

# Synergy Management in M&A Projects - The Significance of Information Technology (IT) for Value Creation

A Master's Thesis submitted for the degree of  
"Master of Business Administration"

supervised by  
Dr. Nina Gjukez

Christoph Lessiak

9160346

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## Affidavit

I, **CHRISTOPH LESSIAK**, hereby declare

1. that I am the sole author of the present Master's Thesis, "SYNERGY MANAGEMENT IN M&A PROJECTS - THE SIGNIFICANCE OF INFORMATION TECHNOLOGY (IT) FOR VALUE CREATION", 79 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
2. that I have not prior to this date submitted this Master's Thesis as an examination paper in any form in Austria or abroad.

Vienna, 18.06.2010

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# 1 Introduction

One of the main reasons for conducting mergers and acquisitions (M&A) is to create shareholder value and leverage anticipated synergies. The success of such transactions depends in large part on how well the newly combined company identifies, manages and executes on value creation and value capture opportunities.

On average, only slightly more than one third of all mergers lead to success in terms of significant shareholder value increase.<sup>1</sup> Often, the costs of the acquisition premium paid and the costs for transaction execution and post merger integration level off the targeted anticipated value increase of the combined company. Creating value thus is the key challenge of any M&A project.

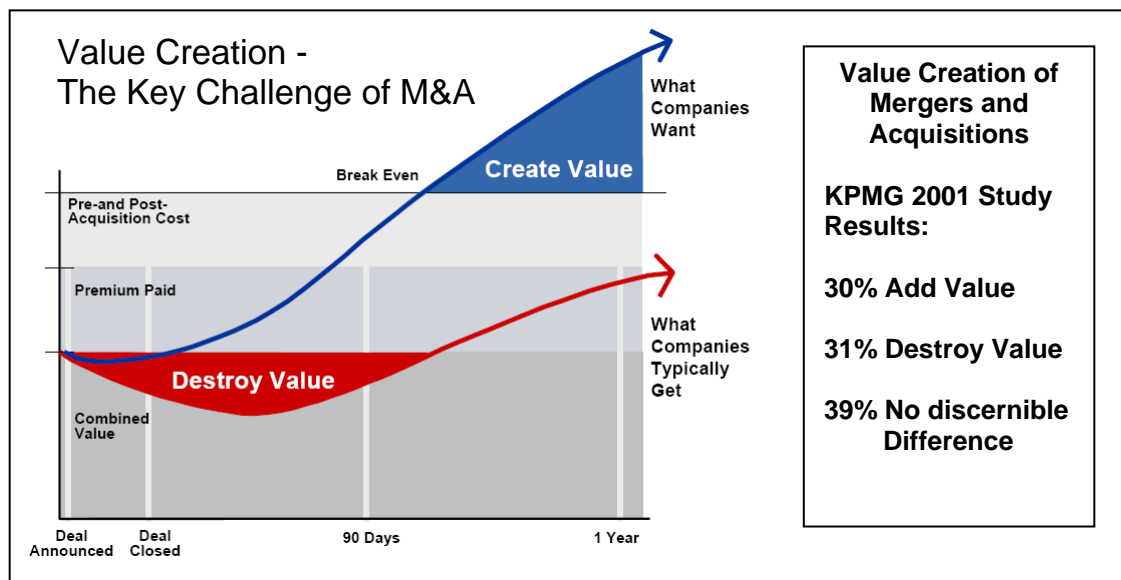


Figure 1: Value Creation - The Key Challenge in M&A, Source: Bidjanbeg (2008), P. 13

In order to achieve value creation, professional synergy management is essential in all phases of an M&A transaction. Identifying potential synergy levers is one key activity in the pre-transaction phase, followed by specification of the anticipated synergies with the highest possible granularity in the transaction phase. In the post merger integration phase, the specified synergies have to be leveraged according to the defined strategy and measures.

In this paper, the management of synergies along the M&A transaction process will be discussed. Clearly identified and precisely specified synergies are necessary in order to, on the one hand better determine the acquisition price including the premium to be paid, and on the other hand to better measure and control the

<sup>1</sup> KPMG (2001), P. 5

success in synergy realization afterwards. The realization strongly depends on the selected integration approach. A well defined and transparent approach to driving value and tracking synergies shortens the time required to capture value and increases the overall size of the value actually realized.<sup>2</sup>

As today's corporate environment is more information technology-reliant than ever, corresponding IT focus is also necessary in M&A transactions. IT-penetration is nowadays given in all relevant business areas and processes, thus the success of many mergers and acquisitions depends on excellence in IT integration, in IT synergy realization and in limitation or avoidance of potential dyssynergies.

A poor IT due diligence, an inappropriate harmonization or underestimation of the underlying mandatory IT-driven processes will hinder business performance and lower synergy leverage after the merger. Therefore, the choice of the appropriate IT integration approach is of importance. Different dimensions need to be considered in order to select the right approach. Ultimately, the preparation for day one of the integration is key for a successful start in a newly combined company. Related activities will be presented in this paper as well as the necessity for adequate adaption of the IT-governance approach. A selected Siemens case study will be discussed in that respect.

To track and realize the identified synergies, controlling instruments are necessary. Therefore, this paper will also elaborate on the possible measurements of synergies and will conclude with "best-practice" approaches, success factors and recommendations based on existing literature and the findings in this thesis.

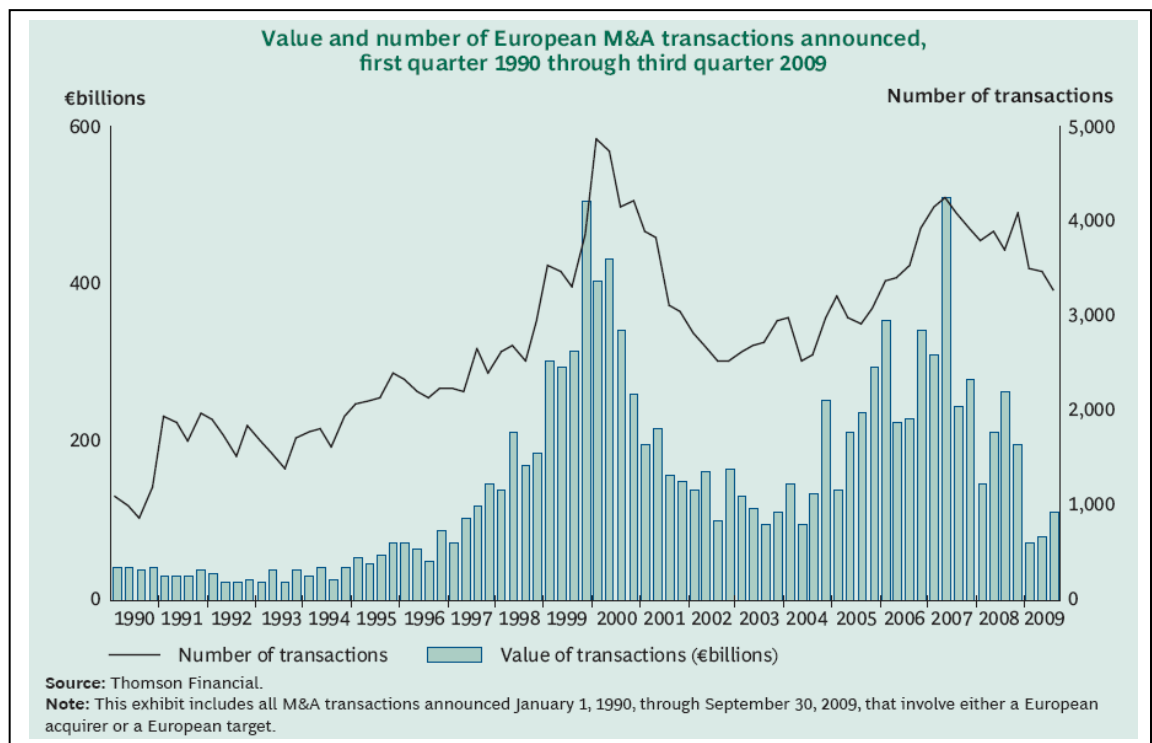
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<sup>2</sup> PWC (2010), P. 1f

## 1.1 Current M&A Situation: 2010 Q1&Q2

The process of recovery from the economic downturn as a result of the turbulences on the financial markets in the past two years is ongoing. A stabilization of M&A activities in 2010 is anticipated<sup>3</sup> and the world economy is expected to face a new wave of consolidation.<sup>4</sup> Recent analyst's reports state that the foundation for M&A is strong and companies increasingly find attractive deals and the means to complete them.<sup>5</sup>

The decreasing M&A-activities over the past two years have reached a cyclic low point in 2009, based on value and number of transactions. This downturn trend will recover the more the world economy will recover from its recession.<sup>6</sup> Recent studies already point out that transaction values are increasing again (see figure 2) and confidence in the M&A market is returning.<sup>7</sup>



**Figure 2: European Transaction Values have most likely passed the Trough in 2009 and have recently seen a moderate Pickup, Source BCG (2009), P. 5**

The relative power of market players has changed and created new M&A-opportunities. Enterprises, who managed to turn strengthened out of the crisis, now

<sup>3</sup> Kunisch (2010), P. 62

<sup>4</sup> Beitel et al. (2010), P.1f

<sup>5</sup> McKinsey (2010), 17f

<sup>6</sup> Beitel et al. (2010), P. 1f

<sup>7</sup> BCG (2009), P. 5f

have the opportunity to progress the consolidation process and re-shape their industry. Already, corporate transactions are emerging again, even though private equity activities still remain on low levels.<sup>8</sup>

According to a latest research by McKinsey, more than 2/3 of German large and medium enterprises plan to increase their M&A activities, 1/3 even expects to execute more than ten transactions within the next 24 months.<sup>9</sup>

Company valuations in many sectors are low, thus some attractive targets will lead to a new rising in the number of transactions. However, to benefit from the low valuations, appropriate M&A execution competence is necessary, with particular focus on due diligence and integration. Only this will allow to scope and leverage the synergy potential accordingly.

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<sup>8</sup> McKinsey (2010a), P. 18

<sup>9</sup> McKinsey (2010b), P. 1



## 1.2 Success in M&A Transactions

A multitude of studies shows, that success in M&A transactions is not always granted. Averaging results of approximately 30 studies and surveys on success of M&A transactions, it can be summarized, that mergers and acquisitions are risky undertakings that achieve the primary goals (e.g. growth, new products and markets) more than half the time, but are only successful about 30 to 55 percent of the time in a quantitative financial sense (i.e., raising shareholder value relative to pre-deal levels).<sup>10</sup> The synergy potentials thus were seldom fully realized.

Quoted main weaknesses of unsuccessful merging companies are often the insufficiently defined strategy in the beginning of the transaction phase, as well as the poor performance in process execution from initial screening to integration and controlling.<sup>11</sup> In particular, poor integration management capability was often quoted as a main reason for failure.

	Percent failed	Reasons for failure
McKinsey (1987)	77 %	Overestimation of market potential/synergies, slow post acquisition integration
Mercer Management & Consulting (1995)	50 %	Inadequate due diligence, conflicting corporate cultures, slow postmerger integration
Booz-Allen & Hamilton (1998)	66 %	Lack of strategy, poor communication, different corporate cultures
KPMG (1999)	53 %	No synergy evaluation, inadequate due diligence, lack of integration planning
KPMG (2001)	31 %	Lack of formal well-managed process, no priorities on actions, clear decisions/leadership missing

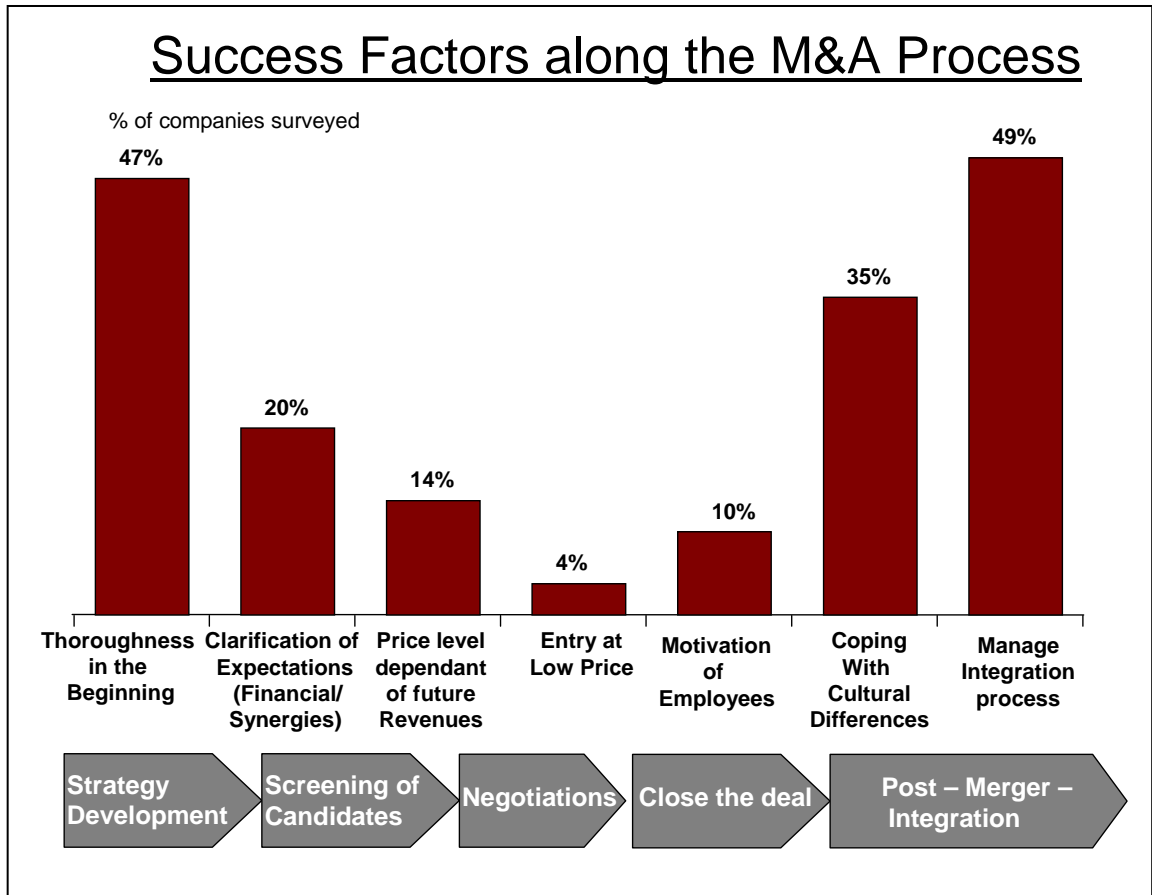
Figure 3: Failure Rate of Mergers, Source: Lucks (2008), P. 24

Studies highlight, that success in mergers is usually higher, when the initial phase strategy and planning phase was mastered well, and when high excellence in the post merger integration phase was given (see figure 4 below).<sup>12</sup>

<sup>10</sup> Pautler (2003), P. 35

<sup>11</sup> McKinsey (2010b), P. 1

<sup>12</sup> Unger (2007), P. 876f



**Figure 4: Success Factors along the M&A Process, Source: Unger (2006), P. 876**

Additional success factors which increase the chances, that an M&A transaction will prove effective, include:<sup>13</sup>

- Early planning for the integration process,
- Setting and communication of clear goals,
- Identification of the responsible managers and appropriate incentives,
- Fast definition of areas where gains can be achieved,
- Continuous information with tailored messages including employees and customers,
- Quick integration of systems,
- Sensitivity to cultural issues,
- Key employee retention, and
- Keeping sales force activities high to avoid the loss of customers to rivals.

The importance of these factors may vary from deal to deal as characteristics of the deals and industries change, but the one over-riding imperative for success is that planning is done early and thoroughly and that management is aware of the above

<sup>13</sup> Paulter (2003), P. 35f

mentioned success factors at an early stage and thus able to address and manage early and with the necessary attention.

### **1.3 Role of IT in an M&A Transaction**

Business nowadays heavily depends on Information Technology (IT). IT is firmly embedded in most enterprises and the use of IT has shaped business practice and performance of many companies over the years. Assuring appropriate information technology integration is therefore one of the crucial factors for successful mergers and value creation.<sup>14</sup>

#### **1.3.1 IT-Penetration in Business**

The importance of adequate IT integration in M&A transactions can be derived from the breadth of IT penetration in today's business. Examples are listed below:<sup>15</sup>

- **IT is the backbone for efficient business processes** in the enterprise and in the interaction with the customers and market partners. Integration, automation, flexibility, security and mobility are quality criteria for business processes which could not be realized without IT. This is in particular relevant where processes reach beyond enterprise borders and seamless interaction with business partners is required. (e.g. suppliers, vendors, channel partners)
- **IT is the basis for digital products, service components and sales channels.** It is thus a crucial element in the business strategy of nearly all enterprises. In some sectors, the entire value chain depends on IT. Procurement, production, selling, distribution, service and invoicing run automated and system-supported.
- **IT is the basis for business planning, -controlling and -reporting.** Decisions without accurate and reliable information, analyses and prognoses from internal and external IT-systems are today no longer conceivable. Intensified regulations e.g. Basel II, Sarbanes Oxley act and international accounting standards (IFRS, US-GAAP) extend the need for quality data from integrated systems.

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<sup>14</sup> Menge (2008), P. 1

<sup>15</sup> Uhrich et al. (2006), P. 2f

- **IT provides information and control regarding business partners and stakeholders.** IT serves tailored information needs for customers, investors, insurers and fund providers, and delivers respective control mechanisms requested by supervisory bodies like SEC, FDA and tax agencies (e.g. product information and liability, Basel II compliance, SEC and FDA compliance, export and credit controls, etc.).

These examples point out, how strongly IT influences the strategic framework and the success of an enterprise. IT is interwoven throughout all areas and thus can be seen as the nervous system of an enterprise.<sup>16</sup>

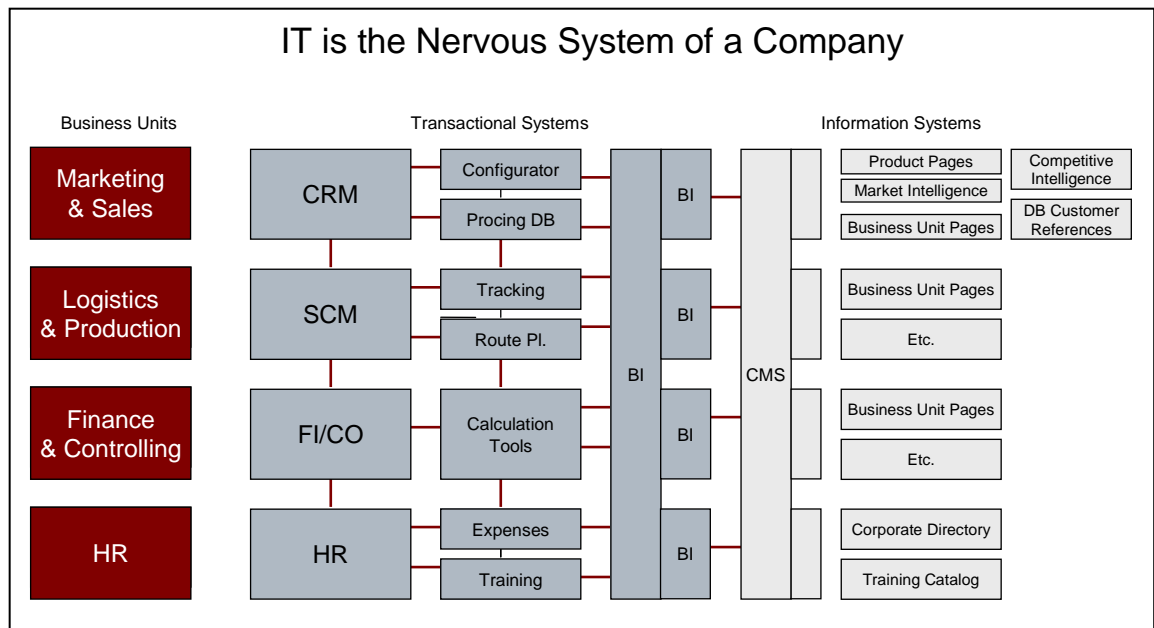


Figure 5: IT is the Nervous System of an Enterprise, Source: Own representation in style of BizSphere (2010), P. 1

### 1.3.2 The IT Challenge in the M&A Transaction

Although IT spending is typically in the range of 1 percent to 5 percent of revenue at most companies, its impact on a merger can be exponentially higher.<sup>17</sup> IT in M&A is typically the item with the longest lead-time in closing the deal and achieving its value. Therefore, if not addressed early enough and correctly, IT can be a value destroying factor in an otherwise successful M&A transaction.

<sup>16</sup> Haas (2008), P. 4f

<sup>17</sup> Myers (2009), P. 1

According to Gartner Research, IT systems are, behind corporate culture, the biggest challenges in M&A transactions.<sup>18</sup> IT impact is often underestimated and key resources are not involved in time.

The lack of IT awareness in M&A is often resulting from lack of IT competence in the due diligence process (usually driven by lawyers or financial experts). Also, severe time pressure does not allow conducting a very in-depth analysis. In contrast, high level assumptions are undertaken, e.g. it is considered as sufficient when it is identified that both companies use the same industry standards in IT platforms (e.g. SAP or Oracle).

However, in detail it can turn out, that both companies have developed and deviated their IT further. Practitioners underline that it is very hard to integrate different releases of one SAP ERP system, for example, and even for the same release there are still many obstacles due to the software modifications and interfaces to other systems which companies usually have in place.<sup>19</sup>

Without the necessary attention on the IT component, the anticipated value creation can be easily destroyed by negative synergies (dyssynergies): High migration and integration costs, poor business process support and thus high control and coordination costs. Also, quality issues in IT dependant value chain components can result in unexpected cost increases accompanied by long term revenue loss as a consequence of lack of focus on IT integration.

To avoid this, the significance of IT for value creation must be understood and implemented into corresponding measures along the M&A process.

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<sup>18</sup> Haas (2008), P. 1

<sup>19</sup> Myers (2008), P. 7

## 2 The M&A Process

An M&A process usually is a longer ongoing endeavor, which undergoes several different phases. Based on the related activities, the overall M&A process can be split in three different phases: a strategy phase, where the overall strategy for the M&A project and the target screening takes place, a transaction phase, where the due diligence process and the contract negotiation is conducted, and, after the closure of the deal, the integration phase, where the two companies are integrated.

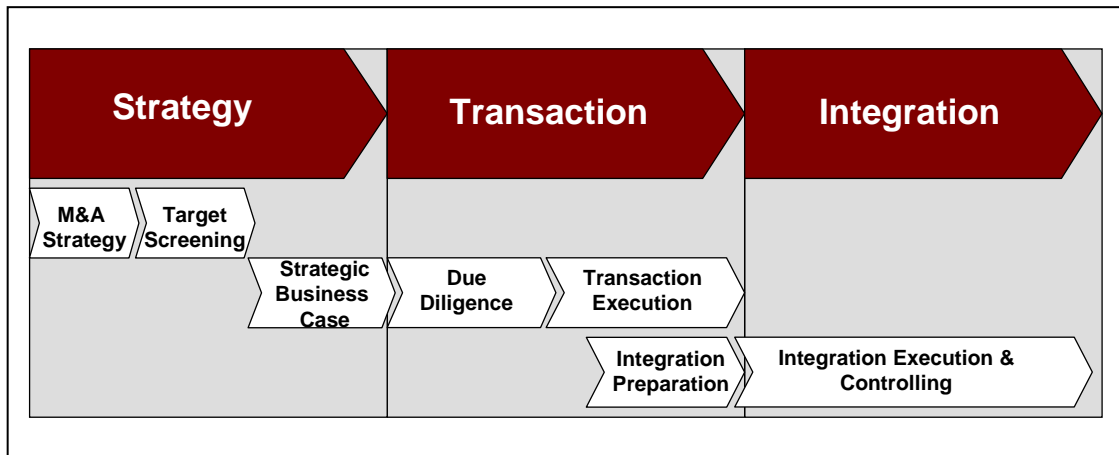


Figure 6: The M&A Process, Source: Own representation in style of Bidjanbeg (2008), P. 23

In all three phases, synergy management is an imperative in order to assure creation of shareholder value.

### 2.1 The Strategy Phase

In the strategy phase, the strategic assessment of the acquirer takes place. Based on the overall corporate strategy, the definition of the value creating M&A strategy has to take place. In accordance with the M&A strategy, potential targets are screened and selected for a strategy fit assessment. In this assessment, a strategic business case for the respective targets is undertaken. Information is collected, business plans are evaluated. In this phase, also the initial synergy screening takes place, in order to scope the value creation potential. Based on the initial valuation, the deal feasibility is calculated along with a rough initial integration concept.

The outcome of the strategy phase is a short-list of potential targets, which fit to the company's strategy and have a high value creation potential. Based on the best strategic fit, an M&A project proposal is defined, which has to be confirmed by senior management.

## **2.2 The Transaction Phase**

The transaction phase describes the concrete “deal making” from first contact of the target to deal closure<sup>20</sup>. After the target is approached, usually an initial information exchange starts on the basis of non disclosure agreements and letters of intend. Then, the due diligence process begins, where the target company is analyzed with the highest possible degree of granularity. Now, the in-depth analysis of synergy potentials takes place – considering also that dyssynergies might arise. Based on a business plan containing all valuations of expected future cash flows and all eventual integration costs, the deal feasibility is assessed. If the outcome of the assessment is positive, intense contract negotiations are pursued with the overall goal to close an advantageous deal.

In this phase, the quality and intensity of the due diligence assessment and the synergy potential evaluation, the acquisition premium definition and the integration concept preparation are crucial for the overall success of the M&A project.<sup>21</sup>

## **2.3 The Integration Phase**

The integration phase actually starts before the deal is closed. Here, the integration strategy, the integration master plan and all necessary activities in all affected areas of the company are defined, executed and controlled. The day one readiness is prepared and all business, technical and cultural aspects have to be mastered. In the integration phase, the anticipated synergy potentials are realized. Therefore the necessary professionalism has to be applied. Delayed integration and underestimation of the integration complexity are the primary drivers of unrealized synergies.<sup>22</sup>

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<sup>20</sup> Wirtz (2003), P. 109

<sup>21</sup> Unger (2007), P. 879

<sup>22</sup> PWC (2010), P.16

### 3 Synergy Management

Synergies do not exist per se, they have to be identified and actively developed and controlled in a professional lead process.<sup>23</sup> Synergy Management thus comprises all activities related to identification, qualification, quantification and realization of synergies including monitoring of those.<sup>24</sup>

#### 3.1 Synergies and the Acquisition Premium

Numerous publications and studies underline, that synergies in M&A transactions cannot always be leveraged successfully in the amount originally anticipated.<sup>25</sup> Various reasons for this evidence are listed below.

Reasons for overestimation of synergies:<sup>26</sup>

- No systematic analysis and quantification of synergy potentials (instead assumption of lump-sum potentials without deeper elaboration),
- Negative synergies (dyssynergies) were not - or not enough - taken into account,
- Potential problems in synergy realization were not anticipated or measures to cope not sufficiently prepared,
- Chosen integration approach did not allow synergy realization in the expected scope<sup>27</sup>,
- Barriers of integration not recognized or realized,
- Asymmetry of information and diverging interests of the involved parties,
- Irrational motives of involved leaders,
- Lack of management resources or problems in integration of those<sup>28</sup>,
- Underlying IT does not effectively support business processes<sup>29</sup>,
- Target was dressed up for sale,
- Eagerness pushed aside doubts and rational behavior<sup>30</sup>.

A comprehensive analysis and valuation of synergy potential serves as a basis for the definition of the acquisition premium and thus supports no overpayment.<sup>31</sup>

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<sup>23</sup> Weber (2006), P. 2

<sup>24</sup> Biberacher (2003), P. 96ff

<sup>25</sup> Wegener/Roventer (2006), P. 280

<sup>26</sup> Wöginger (2005), P. 205

<sup>27</sup> Unger (2008), P. 886

<sup>28</sup> Wegener/Roventer (2006), P. 280

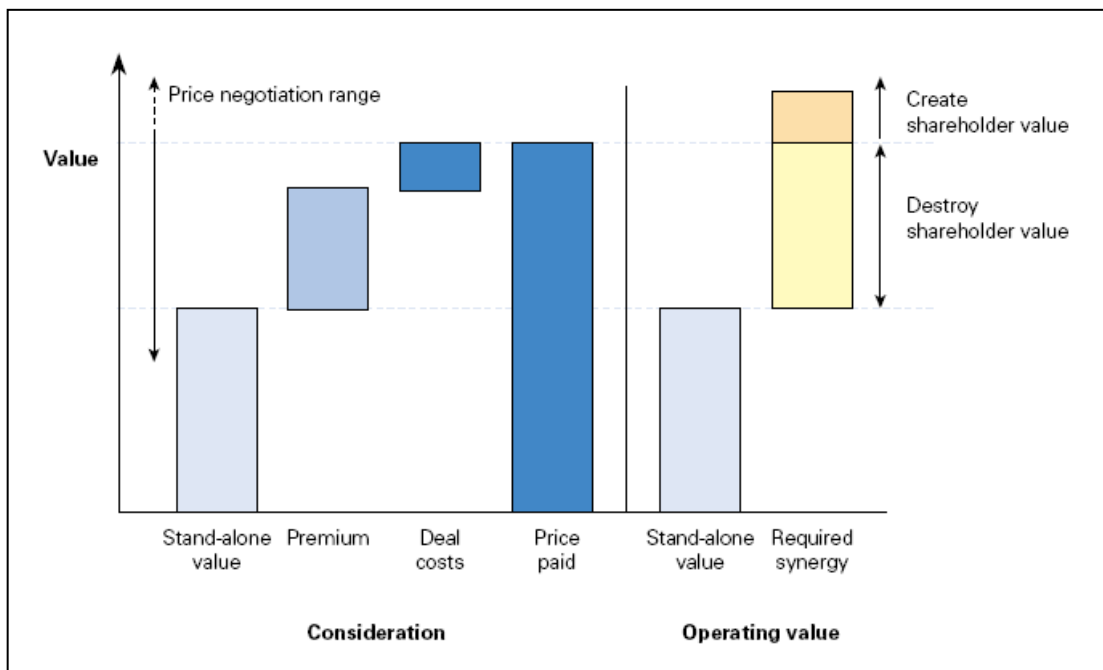
<sup>29</sup> Accenture (2002a), P. 3

<sup>30</sup> Cullian et al. (2004), P. 2f

<sup>31</sup> Unger (2008), P. 886



The acquisition premium, the difference between the estimated value of a target company and the price the acquiring company pays to buy it, sets a synergy challenge for acquirers. The explanation for this lays in the fact, that prior to the acquisition, shareholders could have bought shares of the target without paying a premium. In order to repay their shareholders, the acquirer therefore must deliver incremental cash flows from the combined businesses. The cash flows must be at least equivalent to the amount implied by the premium, or the value of the deal will be destroyed, as shown in figure 7.<sup>32</sup>



**Figure 7: Acquisition Premium Table, Source: Kelly/Cook (2001), P. 7**

What cannot be realized as synergy, shall not be paid as acquisition premium. Otherwise the value will be destroyed.<sup>33</sup>

### **3.2 Synergy Definition**

The term “synergy” is probably one of the most used arguments for reasoning mergers and acquisitions.<sup>34</sup> Yet the clear definition remains difficult, as there are various usages and application dimensions of the term.<sup>35</sup>

<sup>32</sup> Kelly/Cook (2001), P. 7

<sup>33</sup> Unger (2007), S.887

<sup>34</sup> Jansen (2008), P. 167

<sup>35</sup> Biberacher (2003), P. 52

The etymologic origin of the term can be derived from the Greek word “sunergos”, which is a combination of the word „ergo” (to act) with the prefix “syn” (together).<sup>36</sup> The term means “joint work” and “cooperative” action and is transferred to New Latin as “Synergia”. Translated into an economic framework, encyclopedia describes synergy as “a mutually advantageous conjunction or compatibility of distinct business participants or elements (as resources or efforts)”.<sup>37</sup>

The synergy effect was first described as a “2+2=5”-effect, by Ansoff in 1965, where he denoted the fact that a firm seeks a product-market posture with a combined performance, which is greater than the sum of its parts.<sup>38</sup> Later, this definition was broadened to any “effect, which can produce a combined return on the firm’s resources greater than the sum of its parts”.<sup>39</sup>

Various synergy systemizations do exist in literature, as shown in figure 8.

Synergy Systemization	Classification Criteria	Author
Root Cause	* Know How Transfer * Centralization of Tasks	Porter (1985) Good & Campbell (2000)
Functional Area	* Sales-Synergy * Operating Synergy * Investment Synergy * Management Synergy	Bisani (1960) Ansoff (1985) Trautwein (1990)
Activity for Leveraging Synergy potential	* Centralization * Integration/Restructuring * Enhancement/Access * Transfer * Exchange	Reissner (1992)
Value contributing areas of Company	* Productional Synergy Potentials * Financial Synergy Potentials	Coenenberg & Sautter (1988) Petri (1990)
Impact	* Cost related Synergies * Revenue related Synergies * Process Improvement related Synergies * Tax related Synergies	Eccles, Lanes & Wilson (2000)
Pursued Goal	* Growth related Synergies * Efficiency related Synergies	Viscio et. Al. (1993)
Stage in Valuechain	* Input Synergies * Process Synergies * Output Synergies	Ebert (1998)

**Figure 8: Overview: Systemization of Synergy Potentials,  
Source: Köppen (2008), P. 93**

<sup>36</sup> Hoffman (2005), P. 485 and Biberacher (2003), P. 7

<sup>37</sup> Enclopaedia Britannica (2010), P. 1

<sup>38</sup> Biberacher (2003), P. 8

<sup>39</sup> Ansoff (1975) cited in Mintzberg (2000), P. 45

In today's literature, definitions describe synergy as the synchronous collaboration of separate entities, which leads to an increase of the total value.<sup>40</sup> Practitioners define synergy as "incremental improvements in performance following the combination of two businesses, relative to their expected performance prior to the combination."<sup>41</sup>

Synergy potentials are not yet realized synergies. The realization leads to synergy effects. The realization of synergy effects thus reflects the ability to generate higher shareholder value through a combination of entities compared to standalone entities.

In most publications, synergies are positively attributed and are assumed to produce an increase in value.<sup>42</sup> However, there is also value decreasing outcome possible. This negative synergy is called dyssynergy.<sup>43</sup> The Greek prefix "dys" means "bad, adverse", thus dyssynergy can be translated as "adverse collaboration".

Dyssynergy is defined as the synchronous collaboration of separate entities, which leads to a decrease of the total value and can be summarized as:<sup>44</sup>

- All expenses necessary for realization of collaboration of the separate entities,
- All negative impact as a result of the collaboration of all related (collaborating and stand alone) entities,
- All not realized positive synergies.

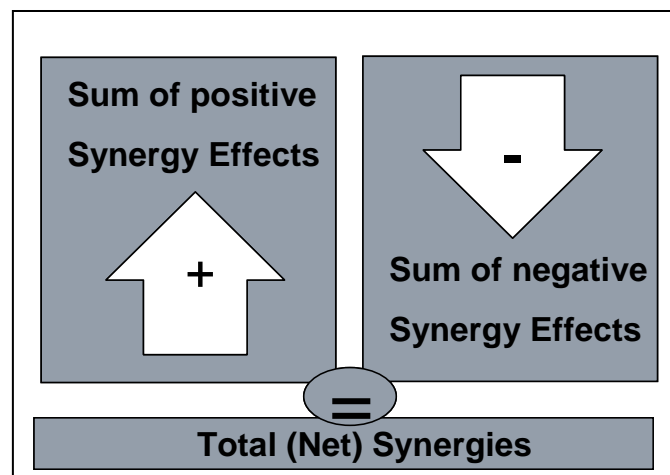


Figure 9: Directions of Synergy Impact, Source: Biberacher (2003), P. 57

The total synergy effects are a sum of individual positive and negative effects. In the M&A context, the goal should be to achieve a positive net-synergy. The positive

<sup>40</sup> Biberacher (2003), P. 53

<sup>41</sup> Kelly/Cook (2001), P. 3

<sup>42</sup> Wöginger (2004), P. 79

<sup>43</sup> Hoffmann (2005), P. 484

<sup>44</sup> Biberacher (2003), P. 53

synergy potential represents the range for price negotiations (risk premium) and for additionally expected shareholder value from the M&A transaction.<sup>45</sup>

### **3.3 Cost and Revenue Synergies**

There are a multitude of synergy classifications, as described earlier. The most general and simple, yet applicable classification is the distinction of cost synergies and revenue synergies.<sup>46</sup>

Typical examples for **cost** synergies include:

- Rationalization of premises, manufacturing plants and retail branches through elimination of duplication.
- Scale economies from mechanisms like combined purchasing power,
- Efficiency gains using best of breed process improvements,
- Financial engineering such as tax benefits.

Commonly-cited sources of **revenue** synergies include:

- Cross-selling,
- Leveraging enhanced market power,
- Enhanced new product development and portfolio upgrading,
- Skills and knowledge transfer,
- Faster time-to-market.

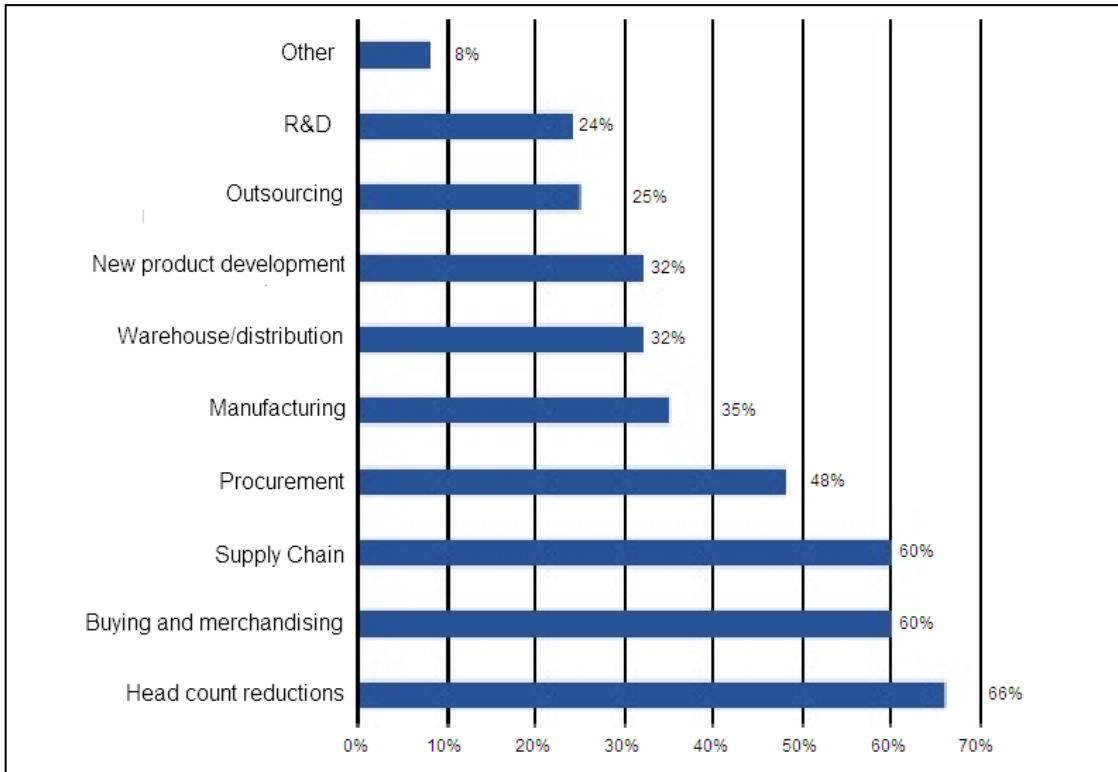
Analyzing the application of the synergy classification in practice, for example, an M&A survey conducted by KPMG examined the realized cost and revenue synergy potentials over a period of three years of major cross border transactions.<sup>47</sup> Although the survey was conducted in 1999, the identified cost and revenue areas provide a good overview on where the emphasis is pointed to: the highest cost synergies could be realized according to the study through reduction of headcount, whereas the highest revenue synergies could be achieved through enhancement of the customer base. However, the IT synergy category was not listed explicitly. This underlines the – at that time – lacking awareness regarding the importance of professional synergy leverage from IT.

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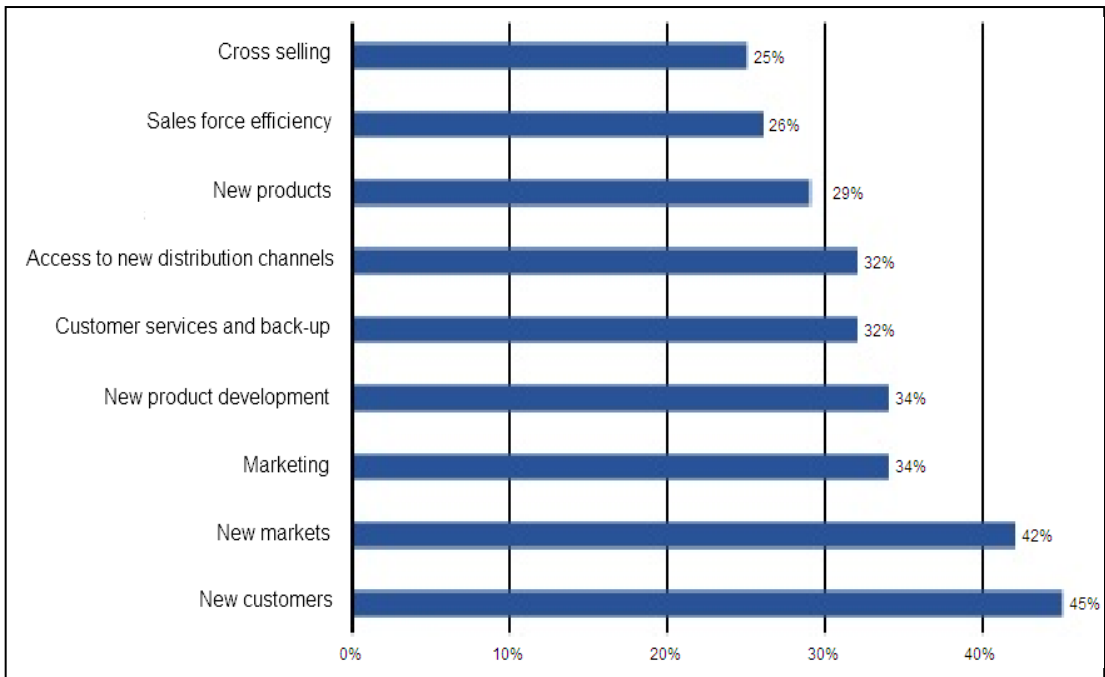
<sup>45</sup> Ungar (2005), P. 886f

<sup>46</sup> Hoffmann (2004), P. 485

<sup>47</sup> KPMG (1999), P. 2ff



**Figure 10: Areas of Cost Synergies, Source: KPMG (1999), P. 14**



**Figure 11: Areas of Revenue Synergies, Source: KPMG (1999), P. 14**

### **3.4 Cost and Revenue Dyssynergies**

As mentioned earlier, also negative synergies can exist. They can also be classified in cost and revenue dyssynergies. Examples for cost dyssynergies are described in literature as all integration related coordination costs (e.g. alignment meetings or merger induced travel costs), compromise costs (e.g. payments for staff retention or low utilization of machinery in transition period), control costs (e.g. monitoring of integration progress or bonus for integration managers) and inflexibility costs (e.g. reduced availability of employees or management due to integration activities).<sup>48</sup>

Examples for revenue dyssynergies can be stemming from inadequate product and service quality due to restructuring, standardization or centralization activities in the course of integration which, worst case, result in customer loss.

### **3.5 Time and Realization Probability of Synergies**

Taking into consideration the time and probability for the realization of synergy potentials, it can be postulated, that cost synergies generally can be realized faster than revenue synergies.<sup>49</sup> A time dependant classification represented in figure 12. Synergy potential realization can be divided in concentric circles. Close to the center, cost synergies are assigned, which can be realized short-term with a high probability. The outer circles represent revenue synergies, which require longer time and high management effort and thus show lower probability of realization.<sup>50</sup>

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<sup>48</sup> Metz (2003), P. 78

<sup>49</sup> Wirtz (2004), P. 375

<sup>50</sup> Cullian et al. (2004), P. 7ff

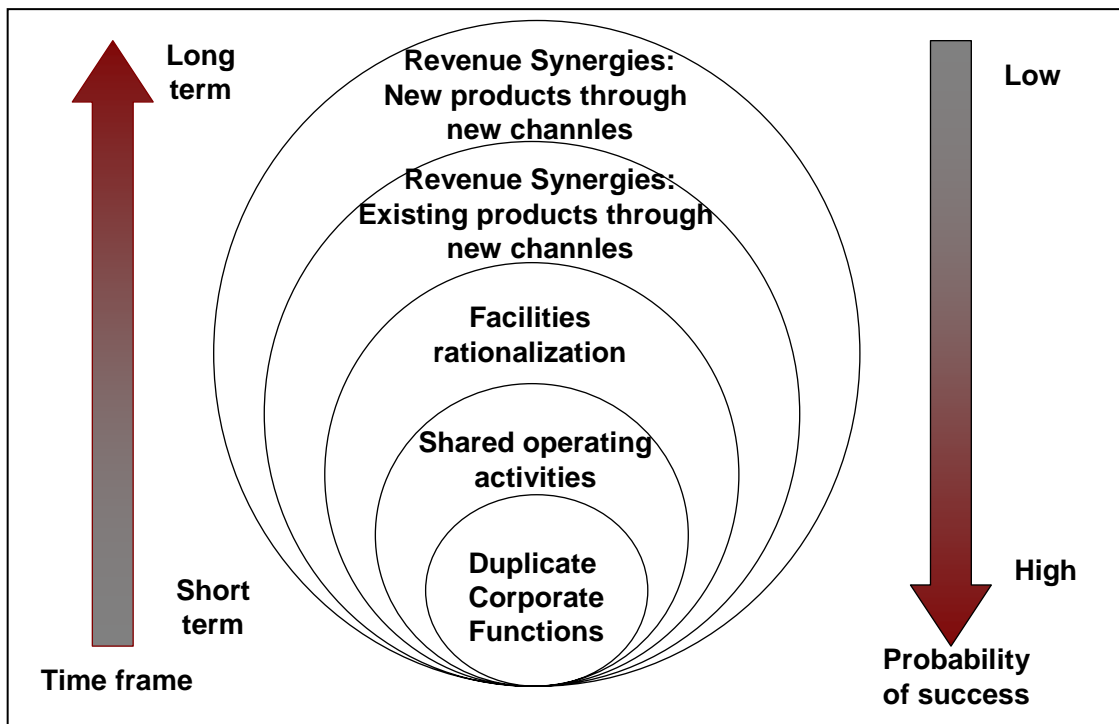


Figure 12: Synergy Landscape, Source: Cullian et. al. (2004), P. 7

Easiest for realization are synergies from elimination of duplicative corporate functions, business activities or costs, like for example the merging of legal or finance departments, or through elimination of management positions. These synergies can be leveraged with high probability.

Next, there are cost savings through elimination of shared operative activities. Examples include streamlining SG&A or standardization of IT. These synergies can be easily realized, however major one time costs are attached.

More difficult to realize are cost savings from rationalization of facilities like plants, or R&D facilities, as significant hurdles could occur with respect to issues of personnel and legal nature.

Even more difficult to realize are synergies from revenue increase from new products through existing channels to new products through new channels. These synergies can potentially be leveraged only long-term as they require high investments and are thus facing a lower probability of realization.

This classification can be useful in synergy potential calculation, as time and probability are reflected. The outer the synergies are identified, the higher the discount rate to be applied in the calculation.<sup>51</sup>

<sup>51</sup> Wirtz (2004), S.374

### 3.6 Synergy evaluation along the M&A process

As described earlier, the process of acquisition can be divided into 3 phases:

- The strategy phase,
- The transaction phase and
- The integration phase.

For a comprehensive synergy evaluation it is necessary to consider all relevant individual actions already in advance in each of the phases and compiling them in a systematic approach.

The synergy valuation process can be separated into three steps:

- The synergy potential analysis,
- The value driver analysis and
- The value driver execution.<sup>52</sup>



Figure 13: The Synergy Valuation Process, Source: PWC (2010), P. 4

#### 3.6.1 Synergy Analysis

Initially, synergies have to be identified. Therefore, anticipated synergies from potential target companies are screened using a set of filters and hurdles. An example could be a screening list using filtering dimension like customer/industry, management/culture, finance, location or environmental aspects.<sup>53</sup> This initial synergy analysis is generally performed during the early stages of the target company assessment, long before the deal is announced. The analysis is often based on limited publicly available information and a set of very early performance assumptions. Outcome of this synergy identification step should be a shortlist of potential targets fitting to the own strategy and the synergy expectations.

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<sup>52</sup> PWC (2010), P. 4

<sup>53</sup> Wirtz (2003), P. 153



Then, the relevant synergies have to be qualified and operationalized. Instruments for qualification could be for example a value chain analysis, a SWOT analysis, scoring models, competitor matrix, ABC analysis, gap analyses and scorecards.

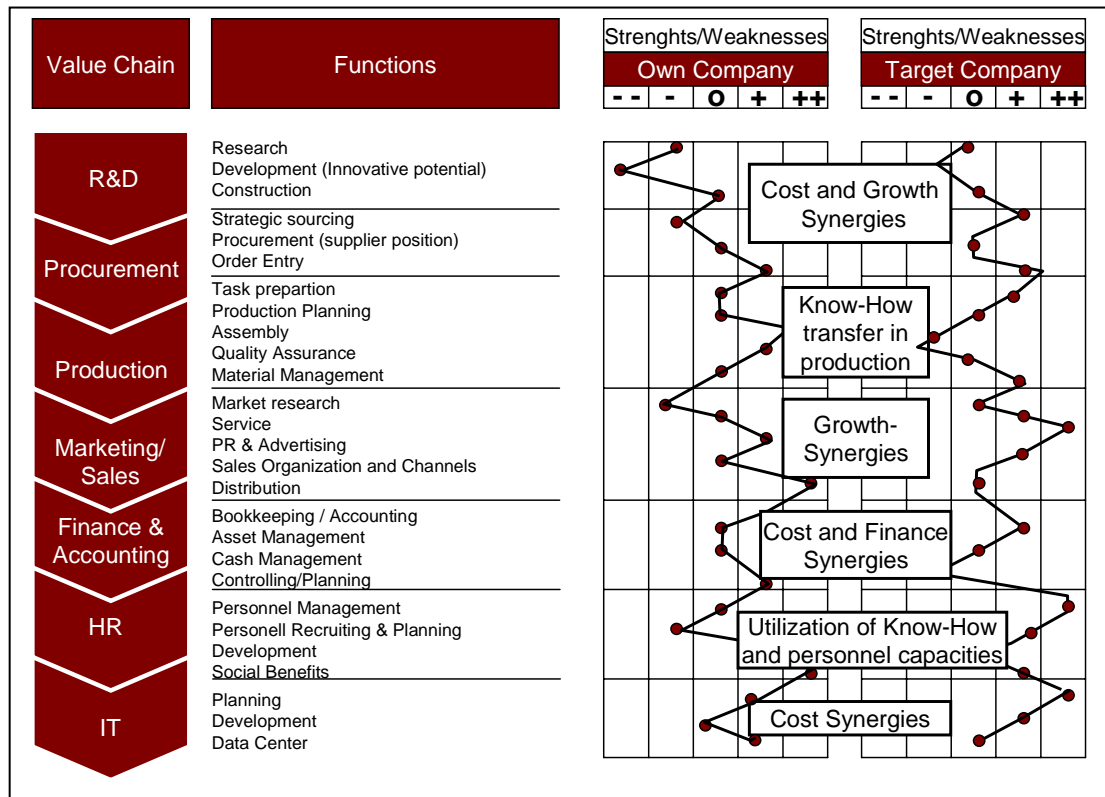


Figure 14: Value Chain Analysis for Synergy Qualification, Source: Wirtz (2003), P. 176

### 3.6.2 Value Driver Analysis and Quantification

In a second step, the identified synergy potentials have to be quantified and assessed to show their value driver potential. For quantification, a synergy listing is suggested: For each synergy potential in the value chain, the type of synergy should be described, whether it is positive or negative, where it does occur (target, acquirer, both), the date /time span and probability of realization.<sup>54</sup>

<sup>54</sup> Wögingner (2006), P. 213

Synergy Type	Specification of Synergy Effect	Occurance		Dirction		Effective by		Duration	Probability		
		Own Company	Target	Postive	Negative	Partly occurrence in month	Full occurrence in month	Months of planning timeframe	high	medium	low
Costs / Economies of scale	Better Conditions in Sourcing	x	x	x		3	6	120	x		
Costs / Economies of scale	Degression Effects in Marketing	x	x	x		3	6	120		x	
Costs / Economies of scope	Transfer of Marketing Skills	x	x	x		5	8	120	x		
Costs / Economies of scope	Transfer of Sales Skills	x	x	x		3	8	120	x		
							1	120	X		

Figure 15: Planning Table for Synergy Quantification, Source: Own representation in style of Wöginger (2005), P. 211

Then, the value drivers can be identified. Value drivers are distinct initiatives for which individual business cases can be built and implemented to deliver quantifiable results.<sup>55</sup> Value Drivers are ranked according to financial impact and probability of success. Those with the highest financial impact and highest probability of success receive resource priority in implementation.

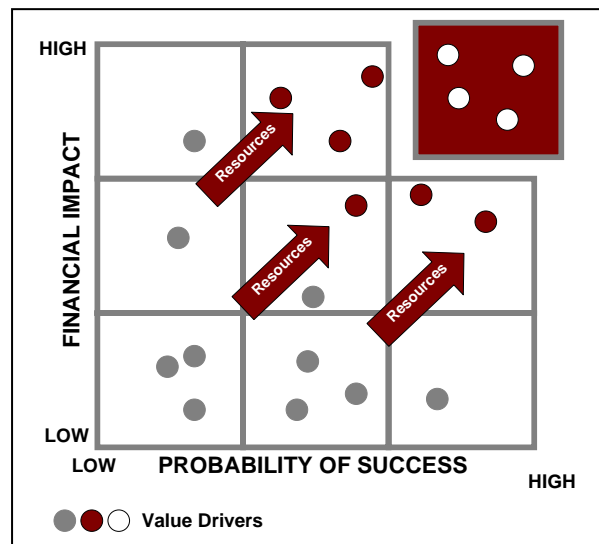


Figure 16: Determining Value, Source: PWC (2010), P. 5

After the synergies are quantified and the main value drivers are identified, an overall business case has to be calculated. Here, the DCF (discounted cash flow) approach can be used. All quantified synergies then have to be discounted. It is important to be as precise and realistic as possible – on the other hand it should also be practicable enough to do quantification in a timely manner.<sup>56</sup>

The business case should also include a detailed set of supporting operations-related information that communicates specifically how each discrete value driver will be accomplished. This information is needed to develop detailed project plans for execution. Each project plan must sufficiently detail task level activity for each value driver. Task-level detail should include the resource assigned, date required

<sup>55</sup> PWC (2010), P. 5

<sup>56</sup> Wöginger (2006), P. 213

for completion, critical path prerequisites, and dependencies on other tasks or functions.

The quantitative information in the business case forms the basis for metrics performance tracking.

### **3.6.3 Value Driver Execution and Synergy Tracking**

Having developed project plans with sufficient level of detail, the value driver execution can be all about allocating the resources with the necessary skills to deliver against tasks in accordance with the timeliness established.<sup>57</sup> Additionally, a program management framework should be set up to coordinate dependencies, resolve issues, and monitor and track execution progress.<sup>58</sup>

Keeping track of synergy progress over the course of an integration helps keep employees focused on the right things at the right times. While responsibility for delivering certain synergies may rest with specific business units and functions, a centralized process and set of tools for monitoring, tracking, and reporting synergies is essential to keep the combined company on track and deliver measurable results.<sup>59</sup>

The basis for metrics performance tracking is developed in the value driver business cases. The information found there is used to set milestones and monitor progress over the course of the effort.

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<sup>57</sup> PWC (2010), P. 6

<sup>58</sup> Unger (2007), P. 214

<sup>59</sup> PWC (2010), P. 7

## 4 Synergies in IT

Information Technology plays a significant role in enabling synergy leverage in an M&A transaction.<sup>60</sup> According to various publications, about one third of all synergies in an M&A transaction are related to IT.<sup>61</sup> IT publications state that about 15 percent of the synergy to be captured directly from savings on IT operations, with another 25 percent stemming from business operations where savings are dependent upon IT.<sup>62</sup>

To elaborate more on the potential of synergy leverage through IT, it is necessary to classify the different types of synergies related to IT.

IT - Synergies occur in two **areas in the organization**:

- In IT divisions (e.g. Operations, Datacenters)
- In organizational units supported through IT (e.g. Controlling, HR)

IT – Synergies can be classified by **value impact**

- Cost Synergies (e.g. Rationalization)
- Revenue Synergies (e.g. Sales Support through IT Systems)

IT Synergies can be distinguished by **time of realization**:

- Short term realization (e.g. License Sourcing Optimization)
- Long term realization (e.g. ERP Standardization)

Synergies can also be negative. They are then called “dyssynergies”. The overall goal of synergy realization in IT in the course of an M&A transaction is to produce positive net synergies.<sup>63</sup> Thus, the IT synergies should outweigh the IT dyssynergies.

Figure 18 gives an overview of the selected synergy and dyssynergy drivers.

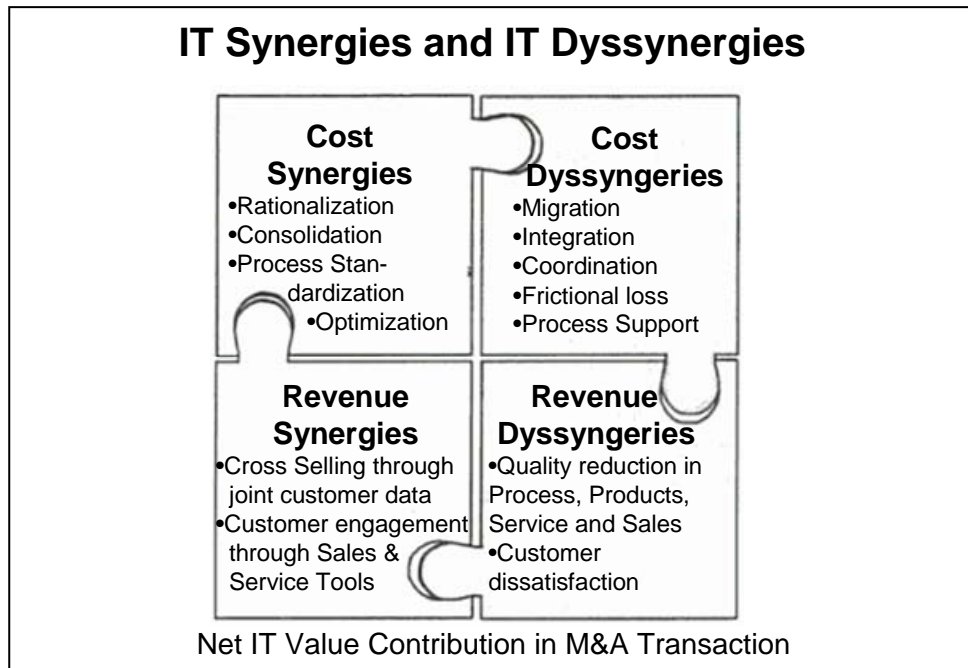
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<sup>60</sup> ATKearney (2008), P. 1f

<sup>61</sup> Haas (2008), P. 3f , Mainwaring (2007), P. 1 and Accenture (2002a), P. 6,

<sup>62</sup> CIOinsight (2006), P. 3

<sup>63</sup> Hoffmann (2005), P. 485



**Figure 17: IT Synergies and IT Dyssynergies, Source: Own representation in style of Metz (2002), P. 79**

The IT synergies and dyssynergies can be directly leveraged in IT or can be indirectly leveraged in the business units supported by IT.

#### **4.1 Cost and Revenue Synergies in IT**

Classic synergy categorization is distinguishing cost and revenue synergies. In the area of IT, ostensibly there can be mainly cost synergies leveraged.<sup>64</sup> For both, IT departments and business departments, proper IT focus in an M&A transaction can directly and indirectly foster cost reduction in multiple areas.

IT cost savings can be realized on the one hand directly in the area of IT budget, but also indirectly in the areas where IT serves as the underlying basis for smoothly running business processes.

In the IT area, cost reductions can mainly be achieved through economy of scale effects for example via consolidation of resources (e.g. hardware, software, personnel and infrastructure) or via pooling of licenses and procurement rationalization. In the business area, the cost reductions are not so obvious, but can also be achieved long-term for example in standardized enterprise resource platforms which are tailored for optimized business process support. Also, a more

<sup>64</sup> Accenture (2002a), P. 6

efficient IT support and service management resulting from utilizing best skilled recourses from the merged entities can support cost savings in the business.

Revenue synergies are usually also not identified at first sight, because the IT-department per se does not generate revenues. However, indirectly IT also serves the goal of operative support of the integrated business and therefore IT has impact on revenue generation.<sup>65</sup> For example, additional revenue can be generated through cross selling activities resulting from customer engagement opportunities through merging of two customer data bases, or through better system support in sales and service activities.

The following table gives an overview on the IT related synergy classification:

Synergy Type	Beneficiary	Opportunities/Areas for potential synergy leverage (Examples)
Cost reduction (direct)	IT Department	<ul style="list-style-type: none"> <li>* Rationalization of IT Vendors</li> <li>* Consolidation of Data Center Resources</li> <li>* Pooling of Licenses</li> </ul>
Cost reduction (indirect)	Business Department	<ul style="list-style-type: none"> <li>* Optimized Systems for Business Processes</li> <li>* Optimized SLA support through pooled Knowhow</li> <li>* Process Standardization Facilitation</li> </ul>
Revenue Generation	Business Department	<ul style="list-style-type: none"> <li>* New Cross Selling Potential through merging of customer data</li> <li>* Customer Oriented System Modules improving Sales and Service activities</li> </ul>

**Figure 18: IT Synergy Classification, Source: Own representation**

## **4.2 Cost and Revenue Dyssynergies in IT**

Dyssynergies are negative synergies that occur in the course of the transaction as side-effects which lower than anticipated synergy value. They comprise all efforts for realization of synergy potential as well as all other negative impact and characteristics, which can result from the M&A transaction.<sup>66</sup>

Proper IT integration also contributes to the avoidance of dyssynergies resulting from an M&A transaction. However, IT integration is usually related to high efforts and thus high dissynergy potential.<sup>67</sup>

The classification of IT dyssynergies can be conducted as follows:

<sup>65</sup> Märkisch (2008), P. 129

<sup>66</sup> Bire (2009), P.1f

<sup>67</sup> Metz (2002), P. 87f

Dyssynergy Type	Beneficiary	Areas of potential dyssyneries (Examples)
Cost increase (direct)	IT Department	<ul style="list-style-type: none"> <li>* Data Center consolidation costs</li> <li>* Hardware, Infrastructure and Application consolidation costs</li> <li>* Personnel consolidation costs</li> </ul>
Cost increase (direct)	Business Department	<ul style="list-style-type: none"> <li>* Transaction costs for poor Business Process support</li> <li>* Transaction costs IT related process standardization</li> <li>* Transaction costs for poor Support and Service Management</li> </ul>
Revenue Decrease	Business Department	<ul style="list-style-type: none"> <li>* Non transparent customer data leading to uncoordinated sales engagements</li> <li>* Underperforming customer support through system modules in Sales and Service</li> </ul>

**Figure 19: Classification of Dyssynergies, Source: Own representation**

Typically, IT related integration cost represent the classic dyssynergies in an M&A transaction.

These costs occur in all areas related to IT and go from costs for restructuring and consolidation of Data Centers to consolidation costs in hardware, software and infrastructure to consolidation of networks and suppliers and the restructuring of the IT organization itself.

Dyssynergies in the form of cost increase occur in the related business units then, when the integration process is not performed properly. This results in non-performing business process support of IT which causes transaction costs like for example manual adjustments of reporting data, corrections of data records due to wrongly entered data as a result of missing standardized process steps and not consistently supported data flows across system landscapes. Potentially affected areas are basically all IT-supported steps in the company's value chain from supplier management to sales and service. IT-provoked underperformance will lead to increased costs for coordination, control, compromise and inflexibility. Accompanying to that, also the costs for business user support and IT service management can rise, since more time is then spend on troubleshooting and issue handling.

Dyssynergies in revenue generation on business side can result from the lack of various areas related to wrong and insufficient system support. For example wrong customer data could lead to non-transparent customer engagement. Wrong offer and ordering systems could lead to wrong product configuration or wrongly calculated prices, which in return has negative impact on sales revenues. Also, not correctly performing customer interfaces like customer service systems or e-mailing systems could have an impact on customer satisfaction potentially mirrored in reduced sales.

Figure 21 gives an overview of the areas where IT supports business. All measures have to be undertaken in an M&A transaction, that the essential systems and applications and the relevant business process support through IT are provided.

<b>ENTERPRISE MANAGEMENT</b>	STRATEGIC ENTERPRISE MANAGEMENT	BUSINESS ANALYTICS	BUSINESS INTELLIGENCE & DECISION SUPPORT	ACCOUNTING	WORKFLOW PLANNING & ALIGNMENT	
<b>CUSTOMER RELATIONSHIP MANAGEMENT</b>	MARKET RESEARCH & ANALYSIS	PROJECT/PRODUCT/ BRAND MARKETING	SALES FORCE MANAGEMENT	INSTALLATION & SERVICE MANAGEMENT	AFTER MARKET SALES & SERVICE FULLFILLMENT	
<b>RESEARCH &amp; DEVELOPMENT</b>	DESIGN, CONCEPT & SPECIFICATION		ENGINEERING, PROTOTYPING & PRODUCT DEVELOPMENT	PRODUCT DATA MANAGEMENT		
<b>MAKE-TO-STOCK</b>	PRODUCT DEMAND PLANNING	PRODUCT PREPARATION	PRODUCT MANAGEMENT	INVENTORY MANAGEMENT	ORDER & DELIVERY PROCESSING	WARRANTY
<b>MAKE-TO-ORDER</b>	CONFIGURATION & SALES CYCLE MANAGEMENT		MANUFACTURING, ASSEMBLY & DELIVERY		WARRANTY	
<b>ENGINEER-TO-ORDER</b>	CONCEPT & PRODUCT DEVELOPMENT	SALES CYCLE MANAGEMENT	PROCUREMENT, SHIPPING & DELIVERY	START UP & WARRANTY		
<b>SERVICE &amp; MAINTENANCE</b>	CUSTOMER MANAGEMENT	SERVICE CONTRACT & ORDER MANAGEMENT	SERVICE ORDER EXECUTION	DEMAND MANAGEMENT & PROCUREMENT		
<b>BUSINESS SUPPORT</b>	HR OPERATIONS SOURCING & DEPLOYMENT	PROCUREMENT	QUALITY MANAGEMENT	FINANCIAL SUPPLY CHAIN MANAGEMENT	TREASURY/CORPORATE FINANCE MANAGEMENT	FIXED ASSET MANAGEMENT

Figure 20: Business Process Support through IT, Source: SAP (2010), P. 1

### 4.3 IT Synergies and Timeline

Some IT cost related synergies stemming from system eliminations or license optimizations can be achieved rather short time. However, IT-enabled synergies can also be fairly long-term benefits that require tremendous complexity to be achieved. For example, while integrations, such as seamless order processing or sales-force integrations are expected to take place within the first six months after the close of the deal, a fair percentage of IT-enabled synergies require substantially longer, perhaps 18 months to 24 months past deal close.<sup>68</sup>

These longer-term efforts include standardizing and converging enterprise data and application platforms, such as ERP and supply chain, as well as de-layering or eliminating organizational duplication and complexity. When faced with projects of such magnitude, strong controlling and monitoring necessity is evident.

<sup>68</sup> CIOinsight (2006), P. 1f



It is not unusual, that certain synergies dilute over time in complex IT integration, until all processes and all applications are fully synchronized. Productivity of the target system environment until that point is usually less, than the productivity in the original systems.<sup>69</sup>

#### ***4.4 Measuring IT Synergies and Dyssynergies***

To measure the IT-synergies, all individual synergy and dyssynergy potentials have to be quantified as described in the general synergy chapter. The format for IT synergy estimation should be similar in order to ease the overall synergy calculation. The single values have to be estimated for the defined periods and then to be discounted with the same discount rate as all other synergies.

For the estimation of increased costs, all integration and migration efforts and related investments have to be taken into account. For the estimation of savings, it is recommended to set up a stand-alone calculation of core IT and business related IT costs of the two separate to-be-merged entities under the premise of continuation.<sup>70</sup> From the resulting cash flow streams then the anticipated IT costs of the merged company have to be deducted. As a result, the IT cost savings are derived.

The similar approach has to be conducted for the expected synergy revenues resulting from the integrated and most times standardized IT of the former separate companies. For the quantification of the revenue changes, appropriate assumptions are necessary.

Figure 22 gives an example catalogue of synergies and dyssynergies to be captured in an estimation.

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<sup>69</sup> Schaffry (2010), P. 2

<sup>70</sup> Märkisch (2008), S. 131f

Synergy / Dyssynergy Potential	Specification of Synergy or Dyssynergy Effect	Occurance		Dirction		Partly
		Own Company	Target	Positive	Negative	
<b>Reduction of Number of Datacenters</b>	<i>Efforts for Consolidation</i>	x	x		x	
	Savings in Hardware	x	x	x		
	Savings in Personnel	x	x	x		
	Savings in Facilities	x	x	x		
<b>Consolidation of Networks</b>	<i>Efforts for Consolidation</i>	x	x			
	Savings from leveraging overlapping Networks	x	x	x		
<b>Standardization of decentralized HW and Software</b>	<i>Efforts for Consolidation</i>	x	x		x	
	Savings in User services and administration	x	x	x		
	Savings due to reduced Knowlegde needs	x	x	x		
	Savings in reduced maintenance needs	x	x	x		
<b>Standardization of Applications and Data</b>	<i>Efforts for Consolidation</i>	x	x		x	
	<i>Efforts for Training</i>	x	x		x	
	Savings in Softwaredevelopment, operations, maintenance	x	x	x		
	Savings due to reduced Knowlegde needs	x	x	x		
<b>Consolidation towards suppliers</b>	Better pricenegotiation due to size/market power	x	x	x		
	Consolidation of licences	x	x	x		
<b>Merging of IT Organizations</b>	<i>Integration effort</i>	x	x		x	
	Economies of scales for merging similar activities (Headcount)	x		x		

**Figure 21: Synergy Calculation Sheet, Source: Own representation in style of Märkisch (2008), P. 131**

The challenge in the IT synergy estimation lies in particular in the estimation of system and application integration efforts. For example, in the due diligence phase often it is not yet clear what strategy of integration is anticipated, what applications to keep, to merge and to replace, what effects the vendor optimization and license optimization will result in, what the extend of standard deviations and modifications in existing application is and what resources are needed to staff the integration projects and run daily business.

To overcome these uncertainties, it is recommended to conduct sensitivity analysis, where the impact of omitting of single synergy drivers on the total IT synergy potential is analyzed. To support estimations, also benchmarks of analogue projects, e.g. former IT integration projects, could be taken into consideration.

These factors point out the necessity of a tight controlling process, where the IT integration execution steps are closely monitored. It has to be assured, that the integration approach is realistic, that eventual technical restrictions were taken into consideration and that the timely execution is aligned with the overall strategy goal of the acquisition.<sup>71</sup>

<sup>71</sup> Märkisch (2008), P.133

## 5 IT Due Diligence

In the due diligence phase, the target company is thoroughly analyzed in order to identify synergy and dyssynergy potentials related from information technology. As business process performance is more information technology-reliant than ever, aspects like efficient management of business data, technology standards, security and compliance demands are challenging points in a M&A project.<sup>72</sup>

In order to analyze these aspects, the IT due diligence process has to be accomplished. This is essential to avoid costly post-close reality. IT due diligence is typically overlooked as a critical success factor in M&A activities. Not seldom, IT is involved too late in the due diligence phase.<sup>73</sup>

### 5.1 IT Due Diligence Process

In the course of the IT-due diligence, costs and value of IT are analyzed and the advantages of integration and potential problems are identified. In that respect, also strategic, legal and management related aspects are examined. Through incorporation of the future IT requirements of the joint company in the analysis, the achieved transparency allows a judgment regarding the potential of long-lasting value exploitation after the transaction.

The following goals can be identified<sup>74</sup>

- Clear overall picture of the IT functionalities in the target company,
- Verification to what extend the IT of the target enterprise matches with the overall M&A strategy,
- Identification and valuation of potential risks,
- Determination of evident factors which could affect the synergy valuation.

The IT due diligence process can typically be broken down in the following phases:<sup>75</sup>

1. Approach and Scope Definition,
2. Information Gathering,
3. Analysis and Evaluation,
4. Negotiation and Closure.

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<sup>72</sup> Growthfield (2007), P.2

<sup>73</sup> CIO online (2008), P.2

<sup>74</sup> Schwarze (2008), P. 7

<sup>75</sup> Uhrig (2006), P. 9ff

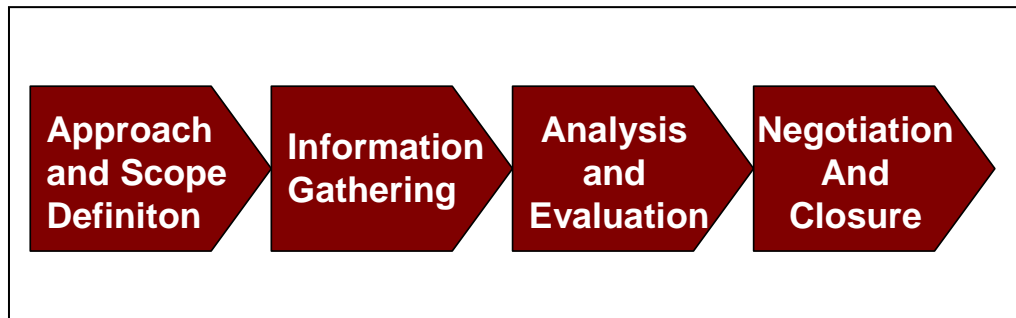


Figure 22: IT Due Diligence Phases; Source: Uhrig (2006), P. 9

### 5.1.1 Approach and Scope Definition

In the approach and scope definition phase, the framework of the IT Due Diligence is described. The realization goals are defined and, derived thereof, the scope of investigation, the sources of information, the report structures, the team setup, the time and expenditure framework. Furthermore the business reasons behind the acquisition, the strategic importance of IT and the importance of process integration have to be clarified.

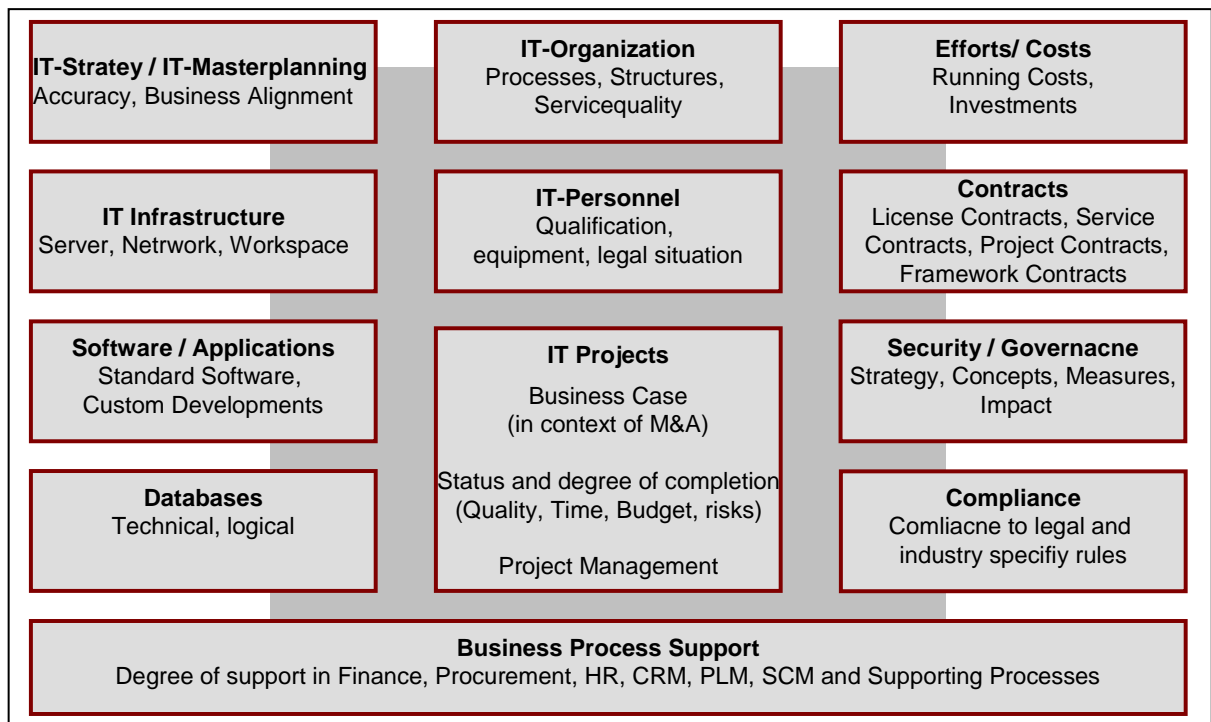
Usually, a checklist with the required IT Due Diligence information is set up and serves as guideline for the information gathering phase.

### 5.1.2 Information Gathering

In the phase of information gathering, the efficient identification and filtering of relevant data in a timely manner for the subsequent analysis is conducted. Meaningful data of all relevant IT related components have to be collected with respect to

- Status,
- Quality,
- Risks,
- Cost adequacy and
- Future perspective.

An overview of the relevant components is given in figure below.



**Figure 23: IT Due Diligence components, Source: Own representation in style of Uhrig (2006), P. 9**

In the information gathering phase, it is necessary to get a full overview of the existing IT assets as well as all related areas, where IT provides business process support. Therefore, the overall IT strategy and its business integration and therefore its underlying architectural components including IT infrastructure, the used platforms, systems and databases have to be thoroughly analyzed.

Of particular interest are the utilization of proprietary software and the utilization of standard software including its enhancements and modifications. This is, because the often assumed compatibility of standard software (e.g. SAP) causes unexpected high efforts in migration and harmonization if the applied deviations from standard are overseen.<sup>76</sup>

Also, it is important to get an overview of all relevant projects, the scope, the current status, the risk situation as well as the expected remaining costs and timeline.

Key aspect for analysis is also the IT organization setup and, within, the IT employees. For a later-on successful integrated and well performing IT organization it is vital to know the skill set and capacity of the IT employees, and, related to the future headcount, the necessary activities to keep them also after the M&A transaction.

<sup>76</sup> Haas (2008), S.4f

Also of relevance is the overview of the contractual relationships with business partners (vendors, customers, third parties) and the license situation. These components often have high cost saving potential if redundancies can be detected, or have a high cost increasing impact, if long-term contracts without exit clauses exist.

Furthermore, the security and compliance standards have to be analyzed. It is necessary to understand the potential data and system access security risks and their impact. Also compliance standards have to be evaluated, since compliance demands are plentiful, driven both by legislation and governmental regulation (e.g. Sarbanes-Oxley, Patriot Act, agency rules, etc.) and private-sector standards (e.g., PCI, ISO). Catching up on standards can be costly, and non-compliance can put a company out of business.<sup>77</sup>

Practice shows, that the availability and granularity of data varies. For example details about IT projects at risk are sometimes hard to disclose as well as for example contractual terms and conditions with vendors and third parties.

### **5.1.3 Analysis and Evaluation**

With respect to the defined goals, the gathered information has to be analyzed and evaluated on synergy potential. Common criteria catalogues and quality standards like ITIL, COBIT, and ISO can be applied during this process. These standards and models help to identify:<sup>78</sup>

- Which risks exist and what measures can be applied with what effort to mitigate these risks,
- Which IT projects have to be set up after deal closure of the M&A transaction and within what time horizon these projects have to be completed,
- Which investment necessities have to be undertaken and what is their impact on projected Cash Flow of the target companies,
- What management capacities will be necessary after deal closure of the M&A transaction and for what timeframe,
- Which HR measures are in general necessary in the IT area in order to efficiently run the future IT organization (build up of capacity or rationalization).

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<sup>77</sup> Growthwave (2006), P. 2

<sup>78</sup> Uhrig (2006), P. 10

In the course of the synergy evaluation, the strength and the weaknesses in the corresponding risks have to be quantified; in form of cost and revenue synergies and dyssynergies. It is important to mention, that the chosen integration approach has an influence on the detected anticipated synergies as the focus can differ, depending on the scenario.

Outcome of the process should be a report, which has assessed and valued all the defined IT-relevant aspects and areas.

#### **5.1.4 Negotiation and Closure Phase**

In the negotiation and closure phase the focus is on contract management. Here, it is of utmost importance to have strong IT-competence available for eventual negotiation participation in order to avoid disadvantageous contract clauses, which leave IT-topics unfavorable, unclear or open. In any case, this will result in later-on costs to resolve the issues on technical or legal basis.

A focus point in IT relevant contracting are in particular the transitional IT services. These are agreed continued IT services after the deal closure which are consumed for a defined period of time and which are often a result of inability in precise agreement on contractual future relevant IT topics. Here, sometimes the recommendation is to avoid those and instead engage third party providers.<sup>79</sup>

Best practice recommendation in IT-due diligence:<sup>80</sup>

- Base the extent of IT due diligence effort on an upfront assessment of IT's importance to the deal's value creation logic. IT due diligence is essential, but the level of effort depends on the IT conditions of the M&A target. A preliminary assessment of those conditions will help the team scale the IT due diligence effort accordingly.
- Focus IT due diligence on closing requirement gaps that may hinder the achievement of the new value creation strategy. A primary focus of IT due diligence should be identifying the risks and opportunities related to the new business requirements. The goal is to derive detailed and comprehensive business requirements for IT based on the value creation envisioned for the merged company. The assessment should then focus on identifying any gaps between the existing IT state and the future IT requirements needed to

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<sup>79</sup> Uhrig (2008), P. 12

<sup>80</sup> Accenture (2006), P. 2f

deliver the full value of the deal. The final step is to identify and put in place solutions to close those gaps.

- Ensure integration and iteration between the commercial and IT due diligence efforts. IT due diligence should be integrated with commercial due diligence, iterating as the overall due diligence proceeds. Two reasons support the need for this integrated and iterative approach. First, IT due diligence should be performed early in the pre-deal assessment. The time constraints of this phase often do not allow for sequencing the work until after the commercial assessment is completed. Second, findings from the IT assessment can affect the commercial assessment. This means, however, that the business requirements for IT cannot be fully specified from the start, but will evolve during the overall due diligence process. The IT assessment should therefore take an iterative approach, gradually refining conclusions as more details become available.



## 6 IT Integration Management

Derived from the information in the due diligence phase, the integration plan has to be set up, and consequently the integration execution and controlling has to take place.

### 6.1 IT Integration Planning

This integration plan should contain the components necessary for a successful integration project.

The key components are:

- The IT Strategy and Level of Depth of IT Integration,
- The Selection of the Target Platform,
- The Day One Scope and Roadmap,
- The IT Governance and Vision,
- IT Organization and IT-Personnel.

#### 6.1.1 Integration Strategy Selection

The chosen integration approach has influence on the leverage of the anticipated synergy potentials. In dependence of different M&A scenarios, the IT integration efforts vary. Different levels of IT integration are thus common in practice, reaching from no integration to full organizational integration.<sup>81</sup>

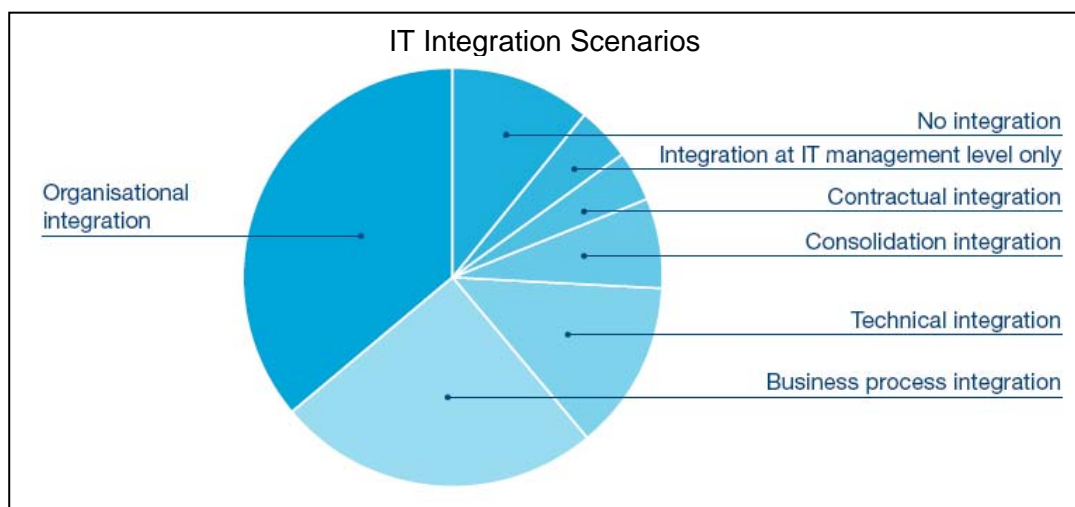


Figure 24: IT Integration Levels, Source: PWC (2007), P. 2

<sup>81</sup> PWC (2007), P. 2f

The choice of an IT integration approach has to be aligned with the company's general M&A strategy. Reasons for this are different requirements from each possible M&A strategy towards IT- integration. Thus, an aligned M&A strategy and IT strategy is a precondition for a successful IT integration planning.

#### **6.1.1.1 Business Integration Scenarios**

In the evaluation of M&A strategy options, there are different forms of acquisition scenarios. One model by Haspelagh/Jeminson identifies the dimensions "need for acquisition integration" and the "need for interdependence and autonomy".<sup>82</sup> Haspelagh/Jeminson suggest that management needs to identify the levels (high/low) of these dimensions in order to clarify the trade-offs in granting or refusing autonomy to an acquired firm.<sup>83</sup> As a consequence, the chosen degree of integration determines the characteristics of the further integration process.

In the integration approach "Holding", the mother organization of the acquiring company only coordinates the separate subsidiaries including the acquired entity. This usually leads to a very low level of integration as the entities operate independently. With respect to IT integration, there is only a very limited action with focus on aggregation of essential data streams like risk and financial controlling data for the holding company.<sup>84</sup>

The integration alternative "Preservation" is given, when the acquired company remains its pre-transaction structure. Thus, also the IT integration level is limited, however for example cross selling synergy potentials could be identified, if for example the customer databases of both companies are merged.<sup>85</sup>

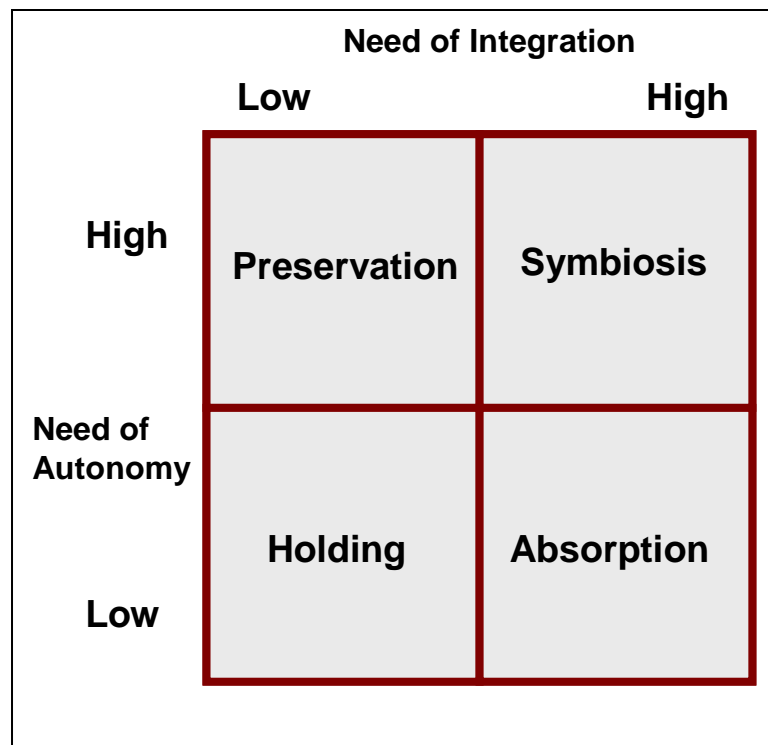
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<sup>82</sup> Haspelagh & Jemison(1991) cited in: Köppen (2006), P. 42

<sup>83</sup> Larsen (2005), P. 3

<sup>84</sup> Schwarze (2006). P. 10

<sup>85</sup> Märkisch (2008), P. 119f



**Figure 25: Need Of Integration vs. Need of Autonomy; Source: Haspeslagh/Jemison (1999) cited in: Köppen (2006), P. 42**

If both companies are in similar business or have similar processes, the relative size determines the integration. In the “Absorption” scenario, a high degree of business integration is given, as all structures and processes of the bigger transaction partner are transferred to the smaller partner. This also includes all IT relevant aspects reaching from IT-infrastructure up to IT-organization.

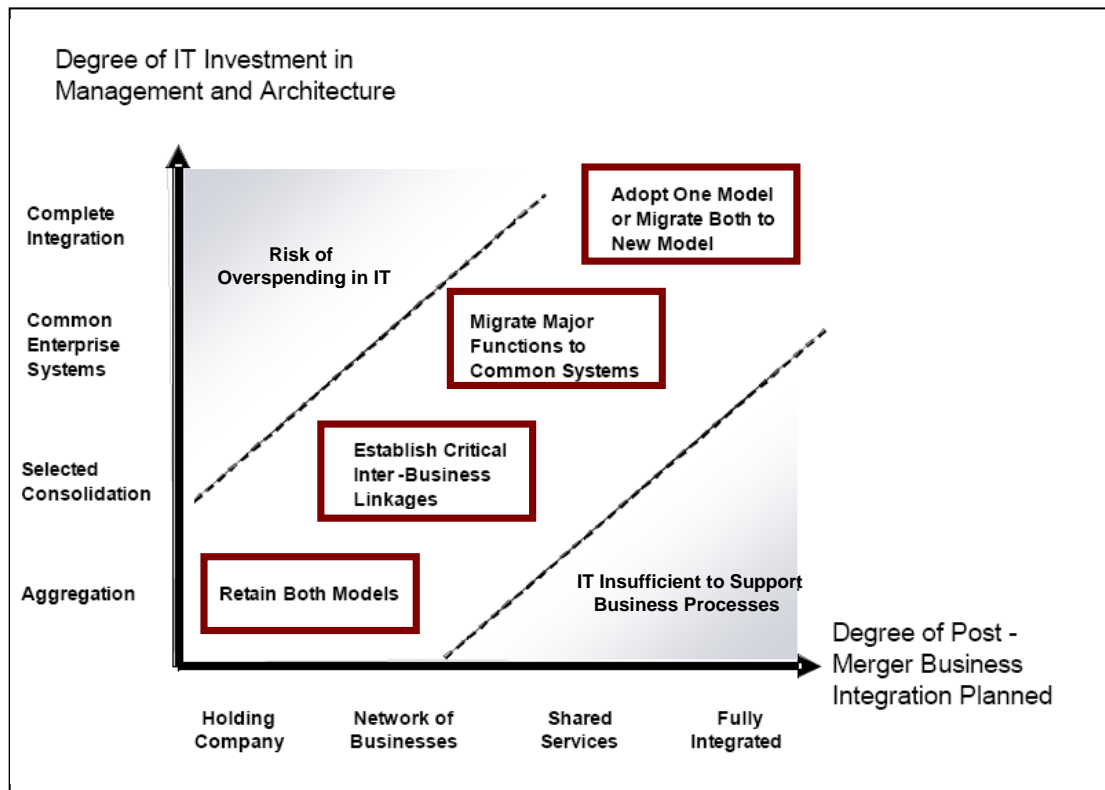
If there is the need for autonomy *and* integration, then the “Symbiosis” approach can be identified. This combination can be achieved in IT integration activities, when on the one hand a standardization approach is driven to enable a high degree of system integration, and on the other hand only selected systems are standardized, which allows still a high degree of autonomy.<sup>86</sup>

### 6.1.1.2 Optimization of IT Integration Efforts

As described above, the business integration strategy has to be aligned with the IT integration strategy. This alignment allows optimizing the leverage of synergies through improvement of IT-efforts for business support and should take place regarding definition of business objectives, definitions and performance metrics for

<sup>86</sup> Märkisch (2008), P. 122

those objectives, articulation of the vision of the role of IT and the goal of IT investment.<sup>87</sup> Ideally, the degree of investment in IT integration following a merger or acquisition should correspond with the degree of business integration in the new organization.<sup>88</sup>



**Figure 26: Scenarios Optimizing IT Integration Efforts, Source: Larsen (2005), P. 4**

A model for optimization of the integrative efforts is suggested in figure 27. The integration process is regarded with respect to the degree of IT investment in management and architecture and the degree of post-merger business integration. The degree of IT investment in management and architecture can be classified in aggregation, selected consolidation, common enterprise systems and complete integration. The degree of post-merger business integration is classified in the categories holding company, network of businesses, shared services and fully integrated. The combination allows to describe the optimum path of IT integration avoiding the risks of lacking support of the business processes of the merged organization through insufficient attention to IT integration on the one hand, and on the other hand the potential risk of overspending on IT, which could imply cost synergy value destruction.

<sup>87</sup> Curtis (2005), P. 2

<sup>88</sup> Accenture (2002a), P. 8f

This approach suggests four possible courses of action.<sup>89</sup>

### **1. Retain both models**

If the merging organizations are to remain fairly independent, the recommendation is to retain both IT-models. This is for example the case when there will be only few business linkages between companies and the companies' go-to-market strategies, products and channels are entirely distinct.

### **2. Establish critical inter-business linkages**

Establishing critical inter-business linkages is appropriate when the organizations are

slightly more integrated. For example there is some central coordination, sharing of business practices and cross-selling. Obvious synergy opportunities, like procurement and payroll can be captured. In addition to integrating systems for the business functions that will be centralized, consolidation of key communication tools can be recommended.

### **3. Migrate major functions**

Organizations with central coordination and leadership, integrated and consistent sharing of proven practices and consistent performance metrics would migrate major functions to common systems or select a combination of best functions of both organizations ("Best of Breed").

### **4. Adopt one model or migrate both organizations to that new model**

Adopting one model or migrating both companies to a new model, is appropriate when there is a corporate hierarchy with centralized management and a common product offering. An enterprise-wide solution is necessary to accommodate the single business model.

To realize a fast integration and address redundant IT costs, it is in practice often recommended to adopt one model<sup>90</sup> – usually the one from the bigger transaction partner. If the decision is to migrate to a new IT-model (standard system or new custom development), the required business process support could be tailored to the optimum. However, with increasing integration efforts and also the integration risks rise.<sup>91</sup>

In figure 28, the advantages and disadvantages of each scenario are described.

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<sup>89</sup> Accenture (2002a), P.11

<sup>90</sup> ATKearney (2008), P. 3

<sup>91</sup> Larsen (2005), P. 4

Integration Scenario	Advantages	Disadvantages
<b>Retain both models</b>	*No Ressources and time needed for implementation *No Project Risks *High Acceptance	*No Syngery Potentials *Higher Operational Costs due to Parallel Systems
<b>Establish critical inter-linkages</b>	*High Flexibility *High Acceptance	*Few Synergy Potentials *Higher Operational Costs due to Parallel Systems
<b>Migrate Major Functions</b>	*Fewer operational costs due to standardization	*High time and resource efforts of implementation, *Higher project risk
<b>Adopt one model</b>	*Few time and resource efforts for implementation, *Limited project risk, *Limited operational costs due to standardization	*Limited acceptance in business and IT departments *Limited coverage of business requirments
<b>Migrate both to a new model</b>	*Optimum system architecture *High Acceptance	*High time and resource efforts of implementation, *Higher project risk, high training efforts

**Figure 27: Advantages and Disadvantages of the different Integration Scenarios, Source: Märkisch (2008), P. 138**

In order to decide whether to adopt one model of one of the merging entities or to migrate to a new one, the following decision criteria can be considered.<sup>92</sup>

- The **quality, durability, and flexibility** of each the technical architecture.
- The **potential savings on operating costs** related to both IT and the overall business. It is especially important that the suppression of any system leads to the removal of its costs, because synergies will not be realized if a discarded system shares a platform with another system that remains.
- The **feasibility of the migration project**. This includes an assessment of migration costs and major risks, including business disruption.
- The expected **speed of implementation**. Usually, there can be tradeoff expected between speed of implementation and degree of standardization of the integration.<sup>93</sup>

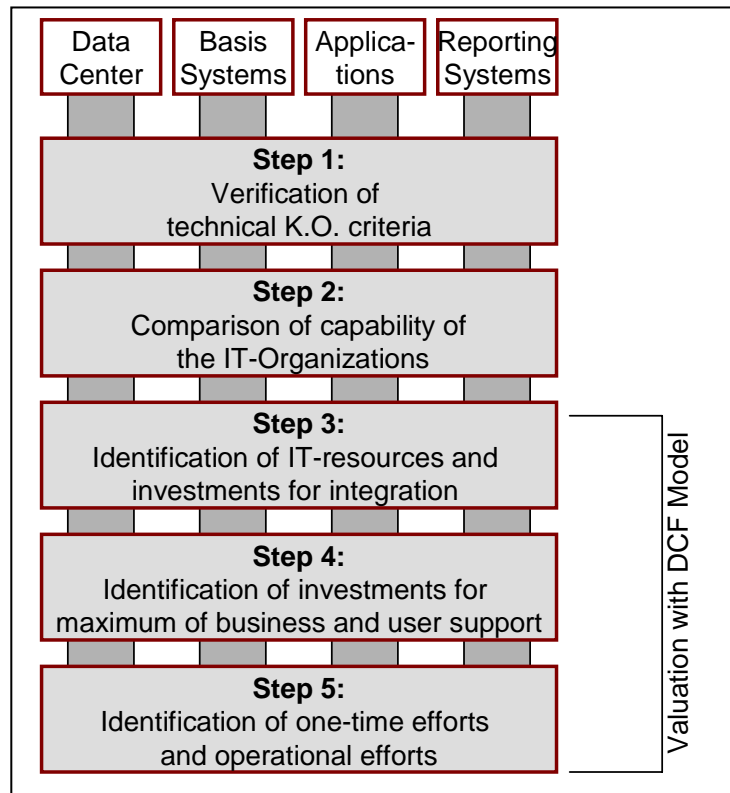
<sup>92</sup> BCG (2004), P. 7

<sup>93</sup> Myers (2008), P. 7

## 6.1.2 Components of the future IT-Architecture

Especially if the decided future IT scenario is based on a high level of integration, a corresponding standardization and rationalization of IT-resources can be consequently expected, as certain IT-activities and components will have a redundant character. In order to follow the M&A goal of value maximization, redundancies have to be identified and eliminated for optimal synergy exploitation.<sup>94</sup>

Influencing factors on the choice of components of the future IT-architecture are the general M&A objectives and business strategy, power and politics, organizational infrastructure and processes as the existing IT infrastructure and processes.<sup>95</sup> To achieve the necessary objectivity and precision, it is recommended to determine the relevant IT-resources, classify them and undergo a valuation process.



**Figure 28: Selection of future IT-Resources: Source: Own representation in style of Märkisch (2008), P. 146**

On the basis of IT resources such as for example “Technical Infrastructure”, “Basis Systems (HW/SW)”, “Application Systems” and “Reporting Systems”, the following

<sup>94</sup> Märkisch (2008), P. 145

<sup>95</sup> Myers (2008), P. 6

stepwise model can be proposed in order to determine the common future IT-architecture.<sup>96</sup>

1. Step 1: Verification of technical K.O. criteria, like for example scalability, performance, technological risks or future r of technologies.
2. Step 2: If no decision has been achieved yet, in a second step the capability of the IT-Organization has to be compared regarding technological competences, management and realization performance as well as regarding proven success and failures.
3. Step 3: In the next step, the necessary IT-resources and investments have to be identified in order to achieve the desired functional support in the defined level of integration.
4. Step 4: In addition, the necessary investments have to be identified, which allow a maximum of business and user support.
5. Step 5: The efficiency from IT-perspective has to be analyzed with respect to one-time efforts and operational efforts.

For each resource category and its components, these steps have to be performed and quantified by using the DCF approach. As a result, an objective specification of the future IT resources and architectural components can be derived. This allows maximum transparency of the selection and avoids both –political and qualitative-questioning of the IT-architecture component decision.<sup>97</sup>

Thus, an overall picture can be drawn of which components can be rationalized and which components are to be adapted or optimized.

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<sup>96</sup> Märkisch (2008), P. 147

<sup>97</sup> Märkisch (2008), P. 148f



<p><b>Keep as is</b></p> <p>Criteria:</p> <ul style="list-style-type: none"> <li>• App provides unique functionality, or</li> <li>• App is the best solution for the business, or</li> <li>• App is self-contained with little downside to keeping it</li> </ul> <p>Strategies:</p> <ul style="list-style-type: none"> <li>• Upgrade technology if needed to improve compatibility and cost</li> <li>• Integrate with systems management and security</li> </ul>	<p><b>Keep some functionality</b></p> <p>Criteria:</p> <ul style="list-style-type: none"> <li>• App provides some best-of-breed functionality, but overlaps the functionality of other systems</li> </ul> <p>Strategies:</p> <ul style="list-style-type: none"> <li>• Convert into SOA business service and integrate</li> <li>• Integrate data at the back end</li> </ul>
<p><b>Consolidate/enhance</b></p> <p>Criteria:</p> <ul style="list-style-type: none"> <li>• Valuable app functionality can be re-created in more strategic app, providing a better business solution, or</li> <li>• App is the best platform for expansion or enhancement</li> </ul> <p>Strategies:</p> <ul style="list-style-type: none"> <li>• Develop an application enhancement road map</li> </ul>	<p><b>Retire</b></p> <p>Criteria:</p> <ul style="list-style-type: none"> <li>• A better solution exists for app functionality, or</li> <li>• App functionality is no longer needed in the combined firm, or</li> <li>• App is severely deficient and a better solution is necessary</li> </ul> <p>Strategies:</p> <ul style="list-style-type: none"> <li>• Retire as soon as is feasible</li> </ul>

**Figure 29: Decision Matrix for Integration Strategy, Source: Cullen (2006), P. 7**

### 6.1.3 Day One State and Roadmap to the desired End State

Having decided about the target IT integration strategy and the target IT architecture, it is necessary to align the necessary degree of IT integration with IT and the respective business divisions on Day One as well as the degree of IT integration in the end-state of the transaction phase.<sup>98</sup>

With respect to the “Day One” readiness, it is important to ensure that the combined company can smoothly continue normal business operations. Several key items include determining how to take orders for the products of both companies from overlapping customers, how to purchase goods from overlapping suppliers, how to provide key business information on a combined basis, and how to close the books of the new, combined company.<sup>99</sup>

The definition of the Day One scenario can be on the one hand a “Big Bang” with setting all relevant systems live at once – or a stepwise approach. The advantage of a big bang is, that there is lesser impact for customers and staff, due to no lengthy conversion process with interim variants. However, the disadvantage is risk and complexity.

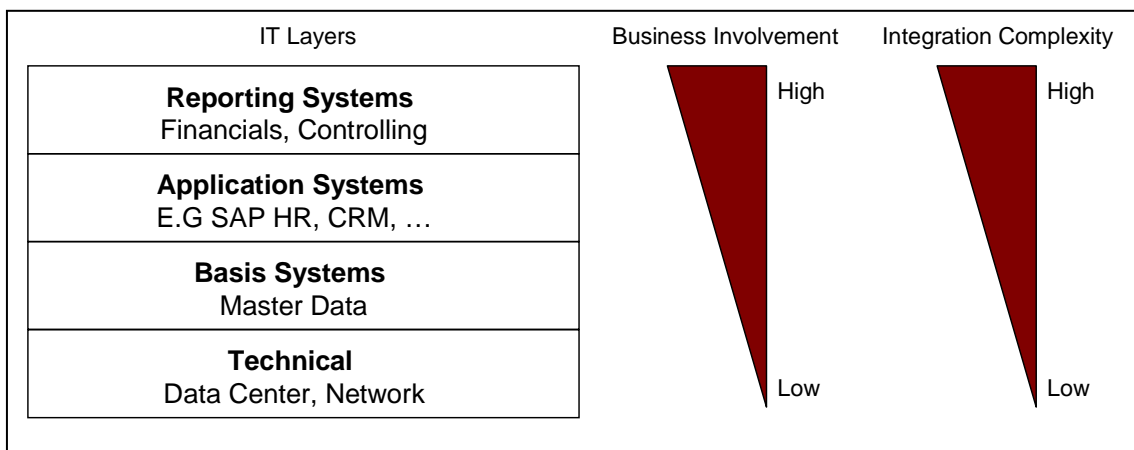
<sup>98</sup> Schwarze (2008), P. 17

<sup>99</sup> Myers (2009), P. 2

For a stepwise approach, minimum requirements for "Day One" usually are the immediate IT integration of the communication channels towards employees, customers and suppliers (e.g. basic IT infrastructure, network access, synchronization of E-mail-directories, internet and intranet access, master data systems) as well as reporting and accounting systems.

It is not uncommon to build interim solutions if cost/benefit analysis allows it.<sup>100</sup> However, these should be of limited nature, otherwise redundant technologies and applications are allowed to survive in the merged company, creating a fragmentation of IT capabilities, technologies and architectures, and the attendant increase in costs.<sup>101</sup>

The long-term roadmap has to orient itself with respect to the future IT architecture. Core elements are the integration of production, middleware, customer systems, consolidation of applications, harmonization of future infrastructure as well as concepts for adapting the existing IT Sourcing strategies, the adaption of Service Level Agreements and license contracts as well as the fulfillment of compliance requirements.



**Figure 30: Layer Model of Integration, Source: Own representation in style of Penzel (1998), P. 20**

Involving the business functions in this planning is critical for making sure that their respective needs are covered. Designing of business-continuity and other back-up plans for this post-close period are also important.

### 6.1.4 IT Governance and IT Vision

In the course of creating the IT "Day One" state and the IT roadmap, it also has to be verified, whether the governance model and the roles and responsibilities are still adequate considering the new joint business operation and the joint organization.

<sup>100</sup> Schwarze (2008), P. 17

<sup>101</sup> CIOInsight (2006), P. 3

The term IT governance refers to the steering of the use of information technology of all kinds within an enterprise.<sup>102</sup> It includes in particular, the way of how decision making is done as well as accountability and control. The main decision areas are: IT principles, IT architecture, IT infrastructure strategies, business application needs, and IT investment and prioritization.<sup>103</sup> IT governance is unique in each enterprise. This implies in an M&A transaction, that eventually diverging governance approaches have to be taken into consideration. As a consequence, the applied governance models of the merging entities might need to undergo a change in order to achieve the needed IT control for realization of the anticipated synergies.<sup>104</sup>

<b>IT Principles</b>	<ul style="list-style-type: none"> <li>■ How do the business principles translate to IT principles that guide IT decision making?</li> <li>■ What is the role of IT in the business?</li> <li>■ What are desirable IT behaviors?</li> <li>■ How will IT be funded?</li> </ul>
<b>IT Architecture</b>	<ul style="list-style-type: none"> <li>■ What are the core business processes of the enterprise? How are they related?</li> <li>■ What information drives these core processes? How must this data be integrated?</li> <li>■ What technical capabilities should be standardized enterprisewide to support IT efficiencies and facilitate process standardization and integration?</li> <li>■ What activities must be standardized enterprisewide to support data integration?</li> <li>■ What technology choices will guide the enterprise's approach to IT initiatives?</li> </ul>
<b>IT Infrastructure Strategies</b>	<ul style="list-style-type: none"> <li>■ What infrastructure services are most critical to achieving the enterprise's strategic objectives?</li> <li>■ What infrastructure services should be implemented enterprisewide and what are the service-level requirements of those services?</li> <li>■ How should infrastructure services be priced?</li> <li>■ What is the plan for keeping underlying technologies up-to-date?</li> <li>■ What infrastructure services should be outsourced?</li> </ul>
<b>Business Application Needs</b>	<ul style="list-style-type: none"> <li>■ What are the market and business process opportunities for new business applications?</li> <li>■ How are strategic experiments designed to assess success?</li> <li>■ How can business needs be addressed within architectural standards? When does a business need justify an exception to a standard?</li> <li>■ Who will own the outcomes of each project and institute organizational changes to ensure the value?</li> </ul>
<b>IT Investment and Prioritization</b>	<ul style="list-style-type: none"> <li>■ What process changes or enhancements are strategically most important to the enterprise?</li> <li>■ What is the distribution in the current IT portfolio? Is this portfolio consistent with the enterprise's strategic objectives?</li> <li>■ What is the relative importance of enterprisewide versus business unit investments? Do actual investment practices reflect their relative importance?</li> <li>■ How is the business value of IT projects determined following their implementation?</li> </ul>

**Figure 31: Five major Decision Areas in IT Governance, Source: Weill (2005), P. 30**

Changes in the IT governance (e.g. centralization, decentralization, hybrid models) have to be communicated with the affected units in order to utilize them as drivers of the transition. Clearly communicated governance supports steering and monitoring of the IT integration and helps to communicate the vision for the IT transformation.

One important decision point in the governance strategy is the degree of system standardization versus individualization. The related approach might be different in the merging entities. Therefore, related IT-practice and mindset might be different and has to be aligned in order to avoid blocking factors in the transformation process and in the post merger IT operations.

<sup>102</sup> Becker (2009), P. 1

<sup>103</sup> Weill (2005), P. 30

<sup>104</sup> Schwarze (2008), P. 17

One effective way to perform this is to formulate an IT-vision, comprising all relevant aspects of the future IT Integration including the related governance rules.

#### **6.1.4.1 IT-Vision**

The IT-vision comprises all basic principles of the integration scenario, the future IT-organization, processes, and system landscape and governance principles. A clear communicated vision gives orientation in the transition process.

The IT vision needs to be stable enough to serve as a substantial target for planning. The advantages of defining and communicating the IT-vision in the course of the M&A transaction are evident:<sup>105</sup>

1. The IT-vision establishes a concrete destination for the numerous differing aspects of the IT integration work. This allows people to work towards the same goal.
2. It has important symbolic value, leading the charge and drawing together various people under a single banner.
3. It serves as a constant reminder when doubts arise and people begin to become less sure of where things are going.
4. The vision helps IT to coordinate with the business people, who most likely have a clearer view of what they think their business will look like following the merger.
5. It provides the foundation to perform a gap analysis and then identify the individual initiatives needed to achieve the vision.

In every IT integration plan, the IT-Vision has to be an essential component.<sup>106</sup>

#### **6.1.5 IT-Organization and IT-Personnel**

A big challenge in the course of the defining the level of IT integration is the administration of IT-organization and IT-personnel. The challenge constitutes itself through the following aspects:<sup>107</sup>

- Responsibility: During M&A, the two IT departments have to redefine their responsibilities. Research suggests that the 'strongest' or most efficient one will dominate this process.
- Fear about the future: An M&A situation can mean a lot of uncertainty for the employees of an IT department.

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<sup>105</sup> Accenture (2002), P. 8

<sup>106</sup> Schwarze (2008), P. 15

<sup>107</sup> Menge (2005), P. 3

- Physical and psychological strain: An M&A situation means a lot of extra work for the IT department as the operational processes need to keep running. At the same time, a lot of integration project tasks have to be performed. As M&A's last longer, this strain becomes more severe.

With respect to the overall integration strategy, there are also different variants for the integration of the IT organization and IT-personnel (autonomy, partly integration and total integration in one selected or in the new organization). Determining factors for the future setup of the organization are the need of operative support of the integrated business and the need for compliance to the defined service level agreements. The higher the integration of IT datacenters and systems, the more centralization and standardization possibilities exist with respect to the related resources or activities.

This leads to the necessary revision of the status quo of the IT organization in terms of roles and personnel in order to draw a clear plan of the respective personnel sourcing or release measures. Therefore, it is necessary to identify the quantitative and qualitative need of personnel, then compare it with the existing personnel situation and then derive the necessary measures (utilization, development or release) and the related cost and synergy impact.

When identifying the need of personnel relieve, it has to be taken into consideration that a high degree of integration leads to increased workload caused by restructuring activities, which temporarily affect the overall performance of the IT organization and thus eventually short term even more personnel is needed. This is due to the fact that IT typically needs to perform three very disparate jobs during the merger-integration process:<sup>108</sup>

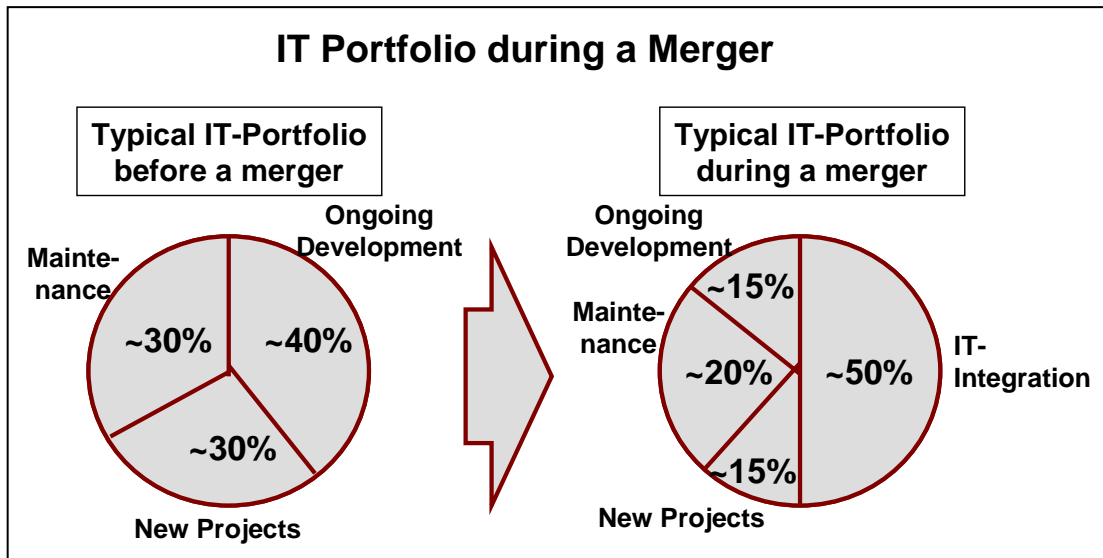
- Support the business's merger-integration teams in achieving overall corporate integration targets (since IT work is often required to achieve the synergies).
- Execute the IT department's own functional integration (merging IT organizations, applications, master data, contracts, infrastructure, etc.)
- Keep the current business running (on both sides of the merger).

Also, it has to be kept in mind, that a personnel release should not be undertaken before the entire integration is fully completed, otherwise the respective systems or relevant components can not be shut down or taken over in the relevant quality with handover of the respective rights and duties.<sup>109</sup>

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<sup>108</sup> Myers (2009), P. 2

<sup>109</sup> Märkisch (2008), P. 164



**Figure 32: IT Activity Portfolio before and during an IT Integration, Source: Märkisch (2008), P. 165**

Practitioners recommend, that IT organizations should be combined under one management team as early as possible in the acquisition, even if planned staff reductions may not begin for some time. In the meantime, personnel from both IT organizations is often required for a number of months to execute projects required to achieve the synergies, integrate the IT infrastructure and applications from both organizations, and keep the systems of the two entities operating until that integration is completed.<sup>110</sup> When all of this work is completed, the planned IT staff reductions can be implemented.

<sup>110</sup> Myers (2008), P. 3

## 6.2 IT Integration Execution

In the IT Integration execution phase, all actions defined in the IT integration planning phase are implemented in alignment with the related other streams of the M&A transaction project. Thus, all necessary measures for realization of the new IT concept are executed, new or temporary applications are implemented, data migrated, old applications shut down, locations merged and within the IT organization new teams with new responsibilities are established.

Within IT and related business departments, planning and status of the IT integration activities have to be transparently reported. An ongoing tracking of the IT integration progress secures resources, reduces risks and assures realization of IT synergies.

### 6.2.1 Technical Integration

The IT integration activities can be split in the following phases.<sup>111</sup>

- Early Integration for Day One Readiness,
- Consolidation and Rationalization.

#### 6.2.1.1 Day One Readiness

As a first step towards IT integration, it is important to undertake a set of activities to ensure elementary business functions do not suffer. Thus, it is necessary to immediately integrate critical components which include the basic infrastructure and application integration. The basic IT infrastructure integration comprises the

#### Checklist for Day 1 Basic Integration Readiness

- 1) **Corporate Network Integration**
- 2) AS-IS-Analysis LAN/WAN
- 3) Integration Object Addressing
- 4) Setup of Day-1 Service Areas
- 5) Setup of Transition Networks
- 6) Design new network architecture for integrated entity
- 7) Order Network/WAN connections for each site
- 8) Order LAN equipment for each site
- 9) Install network equipment, test and conduct cutover
- 10) Transfer IP addresses to organization
- 11) **IT Basic-Services Integration**
- 12) Define migration concept for IT Basic Services
- 13) Ordering of transition network servers
- 14) Obtain IP address for each location
- 15) Setup and configure basic service infrastructure
- 16) Migrate accounts & content to new basic service infrastructure
- 17) Active directory services integration
- 18) Email registration and roll out to all users
- 19) Rollout Encryption Infrastructure to all users
- 20) Manage & decide on other telco equipment
- 21) Roll out corporate desktop software client
- 22) Ensure Info-security compliance
- 23) Execute Windows update process
- 24) Establish maintenance processes
- 25) **Corporate Identity Enabling**
- 26) Provide logos, fonts and Corporate Identity guidelines
- 27) **Establish initial collaboration services for integration**
- 28) Setup initial collaboration services for document sharing
- 29) **SOX Verification**
- 30) Conduct Introduction to SOX workshop
- 31) Establish IT SOX team
- 32) Create IT Application and IT Process summaries
- 33) Perform assessment tests of in scope systems
- 34) Perform gap analysis and develop approach
- 35) Implement necessary IT controls and processes
- 36) **Migrate communication devices**
- 37) Identify communication devices
- 38) Setup migration plan
- 39) Execute migration
- 40) **Implementation of IT Information Security Measures**
- 41) Initiate Information Security organization
- 42) Implementation of corresponding Measures
- 43) Secure Business Partner Connections
- 44) Other security topics
- 45) Disaster Recovery (transition)
- 46) Disaster Recovery (final)
- 47) Measure implementation review
- 48) Confirm completion of the actions for the target
- 49) Perform Security Approval
- 50) **Document Management System and Collaboration**
- 51) Setup Document Management System and Collaboration tool

Figure 33: Basic IT Integration,  
Source: Own representation

<sup>111</sup> Kumar et al. (2006), P. 5

integration of business essential communication networks -hosting, telecom (data and voice lines), IT security, desktop, E-mail, directory of services, service desk and technical support.

Additionally, all business applications that are critical need to be integrated to ensure business continuity. Some core applications that need early integration include:

- Billing/finance applications for ensuring no disruption on invoicing and rating mechanisms,
- HR applications for ensuring essential HR services, e.g. payroll,
- Customer facing/web-based applications in order to announce and advertise the new, merged brand,
- Customer database in order to facilitate leveraging the larger shared database,
- Core operational data and applications in order to continue data mapping and message translation across enterprise, to provide uninterrupted visibility to end-customer.

#### **6.2.1.2 Consolidation and Rationalization**

After having implemented the core and most important applications, the necessary steps for achieving the desired end-state of the IT integration for optimum synergy leverage have to be undertaken. This includes all necessary steps like optimization, rationalization and standardization. For example:

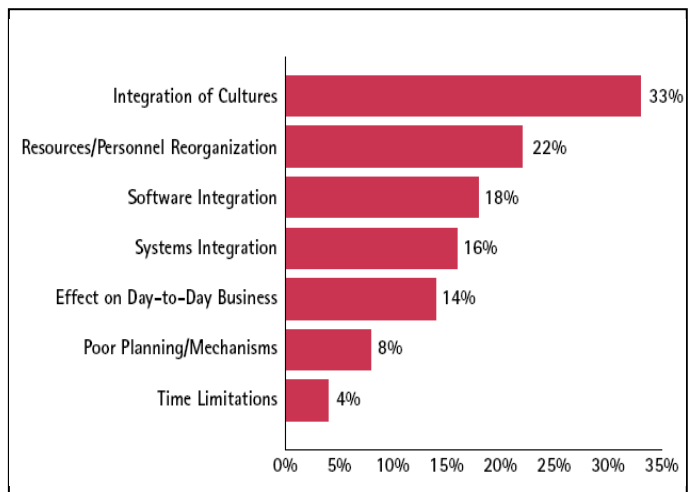
- Data center consolidation: This step involves the consolidation of data centers, technologies & vendors.
- Leverage of synergies in common licensing: Core strengths, of the infrastructure team – networks and servers, can be leveraged for synergies. Opportunities for common software licensing can also be implemented.
- Application Integration: Alignment of IT applications portfolio with business priorities to improve cost effectiveness.
- Data Migration and shut down of old systems.



## 6.2.2 Organizational Implementation and Cultural Change

The integration of cultures and reorganization of personnel are among the highest of the possible challenges in the course of the IT transition.<sup>112</sup>

As IT-components, system ownerships, job roles and responsibilities change, adequate measures regarding organizational implementation and cultural change management have to be undertaken in order to assure a smooth transitional and long-term optimal synergy leverage.



**Figure 34: Challenges in IT Integration, Source: Accenture (2002), P. 24**

### 6.2.2.1 Organizational Implementation

The scope of organizational implementation comprises the execution of the defined organizational measures from the integration blueprint including the re-organization of the IT staff across the merged organizations and the allocation of roles and responsibilities to ensure smooth IT integration.<sup>113</sup> These measures include

- New employment,
- Development and
- Release of personnel.

During personnel employment, special focus has to be drawn to fair and transparent allocation of positions to avoid de-motivation in a tensioned period of potential rationalization. Often, the employment of staff from the acquiring company is recommended, in order to have more control on the IT-transition process and better support regarding cultural change activities.<sup>114</sup>

The measure of personnel release is conducted when employee transfer possibilities are not identified and a high degree of IT redundancy or the decision to foster a new IT model is given and thus cost synergy realization is necessary targeted. Before execution of this act, it has to be assured, that the loss of know-

<sup>112</sup> Accenture (2002a), P. 23

<sup>113</sup> Kumar (2009), P. 4

<sup>114</sup> Märkisch (2008), P. 165

how regarding certain IT-relevant components is to be avoided and that the increased workload in the course of the transition project has been thoroughly considered.

Personnel development measures are addressed to all IT-employees, whose job description or role changes as a result of the M&A transaction. Beside IT-content related development, also training with respect to documentation and controlling mechanisms of the new acquiring IT department are of high relevance.<sup>115</sup> Accompanying, the necessary cultural change management activities have to be accordingly conducted.

### **6.2.2.2 Cultural Change Management**

The integration of cultures requires an overall change management program to be installed. There, the focus has to be on an overall change approach and on methods by which people in the organization own the changes that are occurring.

As jobs, roles and reporting structures eventually change, IT employees become less efficient and productive than they were before. Particularly, in the smaller, taken over company, it can appear difficult for IT-employees to lose authority in their IT domain or to be forced to replace their systems, which they sometimes see to be more effective than the new one.<sup>116</sup> Frustration, uncertainty about the future and conflicts are inevitable, as long as no adequate measures are undertaken to resolve these issues and adequately harmonize the different IT cultures.

Typically, three types of conflicts can arise:<sup>117</sup>

- System conflicts, which are related to IT platforms, applications, and reluctance towards IT-system related changes,
- Contribution conflicts, if the demanded work scope contradicts with old values and behavior (cost orientation versus service quality orientation) and
- Vision conflicts - when the overall IT vision and strategy is not accepted.

In order to avoid these conflicts, the frustration and resulting productivity gaps, effective change management requires both high-level programs that affect the entire organization as well as programs that touch each individual affected person.

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<sup>115</sup> Märkisch (2008), P. 167

<sup>116</sup> Haas (2008), P. 4

<sup>117</sup> Lin (2008), P. 4

Relevant activities in order to achieve this organizational change are summarized as:<sup>118</sup>

1. Establishing of a central planning and navigation of the overall program, including various phases or roll-outs. Change Management is a structured long term procedure which is to be conducted in a sequence of related phases.
2. Supporting the performance of people with the right content, training and performance support.
3. Providing strong sponsorship from key thought leaders and other respected individuals within the organization. The change manager for the initiative needs to work diligently with these sponsors so they can be effective influencers throughout the combined organization.
4. Helping people to "own" the change (rather than having it inflicted upon them) through an almost relentless communication program and other activities designed to build confidence in the new performance environment.

For an effective IT integration, change management has to be an integral part.

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<sup>118</sup> Accenture (2002a). P 24

### 6.3 IT Integration Controlling

IT integration controlling is an important component for the overall IT integration success.<sup>119</sup> Research underlines, that at least one third of the mergers overrun the originally planned costs<sup>120</sup>, thus the application of a controlling framework is essential for transparency in the IT integration project. With IT integration controlling, fast and precise analysis of the integration progress should be achieved, resources should be secured, risks reduced and IT Synergy realization assured.<sup>121</sup>

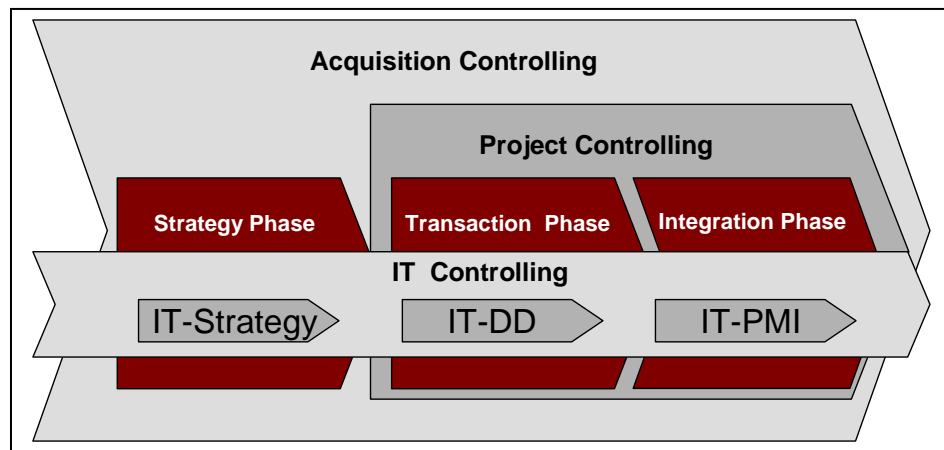


Figure 35: Integrated IT Controlling; Source: Hornke (2008), P. 90

IT integration controlling is a continuous task which is embedded in the overall M&A integration project controlling and starts already in the early transaction phase with the appropriate definition of the overall IT integration strategy, the definition of synergy levers and the identification of all relevant implementation measures. The progress and level of achievement regarding the synergy targets over time thus can be measured.

The function of IT integration controlling is threefold:<sup>122</sup>

- 1) To provide information regarding the progress and success of the implementation,
- 2) To trigger the optimization of integration measures,
- 3) To foster the learning curve.

With IT integration controlling, transparency on the synergy realization within the IT integration progress can be in two ways:

1. On the one hand, all defined synergy relevant measures can be traced in their progress (**Progress Controlling**),

<sup>119</sup> Lüdecke, (2010), P. 44f

<sup>120</sup> Meijnders (2009), P. 4

<sup>121</sup> ATKearney (2008), P.3

<sup>122</sup> Wirtz (2006) P. 371

- On the other hand also the financial impact regarding synergy realization (**Synergy Realization Controlling**) can be quantified.

One Instrument for controlling the progress of the defined integration activities is for example the “degree of integration tracking”. Here, for all defined measures, the realization degree is reflected and can be mirrored against the timeline. The status and risks for realization are flagged out, thus a comprehensive progress overview can be achieved.

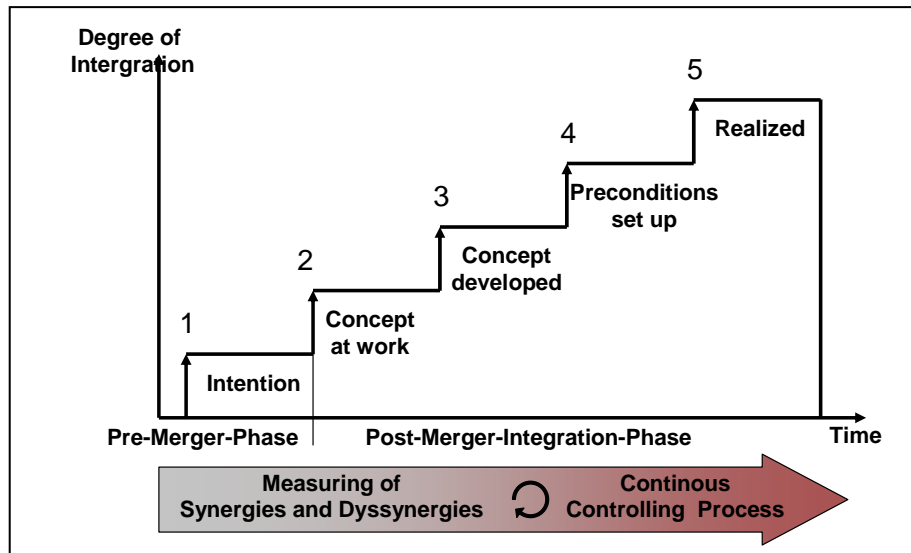


Figure 36: Controlling of Integration Activities, Source: Hofmann (2005), P. 488

For the Synergy realization controlling, financial controlling points have to set up for predefined points in time. At these controlling points, the financial impact of short, mid- and long term IT-synergies is analyzed and visualized. Deviations can be identified in a synergy trend analysis, and measures and actions can be defined.

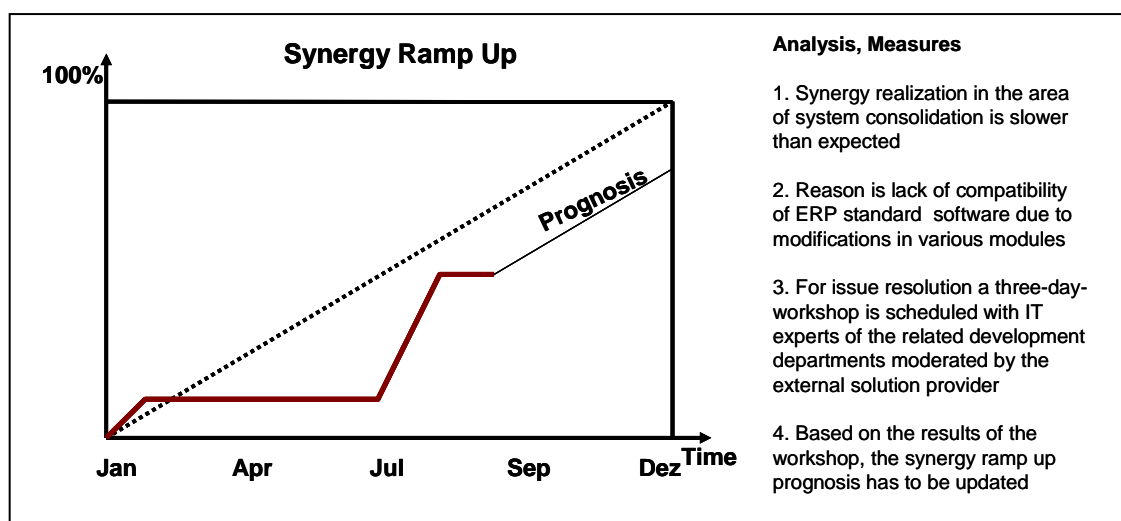
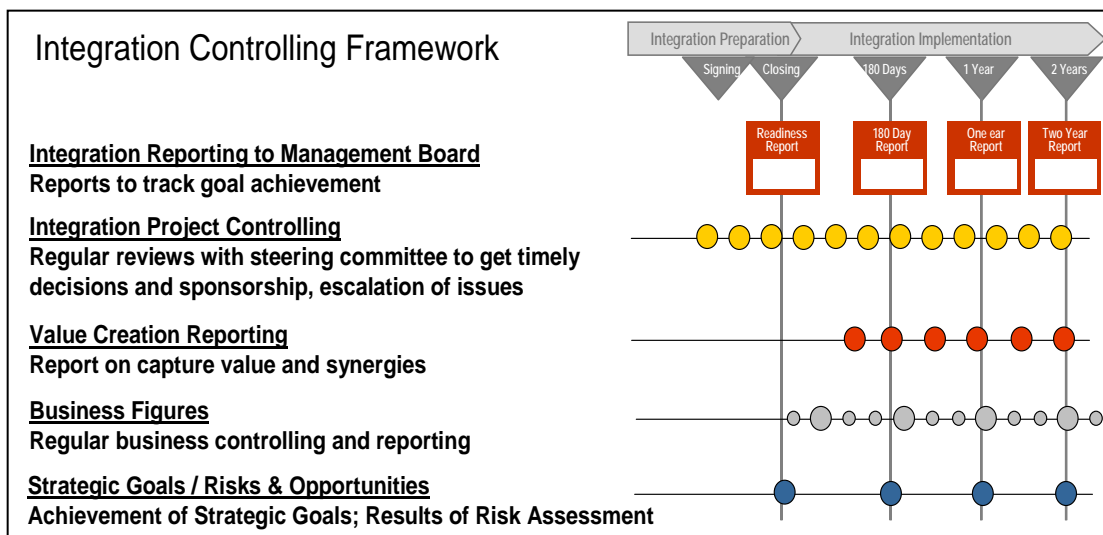


Figure 37: Synergy Ramp Up, Source: Own representation in style of Horzella (2010), P. 165

To effectively communicate, the company must adequately track progress. Therefore, at the defined controlling points (e.g. after the closing, after 90 days, 180 days, 1 year and 2 years) usually, a comprehensive management report is assembled, addressing all integration aspects and covering scorecard-like multiple areas (scorecard). Content examples for such a report are:

- Strategic goal achievement,
- IT-Synergy Realization achievement,
- Meeting of predefined KPIs,
- System & Process Integration achievement,
- Business Process Support Satisfaction,
- IT-Employee Satisfaction,
- Perceived Communication during integration,
- Integration team capacities,
- Action Plans,
- Learning and Best Practices.

An example of the different integration controlling frameworks is shown in figure 39:



**Figure 38: Integration Controlling Framework, Source: Bidjanbeg (2008), P. 38**

It is imperative that synergies get realized, deal value captured, and the resulting performance communicated to all those with a stake in the outcome. Appropriate IT integration controlling shall enable this.

## **7 Case Study: Acquisition of UGS by Siemens AG**

In the case study of the acquisition of UGS by Siemens AG, it will be examined, how successful IT integration was and whether or not synergies were leveraged.

### **7.1 Introduction**

On 25 January 2007, Siemens announced that it planned to acquire UGS, a product life cycle management (PLM) software and services provider with a manufacturing execution system (MES) product. UGS was owned by Bain Capital, Silver Lake Partners and Warburg Pincus. The purchase price of \$3.5 billion included the assumption of existing debt. UGS became part of Siemens' \$18-billion-euro Automation and Drives (A&D) Group.<sup>123</sup>

UGS was at that time no. 1 and 2 in the main product lifecycle management software categories and showed 13 consecutive quarters of profitable growth. UGS achieved a double digit EBITDA margin and showed a strong cash flow generation. UGS was operating in 62 countries, had 7.000 employees and 47.000 customers.<sup>124</sup>

### **7.2 Rationale behind Acquisition**

With the acquisition of UGS, Siemens anticipated to gain the ability to align the logical linkages between product design, manufacturing processes and production. The transition from product design to production is typically the most expensive, time-intensive aspect of delivering products. The ability to manage these linkages through manufacturing process management (MPM) initiatives allows to continuously improve design and operations.

When software is becoming part of manufacturing infrastructure, this brings premium value to software. Also, software is also becoming a critical component of all manufactured products and equipment. Siemens recognizes that software sales can drive up sales of its A&D manufacturing and control equipment.

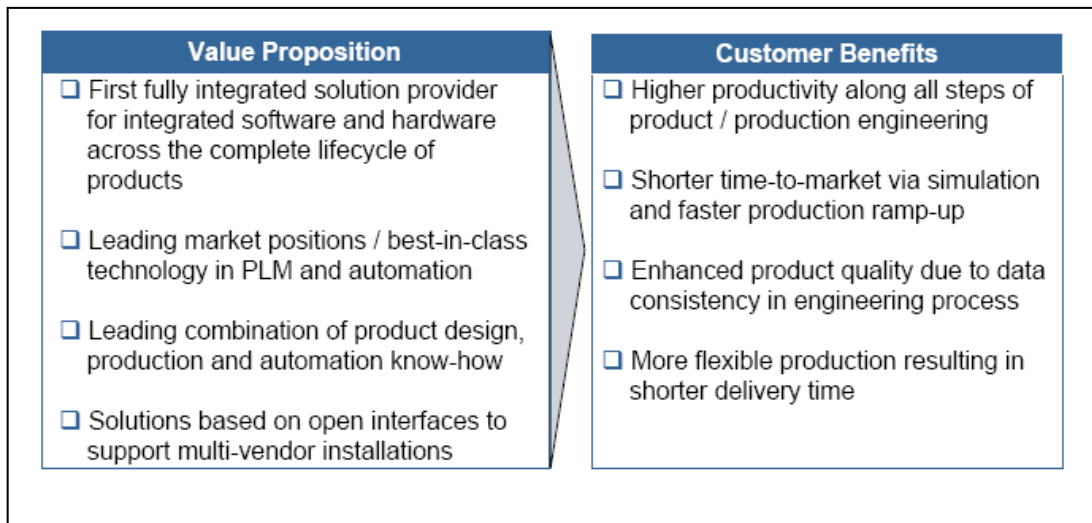
### **7.3 Value Proposition**

The strategic fit for Siemens was given. The PLM software market was showing high growth rates with high profitability and UGS was an attractive target.

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<sup>123</sup> Halpern/Hughes (2007), P. 1

<sup>124</sup> Gierse (2007), P.7



## 7.4 Challenges

The challenges, Siemens was confronted with, were two folded: To achieve success, Siemens had to overcome some significant technical, but also cultural challenges:<sup>125</sup>

Technical:

- Siemens' ability to learn the dynamics of the PLM software market, which is different than manufacturing execution system (MES) and factory floor automation.
- Client adoption of manufacturing process management (MPM). So far, large manufacturers of complex engineered products with large manufacturing assets have been the primary adopters of MPM. MPM must attract a broader group of manufacturers for the acquisition to achieve maximum success.

Cultural:

- Siemens agility in working through differences in management styles and cultures, although both companies value engineering and manufacturing depth.
- Siemens' retention of key UGS talent. If the company cannot retain key UGS personnel, the potential value of UGS will unravel.
- Siemens negative reputation in 2007 due to the bribery scandal posed challenges towards business ethics

<sup>125</sup> Halpern/Hughes (2007), P. 1



The synergies anticipated were in few extend cost synergies. The primary goal was revenue synergies by increase of customers and increase of markets by product combination.

## 7.5 Goal and Achievements

The goals and the achievements after one year are described below. The integration project was formally closed with success after one year.

Integration Goals (After One Year)	Achievements
Maintain & Grow Business Performance	Business Performance exceeded expectations after one year
Technological Integration /Digital Engineering	Technological Integration Program well on track
Definition of Sales-Corporation	Established and operationalized
No Customer Melt-offs Key player Retention	Goal achieved: No Customer Melt-offs Attrition Level remained same
Ensure Day 1 Readyness	Day 1 Readyness was accomplished
Compliance	Siemens Compliance Program introduced

**Figure 40: Goals and Achievements after One Year of UGS Integration, Source: Own representation**

## 7.6 IT Integration

From IT integration perspective, the scope and the outcome of the Siemens – UGS Acquisition are summarized in the following. Overall it can be said, that all IT-relevant points which are outlined in this thesis were applied and the IT Integration approach followed. The targets were successfully achieved. In particular successful was the IT strategy decision not to fully adapt all Siemens IT systems, but to remain the UGS IT specialties supporting the specific needs of PLM software business. Thus, the efficiency of business process support was assured which enabled immediate business performance in the combined entity.

IT relevant topics:

### Early Involvement of IT in the Project Preparation:

Early IT Involvement was given. IT evaluation was part of the overall strategy fit assessment of the acquirer Siemens – in particular because the target, UGS, was a

software company and all underlying processes were IT reliant. IT evaluation is part of the Siemens standard approach in target assessment.

#### IT-Due Diligence and IT Synergy Assessment

The IT due diligence was conducted initially with a medium level of granularity at first. Therefore, a standardized methodology was applied which considers one time costs and running costs stemming from integration efforts and shared services. After the deal announcement, the integrative components were specified in detail together with the local CIO of UGS.

A synergy assessment with respect to IT was not explicitly done. Instead the integration costs were analyzed.

#### IT Strategy

The Strategy was clearly communicated. The overall strategy was defined together with Siemens and UGS, from which the particular IT strategy also was derived. The goal was to conduct only a partly integration of IT. (Migrate major functions only). Major processes of the UGS software business and related IT systems remained local. However, a huge integration project was started in order to interconnect UGS product lifecycle management platform with Siemens standards for creating the new integrated software and hardware platform.

#### IT Vision and Cultural Topics

The overall IT vision was communicated. Siemens underwent at the time of the acquisition a stringent SG&A cost reduction program of which the requirements also were partly transferred into the acquired UGS company.

Regarding IT applications and processes, UGS remained very autonomous in order to keep their specialties with regard to software business.

Regarding cultural challenges, the differences between “German” and “US” and “Siemens” an “UGS” attitude was present, but was no hindering factor in the integration project.

#### Day One Readiness and long-term Integration Plan

Basic integration was accomplished with high effort to ensure that PLM software business needs were met. In particular the financial system integration was accomplished in record time.

The long term goals were aligned together with Central Siemens IT which include securing IT capacity for Siemens PLM business needs, balancing UGS IT requirements with cost impact on SG&A and value to business as well as aligning the reporting structure.

### Overall Outcome

The overall synergy goals were achieved. Through the enriched customer base and the integrated product landscape, the new entity “Siemens PL” was enabled to exceed original business plans. From IT integration side, there were some lessons learned, as the IT integration costs have been higher than originally planned. Major reason for this was, that some details in introducing systems figured out to be more costly than anticipated.

## 8 IT Best Practices for M&A

Based on what was discussed in this master thesis, the following best practice recommendations regarding synergy and IT management for sustainable value creation can be summarized:<sup>126</sup>

- **Drive the IT integration program based on a vision of future IT capability**  
The guiding principle when creating that future IT capability vision is that the degree of IT integration following a merger or acquisition should correspond with the degree of business integration in the new organization.
- **Involve IT early in business discussions about the deal**  
Companies which involve IT in the pre-deal deliberations for the merger or acquisition more likely describe the overall merger integration as a success. When IT leadership is involved earlier in the business planning, they can help develop a technology approach that supports and enables the new business.
- **Perform IT due diligence before the deal is signed**  
Companies that perform IT due diligence realize benefits in two ways: greater financial value from the merger or acquisition and a more successful integration experience. Through due diligence, companies develop a more accurate valuation of the transaction. To successfully complete the deal valuation process, information on the accurate measure of assets is needed as well as know-how regarding integration complexity.
- **Engage in detailed IT integration planning**  
Detailed IT planning during mergers and acquisitions can lead to greater financial success for the deal. Through detailed planning, companies are able to identify and prioritize the activities most likely to deliver value. If IT planning is viewed as a separate and distinct activity and is not integrated in the overall business plan for the post-M&A company, the results are rework, conflicting agendas and sub-optimal decision making. IT will end up struggling to provide the necessary support without time to plan, thus potentially incurring significant costs associated with rush orders.

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<sup>126</sup> Accenture (2002b), P. 3

- **Engage in IT cultural change and human performance-related programs**  
Culture integration is a major challenge inside the IT function. Integration is a human performance challenge. The retention of key resources and morale are issues that surface frequently during periods of change and uncertainty. The most important thing to do from a leadership perspective is to take a top-down view of the entire transformation program that characterizes the merger and to communicate openly and frequently with personnel at all levels within the organization.

Taken together, these imperatives and recommendations demonstrate how effective IT integration can have a clear and positive impact on synergy realization and the financial success of the deal.

## Summary

This master thesis discusses the significance of IT in the M&A process for value creation. Value creation through IT is achieved by conducting professional IT synergy management. IT synergy management comprises all activities related to identification, qualification, quantification and realization of synergies stemming from information technology. Appropriate cost and revenue synergies have to be identified and leveraged, and potential dys synergies avoided. The relevance of appropriate IT synergy management is given in all M&A process phases, in order to support value creation. Main focus points for achieving value creation are adequate IT due diligence and adequate IT integration planning and execution.

As organizations become increasingly dependent on IT to improve business performance, they must expand the scope of their M&A due diligence to include an IT analysis, grounded in solid principles covering IT's importance to the deal creation logic, IT risks and opportunities, and IT's bearing on overall commercial due diligence.<sup>127</sup>

Market research also indicates that post M&A companies typically spend up to 30% of their IT budgets to address system integration issues.<sup>128</sup> Therefore, the challenge is to integrate different technologies and systems, while protecting investments. To enable this with reduced time and cost parameters, it is critical for M&A processes to have a well-defined IT integration approach. The related components are described in this thesis along with the practical execution in a case study.

When synergy management is mastered professionally, IT creates value for M&A transactions in three ways:<sup>129</sup>

- Improved operations from consolidation or automation,
- Improved revenue streams from new IT-enabled capabilities and
- Better IT effectiveness.

The IT value creation opportunity should be realized in professional M&A activities. The key to success is simple: Understanding the significance of IT for value creation and consequently managing IT synergy potentials right.

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<sup>127</sup> Accenture (2006), P. 1

<sup>128</sup> Kumar (2009), P. 3

<sup>129</sup> Accenture (2006), P. 1

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