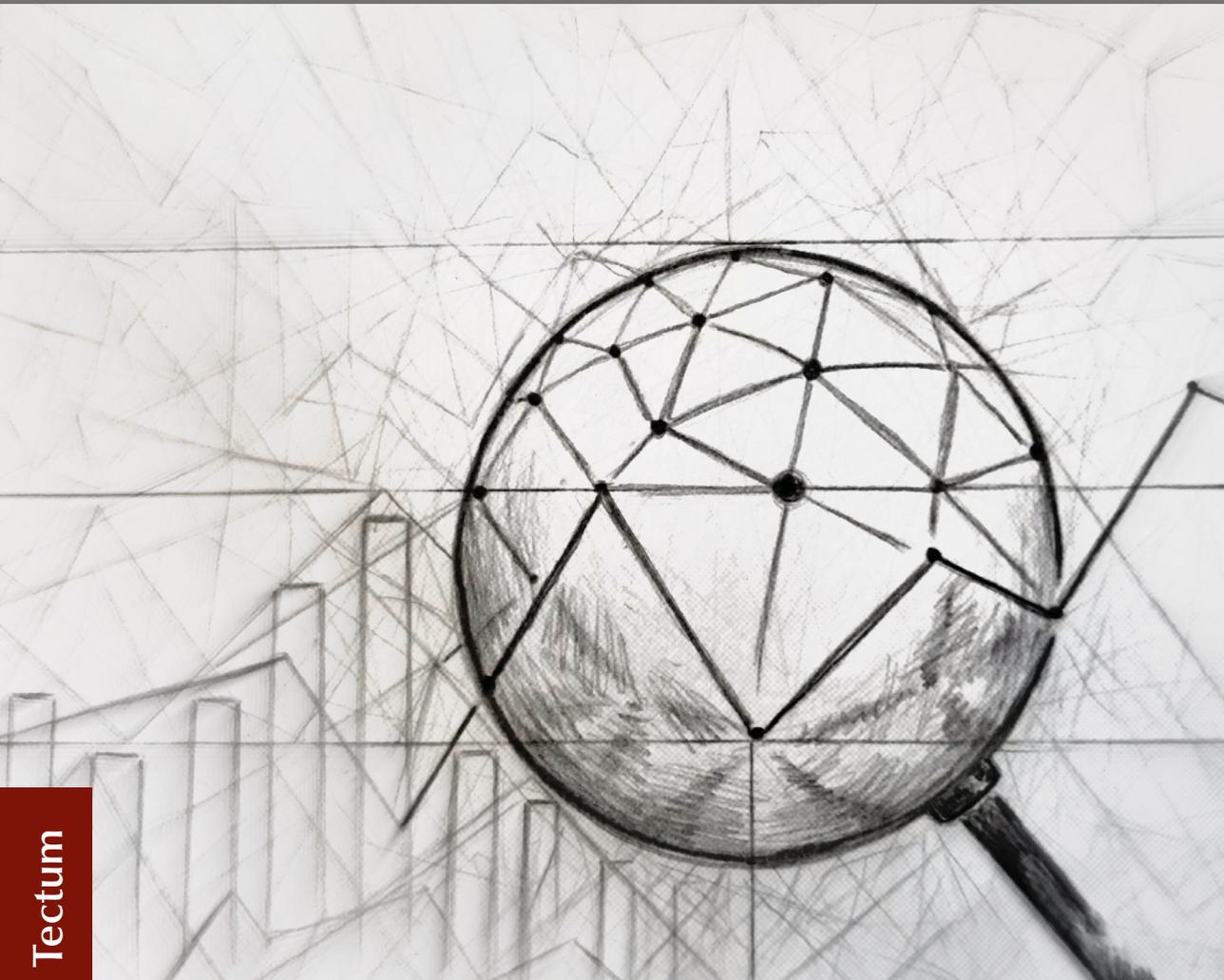


Christoph Müller

Challenges and Opportunities in the Due Diligence Process

Illustrated on the Packaging Machinery
Industry



**Wissenschaftliche Beiträge
aus dem Tectum Verlag**

Reihe Wirtschaftswissenschaften

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Preface by Prof. Dr. Rainer Moll

Dr. Christoph Müller has succeeded in developing a convincing, innovative approach to the due diligence process in SMEs by combining existing theories and enriching them with new impulses.

With his work, he closes a long-standing gap.

The question is, why hasn't this topic been given much more attention in science before? Considering the increasing volume of M&A transactions and the success rates that could certainly be improved, these two aspects alone provide sufficient basis for this.

From personal experience I can say that an adequate (theory-based) approach has also been lacking in consulting practice for many years. A decisive but nevertheless largely standardized approach, which on the one hand is sufficiently close to the individual company management and on the other hand can be adapted to other mandates with manageable effort, would have provided a clear (economic) added value for the consulting everyday life and at the same time would have regularly represented a USP for the companies concerned.

The book combines to a very good extent the (in this context relevant) existing theoretical approaches of 'strategic controlling' and 'M&A process' with the expert knowledge from practice. The qualitative research, which is rather untypical for business management work, creates the framework for an innovative concept with new impulses. The methodical approach of the book appeals to and understands how to pick up experts from different areas that are (directly and indirectly) related to the topic M&A.

In my opinion, Dr. Müller's elaboration has the potential to find its place in teaching and research and to enrich the university landscape accordingly. There are starting points for further research in both breadth and depth. Adaptation to other sectors is just as conceivable as a quantitative examination of the concept.

I am personally pleased that I was able to accompany Mr. Müller, whom I already got to know and appreciate as a master student at the Technical University of Cologne and who has remained connected to our university through various guest lectures in Germany and abroad, as a mentor during the preparation of his dissertation and overall on the way to his doctorate.

Prof. Dr. Rainer Moll
University of Applied Sciences Cologne

Preface by Hans Bühler

In the last few years, there has been much more movement in the transaction process for company mergers in the mechanical engineering industry. This ranges from strategic cooperations to complete takeovers. This tendency will continue to increase in the coming years, driven by a general consolidation of medium-sized mechanical engineering companies as well as a complex and ambivalent, and highly unstable and volatile world.

In order to be able to handle the upcoming M&A volume in a structured and target-oriented way, a good concept is required, which fully evaluates the chances of success of a takeover. With his work Christoph Müller creates just such a concept. The concept is based on the pillars of theory, practical use cases and the expert knowledge of buyers, sellers and consultants. In the future this will enable a larger number of machine builders to participate in a well-organized, efficient and above all successful M&A process in the industry. The concept primarily refers to SME's, but does not exclude large companies. These companies are demonstrably faced with the same challenge to get the buyer's, the seller's and the external consultant's view of the market and business model in line with each other and to derive a clear recommendation for the further action in the due diligence process.

As the presented approach is explained by using the example of the mechanical engineering industry, this facilitates access for both the buyer and seller sides to the M&A market in the industry. From the point of view of an expanding company, I see the advantages in the faster gain of transparency and the evaluation of possible takeover candidates. In addition, there is the view of the seller's side, on which it will have a confidence-building effect if a standardized procedure can be used in the Due Diligence process of company takeovers.

Furthermore, I am convinced that the model created can be transferred to other industries by adapting the parameters.

A commercially innovative approach from the otherwise technology-driven engineering industry is also an important signal.

I have known Mr. Müller for many years. He is contributing his knowledge and skills in different functions and locations within our company. I am impressed that he has committed himself to this doctoral thesis that deeply in addition to his activities in our company and I hope you enjoy reading it.

Hans Bühler
Managing Shareholder Optima Packaging Group / CEO

Acknowledgment

In times when markets become more and more developed globally, it has become more difficult to identify intrinsic business growth opportunities. Extrinsic growth and Mergers and Acquisitions are thus on the agenda for many companies. While this mostly used to be a topic for large corporations in the past, Mergers and Acquisitions transactions are now becoming increasingly important for small- and medium-sized companies as well. In order to obtain a timely and yet still thorough perspective of a company in today's fast-paced world, it is therefore important to be able to obtain both a quantitative overview as well as the typical qualitative evaluation. It is relevant to not only understand a company's current situation but also to assess its future viability and sustainability. Since companies pursue different goals and business models, valuation approaches also differ. Therefore, the concept of Due Diligence developed here targets one industry, the packaging machinery manufacturing industry, but the general approach is applicable for every industry if the key performance indicators are customized accordingly.

The topic of mergers and acquisitions is as old as Business Administration itself. Nevertheless, its relevance is as important today as in any time in the past.

I would like to thank my doctoral advisor Pavol Molnár for encouraging me in writing my dissertation thesis about this topic and for the productive collaboration throughout the whole dissertation program. Another important person I want to thank is Christian Schlicht, my PhD partner and more important, really good friend. Without his constant support the achievement would not have been possible. Special thanks belong to the people, who established the basis for this thesis through their support and their confidence in me – my family. I would like to express my appreciation with a citation of Mr. DIETRICH BONHOEFFER who described this in the best way possible.

“It is very easy to overestimate the importance of our own achievements
in comparison to what we owe others.”

Schwäbisch Hall, June 2020

Christoph Müller

Abstract

[English]

In existing academic studies on the Due Diligence process, the different areas have been considered separately. This is time consuming and causes inefficiencies. The proposed approach to Due Diligence integrates these separate areas into one process. While every company's success can be defined by a few key factors, these differ by industry. The goal of this analysis is to develop a basis for decision-making regarding Mergers and Acquisitions for small- and medium-sized manufacturing companies by generating a scorecard model that enables the potential acquirer to perform an overall analysis of the existing data as well as to generate an informed outlook for the future using a standardized and efficient approach that also has a positive impact on the success rate of mergers and acquisition transactions.

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List of Abbreviations and Symbols

&	And
§	Paragraph
%	Percentage
ACT	Actual
adj.	adjusted
B2B	Business to Business BGB
BDG	Budget
BGB	Bürgerliches Gesetzbuch [German] (German Civil Code)
BI	Business Intelligence
BMBF	[German] (Federal Ministry of Education and Research)
BODS	Beneficial Ownership Data Standard
BS	Balance Sheet
BSC	Balanced Score Card
calc.	calculated
CCI	Chamber of Commerce and Industry
CEO	Chief Executive Officer
CF	Cash Flow
CFO	Chief Financial Officer
CLV	Customer-Lifetime-Value
COO	Chief Operational Officer
COVID-19	Coronavirus Disease 2019
CPM	Critical Path Method
CSO	Chief Sales Officer
CTO	Chief Technology Officer
CO	Controlling
d	days
DD	Due Diligence
Destatis	Statistisches Bundesamt [German] (Federal Statistical Office of Germany)

List of Abbreviations and Symbols

DWH	Data Warehouse
EBIT	Earnings Before Interests, Taxes
EBITDA	Earnings Before Interests, Taxes, Depreciation and Amortization
EBT	Earnings Before Taxes
e. g.	exempli gratia [Latin] (for example)
ERP	Enterprise Resource Planning
ESAs	European Supervisory Authorities
ESG	Environment Social Governance
et al.	et alii [Latin] (and others)
EU	European Union
EUR	Euro
EURm	Million Euro
e. V.	eingetragener Verein [German] (registered association)
EY	Ernst and Young
FinCEN	Financial Crimes Enforcement Network
FM	Facility Management
4MLD	Fourth Money Laundering Directive
FP&A	Financial Planning and Analysis
GAAP	Generally Accepted Accounting Principles
GP	Gross Profit
HR	Human Resources
IFRS	International Financial Reporting Standards
i. e.	id est [Latin] (that is to say)
incl.	inclusive
IoT	Internet of Things
IP	Intellectual Property
IT	Information Technology
JC	Joint Committee
KPI	Key Performance Indicator
LoI	Letter of Intent

LSE	Large Scale Enterprises
M	Month
MLR2017	Money Laundering Regulations 2017
MM	Material Management
M&A	Mergers and Acquisitions
max.	maximum
MD	Managing Director
min.	minimum
NDA	Non-Disclosure Agreement
NFRD	Non-Financial Reporting Directive
OECD	Organization for Economic Cooperation and Development
PE	Private Equity
P&L	Profit and Loss
PMI	Post-Merger-Integration
PMS	Performance Measurement System
QTY	Quantity
R&D	Research and Development
RMS	Risk Management System
RTS	Regulatory Technical Standards
SME	Small and Medium-sized Enterprise
SWOT	Strengths, weaknesses, opportunities and threats
UBO	Ultimate Beneficial Owner
UN	United Nations
USA	United States of America
USAWC	United States Army War College
USD	US Dollar
USDm	Million US Dollar
USP	Unique-Selling-Proposition
VDMA	Verband Deutscher Maschinen und Anlagenbauer [German] (Mechanical Engineering Industry Association)

List of Abbreviations and Symbols

VUCA	Volatility, Uncertainty, Complexity, Ambiguity
vs.	versus
y	year