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IT Integration in Mergers & Acquisitions:

A Case Study of Acquiring Firms in the Paint and Wood Care Industry

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Abstract

With the increasing number of mergers & acquisitions conducted throughout the world today, there has also been a steady growth in academic research pertaining to this area. Nevertheless, the subject of IT integration in relation to M&A and how it is influenced by a company's strategic alignment is a subject that has been somewhat overlooked both by scholars and practitioners. Due to IT integration and the alignment of business and IT strategies directly influencing the outcome of M&A's, this subject is critical to consider when companies seek to realize synergies through M&A. However, the realization of successful IT integration is a difficult process. Due to the currently limited body of literature concerning this topic, there is still a significant amount of uncertainty related to it. This thesis seeks to provide an additional insight into this field of study. By first reviewing and critiquing the already established theories pertaining to this topic and subsequently utilizing and building upon them, we examine the relevant data collected from two different case companies within the wood care and paint industry. Our data stems from qualitative data obtained through interviews with IT management personnel involved in recent M&As and concerns four acquisitions conducted by our case companies. Our analyses of these cases were able to explore and illustrate both the positive and negative effects caused by a company's strategic alignment in regards to IT integration. Furthermore, the analyses highlighted how IT integration activities were able to greatly sway the outcome of an M&A and thus underlined the importance of this field of study. During our research, we have developed a model which seeks to present practitioners with an overview of what factors to be aware of when pursuing sound IT integration in an M&A. This model encompasses elements such as strategic alignment, IT integration decision making, pre- and post-acquisition activities and contextual factors which all have the ability to influence the IT integration outcome.

The findings of this thesis seek to contribute to the body of knowledge pertaining to IT integration by providing necessary theoretical tools which we consider are able to help organizations create a sustainable foundation for realizing successful IT integrations in mergers and acquisitions.

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1.1. Motivations for the Study

Despite the rising number of M&A initiatives over the past few decades, it is a known fact that a large percentage of mergers fail to achieve expected synergies. Several studies (e.g. Grant, 2010; Henry, 2002) provide evidence of this, showing that shareholder value for acquiring firms is gradually decreasing year by year. A number of authors (e.g. Giacomazzi et al., 1997; McKiernan & Merali, 1995; Mehta & Hirschheim, 2007) claim there is a correlation between M&A failure and lack of attention towards integration (especially in regards to that of information systems). However, it is important to clarify that IT integration is not a straightforward task nor is it a “magic bullet” as it needs to be carefully adjusted to be in tune with merger and acquisition objectives. Success stories such as Sallie Mae’s acquisition of USA Group (Brown et al., 2003) as well as the integration of the Commonwealth Bank of Australia and State Bank of Victoria systems (Johnston & Yetton, 1996) demonstrate how an adequate and well designed IS/IT integration strategy can lead to the realization of merger synergies. Nevertheless we have observed that literature concerning IT integration in M&A contexts is rather scarce (Myers, 2008), perhaps due to the complex and context dependent nature of the topic and/or a lack of understanding of the problems involved (Mehta & Hirschheim, 2007). Therefore we find it prudent to delve into this topic given the rise in M&A as well as the support capabilities IT provides for organizational performance. Altogether, the objective of this report is to pinpoint and investigate different factors influencing IT integration outcome, by means of reviewing and analyzing several case studies in the context of M&A.

1.2. IT Integration and M&A

Mergers and acquisitions have become common practice for companies seeking to achieve leader status in their respective industries. It is without doubt that combining forces with other key players in an industry allows for the leveraging of one another’s strategic resources, which could ultimately ensure success in the attainment of such objectives (Grant, 2010). Numerous authors, however, question the extent to which this assumption holds

water; statistical evidence has shown that two thirds of all M&A initiatives result in failure from a financial standpoint (Henry, 2002; Myers, 2008; Mehta & Hirschheim, 2004). This has led researchers and practitioners in the field to rethink the key criteria that are instrumental for successful M&A initiatives. There has been strong emphasis on the fact that decision makers in the M&A process have a tendency to focus on the short term goals of such endeavours, which in most cases would be meeting financial targets i.e. in profit maximization (McKiernan & Merali, 1995). This narrow minded approach to managing M&A often results in ex-poste performances not living up to ex ante expectations. As a result, a significant amount of effort has been put into rethinking the planning and execution of pre-merger activities such as due diligence more thoroughly so as to avoid any knowledge gaps or asymmetrical information between merging partners prior to the finalization of the deal.

One element which is highly overlooked in this pre-merger phase concerns that of the integration of IS/IT. Despite the recognition that Information Technology is instrumental in supporting business processes as well as reducing organizations' feedback time, key decision makers in M&A often disregard it in the early stages of a merging deal, thereby paying closer attention to other factors deemed more relevant and important such as finance or human resources (Cane, 2010). According to a study of 60 M&A projects by the consulting firm Accenture (2002), only 16% of respondents involved IT in their integration planning pre-merger as opposed to 84% where planning was carried out either during or post-merger. In some cases, a neglect of the IT component in M&A integration planning leads to a discrepancy between the M&A objectives (i.e. business and/or corporate strategy) and the underlying IT strategies serving to support the attainment of these objectives. As a result, companies that are faced with this scenario may have to endure lengthy restructuring procedures at all levels of the organization in order to accommodate the implementation of a new IT solution, or, in other cases, abandon integration altogether and settle upon keeping their systems untouched and separate (in other words, retaining disparate and often incompatible systems) (Wijnhoven et al. 2006).

1.3. Scope of the Study

Drawing upon several cases of M&A in the paints and wood care industry as our point of departure, this thesis aims to investigate how IT integration outcome is affected by a number of factors, ranging from business-IT alignment to IT due diligence. Dyrup, a leading company in the paints and wood care industry, takes center stage in this study, given its involvement in M&A as both an acquirer and a target. Prior to being acquired by PPG industries in 2011, Dyrup had been striving to achieve scale advantages by means of acquiring numerous industry related companies such as Hygaea, Malfarb and Plus Paint. What is of interest is the extent to which IT integration strategy played a pivotal role throughout the merging process in each of these acquisitions. In other words, this involves shedding light upon Dyrup's decision making process in regards to the integration of their three targets' IT functions as well as the rationale behind such decisions. This will then be juxtaposed with the IT integration strategy brought into play by PPG in its acquisition of Dyrup, which will aid in revealing any similarities and/or differences amongst these M&A scenarios. Therefore, the purpose of this comparative study is to provide the reader with an understanding of best practices when dealing with IT integration in the field of M&A.

1.4. Research Questions

Based on the topic and scope of this study described earlier, we have formulated the following research question which will serve as this thesis' point of departure:

How can an organization pursuing a growth-by-acquisition strategy create a sustainable foundation for successful IT integration strategies?

Furthermore, in order to provide additional support for answering the aforementioned research question as well as narrow the focus of the study, we have developed three sub questions:

- 1) *To what extent does the degree of business-IT alignment have an impact on IT integration processes and decision making?*
- 2) *How do certain circumstantial conditions (pre- & post-acquisition activities, various contextual factors) act as either enablers or inhibitors to IT integration?*

3) *How is an organization able to further develop its IT integration capabilities?*

1.5. Structure of Thesis

This thesis is divided into seven main chapters. In the introductory chapter, we have presented our research questions and as well as familiarized the reader with our thesis topic by providing a brief insight into the fields of M&A and IT integration. The second chapter consists of shedding light on the rationale underlying our methodological choices. Here, we will explain chosen methodological approaches as well as discuss how these have helped guide our research in regards to data retrieval and analysis. In the third chapter, we compile and discuss material in the fields of M&A, strategic alignment and IT integration strategy. Furthermore, this chapter concludes with a proposed theoretical model which will serve as a framework for the analysis section of this thesis. In the fourth chapter we provide the reader with background information concerning the two case companies in question (i.e. Dyrup and PPG), their acquisitions as well as a brief description of the IT platforms they make use of to support their business processes. The fifth chapter will consist of analyzing our case companies' use of IT integration strategies and their outcomes. This will be based on the investigation of a number of factors affecting IT integration such as business-IT alignment in pre-acquisition contexts as well as pre- and post- acquisition activities. In the sixth chapter, a discussion of the meaning and importance of the findings drawn from the analysis section will take place. Furthermore, we will also address topics such as the study's limitations as well as make suggestions for further research. Finally, the seventh chapter seeks to conclude upon this study by providing answers to the research questions stated in section 1.4.

Research Methodology

This chapter discusses the rationale underlying our methodological choices. It seeks to provide the reader with an understanding of how our methodological approaches have been supportive in answering our research questions. Therefore, we have structured this chapter in the following manner: research design, research strategy, data collection, data analysis, validity and lastly, reliability.

2.1. Research Design

Typically, research designs can take two forms; they are either qualitative or quantitative in nature. While it is common to consider these approaches to be polar opposites or dichotomies, Creswell (1999) views them as different ends on a continuum. In this sense, a study tends to be more qualitative than quantitative or vice versa. He also describes a mixed methods research approach which incorporates elements from both qualitative and quantitative methods. All three research approaches are described below:

- Qualitative data: a way to explore and understand the meaning individuals ascribe to a social or human problem. The process of research is based upon; emerging questions and procedures, data collection in the participant's setting, data analysts inductively building from particulars to general themes, and an interpretation of the meaning of the data by researchers.
- Quantitative data: a means for testing objective theories by examining the relationship among variables. These variables are subsequently measured so that numbered data can be analyzed using mathematical (e.g. statistical) procedures.
- Mixed methods research: involves the use of both approaches in tandem so that the overall strength of a study is greater than either qualitative or quantitative research.

While Creswell (1999) stresses that research can either be qualitative, quantitative or a mixture of both, we have chosen to solely rely on a qualitative approach. The rationale underlying this decision is based on our desire to gain a thorough and in-depth understanding of the study area as a means to answer our research questions. In this sense, a quantitative research approach seems inadequate given that the analysis of numerical data would not help explain phenomena in our study area, and would therefore only provide little to no support in answering our research questions.

2.2. Research Strategy

Yin (2003) distinguishes among five different research strategies in the field of social sciences which are that of; experiments, surveys, archival analysis, history and case studies. He suggests that each strategy has its advantages and disadvantages depending on three conditions; the type of research question, the control an investigator has over actual behavioral events and the focus on contemporary as opposed to historical phenomena. The following table (see Table 1) describes the characteristics of each research strategy;

Strategy	Form of research question	Requires control of Behavioral events?	Focuses on contemporary events?
Experiment	How, why?	Yes	Yes
Survey	Who, what, where, how many, how much?	No	Yes
Archival analysis	Who, what, where, how many, how much?	No	Yes/No
History	How, why?	No	No
Case study	How, why?	No	Yes

Table 1. Relevant Situations for Different Research Strategies (Yin, 2003)

Bearing this in mind, it is possible to pinpoint the most adequate research strategy based on these conditions. In this report, research questions in the form of “how” are being asked about a contemporary set of events, over which we, as investigators, have little or no control. Therefore, based on these characteristics a case study would arguably be the most suitable research strategy for this thesis.

According to Yin (2003), case study research can be grouped into three different categories; exploratory, descriptive and explanatory. *Exploratory* case studies are conducted to define research questions and hypotheses. There are several ways to conduct exploratory research, including literature search or performing focus group interviews. *Descriptive* case studies are

often used to illustrate events and their specific context. In this sense, they seek to provide an accurate description of observations of a phenomenon. Finally, *explanatory* case studies seek to link an event with its effects. This type of case study is adequate for investigating cause and effect relationships.

Given that our topic and research questions pertain to the investigation of certain relationships within the scope of IT integration in M&A, we consider our case study research to be of an explanatory nature.

2.3. Data Collection

According to Hox & Boeije (2005), data collection is categorized as being either primary or secondary. Primary data consists of original data that was collected for a specific research goal, while secondary data is described as being data that is originally collected for a different purpose and reused for another research question. Yin (2003) argues that data collection can take many forms including documents, archival records, interviews, direct observation and physical artifacts. He also lays emphasis on the fact that no single evidence source is more effective than others. Therefore, Yin (2003) advocates that a solid case study relies on the use of as many sources as possible. This is also referred to as *triangulation*. Yin (2003) considers triangulation to be one of the main advantages of case studies seeing as the use of multiple sources of evidence adds to the trustworthiness of the study. In this report, data triangulation is applied by means of data collection which is based on multiple sources of evidence comprising both primary and secondary data.

2.3.1. Interviews

Firstly, primary data was collected by means of interviews. According to Bryman and Bell (2007), qualitative interviews can be categorized as being either unstructured or semi-structured. While both interview methods allow for some degree of flexibility, there are subtle differences between the two;

In semi-structured interviews, the researcher has an interview guide consisting of questions or specific topics to be covered, but the respondent has a great deal of leeway in how to reply. Questions that are not included in the interview guide may be asked as the researchers

pick up on things said by interviewers. In unstructured interviews, on the other hand, the researcher uses at most a set of notes dealing with a certain range of topics. There may be just a single question that the interviewer asks and the respondent is then allowed to respond freely, with the interviewer simply responding to points that seem worthy of being followed up. This interview method is similar in character to a conversation (Bryman and Bell, 2007).

Seeing as this report is based on the comparative analysis of different cases, there is a need for some amount of structure in order to address specific issues as well as ensure cross-case comparability. Therefore, we have chosen to adopt a semi-structured approach, in which a number of pre-arranged questions were used as a basis for interviews.

We conducted a total of three interviews at Dyrup's headquarters in Søborg and these lasted on average between sixty and ninety minutes long. Seeing as one of the researchers was not a native Danish speaker, a decision was made to carry out interviews in English. The first interview was based on somewhat of an "introduction" to the Dyrup organization and their M&A efforts. Here, our respondent, Ole Nygaard Andersen, an IT group manager, provided us with a wholesome picture of Dyrup, its subsidiaries, information systems and their absorption by PPG. In our second interview, which was also with Ole Nygaard Andersen, our questions were more specific as they concerned the IT integration of several of Dyrup's recent acquisitions (i.e. Hygaea, Malfarb and Plus Paint). As a basis for our third interview, we agreed on consulting another IT manager in Dyrup's IT department, Suzanne Bunch. Not only did she provide us with additional information regarding Dyrup's IT integration of its three acquisitions, but she also helped us in gaining insight into PPG's integration of Dyrup (which was meager in previous interviews). Considering that we were interested in our interviewees' perspectives on different matters we chose to adopt a semi-structured interview approach. While an interview guide was prepared in advance for each session, questions were sometimes asked in a disorganized fashion depending on how interviews progressed. Furthermore, some questions that were not included in the interview guide would be asked, in order to build upon certain statements made by respondents. On some occasions, emails were sent to respondents after interviews, as some of their answers required clarification and/or development. As a means to provide a more accurate rendition

of interviews (Yin, 2003), we decided to record all three sessions with the “voice memo” utility on iPhone device. Even though interviews were not transcribed in their entirety, a considerable amount of time and effort was spent on listening to the contents of recorded material as a means to extract respondents’ statements that were deemed relevant.

2.3.2. Documentation

Secondary data was obtained through the means of document analysis. In accordance with recommendations by Yin (2003) we consider documentary information to be particularly relevant to our case study topic. Therefore, data collection was primarily based on browsing through several case companies’ websites and/or intranets as well as receiving documentation via email from respondents. In doing so, we retrieved a number of sources which aided us in gaining insights into case companies’ business and corporate strategies as well as financial performances. In regards to Dyrup for instance, we investigated several annual reports spanning from 2006 to 2011, which were, at the time of retrieval, publicly available on the Dyrup corporate website (DYRUPWP1). These reports provided us with detailed information concerning e.g. Dyrup’s different market segments and corporate renewal strategies, which proved to be an essential constituent for this thesis in terms of secondary data collection. Furthermore, we also decided to look into IT vendors’ case related material online in an attempt to gain an understanding of IT systems and implementation processes. For example, we found reports on IFS’s website (IFSWP1) discussing Dyrup’s decision to implement IFS applications along with the effect it has had on their restructuring efforts.

2.4. Data Analysis

Yin (2014) stresses the importance of establishing a general analytic strategy as a preparation for case study analysis. He distinguishes among four strategies;

- Relying on theoretical propositions: Being the most preferred strategy according to Yin (2014), this is based on following the theoretical propositions that lead to the case study. In this sense, the original objectives and design of the case study are based on such propositions, which in turn reflect a set of research questions, review of the literature and new hypotheses or propositions.

- Developing a case description: This consists of developing a descriptive framework for organizing the case study. This strategy is adequate when there has been a significant amount of data collection without having settled on an initial set of research questions or propositions.
- Using both qualitative and quantitative data: In line with findings from Creswell (1999), this strategy involves complementing the analysis of quantitative data with that of qualitative data. This creates a strong analytic strategy in case studies where the statistical analysis of quantitative data is combined with qualitative data, which nevertheless remains central to the entire case study.
- Examining rival explanations: this analytical strategy attempts to define and test rival explanations. This is particularly helpful when doing case study evaluations.

In this thesis we follow Yin (2014)'s first general analytical strategy, which is that of relying on theoretical propositions. Our case study was designed bearing in mind the theoretical frameworks presented in the literature review along with our set of research questions. In this sense, our theoretical orientation guides the case study analysis.

2.5. Validity

McMillan & Schumacher (2001) define the validity of qualitative designs as being the degree to which the interpretation and concepts have mutual meaning between the participants and the researcher. In other words, taking on the role of researchers, we must ensure that our statements in this report correspond to the reality (or research participants' construction of reality) being studied. As a means to do so, we have drawn upon McMillan & Schumacher (2006)'s ten strategies to enhance validity. They argue that the combination of any ten possible strategies allows for the increase of validity in qualitative research. Our investigation applied five of the ten strategies to enhance design validity. These include: Multi-method strategies, participant and verbatim accounts, mechanically recorded data, member checking and negative or discrepant data (see Table 2).

While the use of additional strategies would have enhanced validity to a further extent, we encountered several issues with respondents which hindered us from doing so. For instance, prolonged and persistent field work as well as participant review strategies could not be

followed due to respondents' limited availability. Furthermore, in addition to our respondents being on busy schedules as a result of ongoing M&A activities taking place at Dyrup and PPG, one of our key respondents took a leave of absence due to illness. Evidently, this had somewhat of a negative effect on our data collection process. In spite of this, we do consider our application of McMillan & Schumacher (2006)'s aforementioned strategies to have been instrumental in increasing validity of qualitative research in this report.

Strategy	Description	Application in study
Prolonged and persistent field work	Allows interim data analysis and corroboration to ensure match between findings and participant's reality	n/a
Multi-method strategies	Allows triangulation in data collection and data analysis	Data collection was based on multiple sources of evidence i.e. interviews and documentation
Participant language and verbatim accounts	Obtain literal statements of participants and quotations from documents	We obtained literal statements from our two respondents (interview) and quotations from several online sources (documentation)
Low-inference descriptors	Record precise, almost literal, and detailed descriptions of people and situations	n/a
Multiple researchers	Agreement on the descriptive data collected by the research team	n/a
Mechanically recorded data	Use of tape recorders, photographs, and videotapes	All interviews were recorded electronically

Participant researcher	Use of participants' recorded perceptions in diaries or anecdotal records to corroboration	n/a
Member checking	Check informally with participants for accuracy during data collection	We sometimes asked participants to clarify their statements during interviews or via email (depending on their availability)
Participant review	Ask participants to review researcher' synthesis of interviews for accuracy of representation	n/a
Negative or discrepant data	Actively search for, record, analyze and report negative or discrepant data that are an exception to patterns or that modify patterns found in data	No such data was found

Table 2. Strategies to Increase Validity in Qualitative Research (Based on McMillan & Schumacher, 2006)

2.6. Reliability

McMillan and Wergin (2002:10) define reliability as being: *"the degree of error that exists when obtaining a measure of a variable. No measure or instrument is perfect; each will contain some degree of error. The error can be because of the individual (general skills, attitudes, motivation) or because of the way the instrument is designed and administered. Reliability is the estimate of the error in the assessment"*. Shank (2006) provides a comparison of reliability in quantitative research with that of qualitative research. He stresses that it is easier to demonstrate reliability and accuracy in quantitative research given that data is analyzed and reported by the means of statistical tools. Proving reliability in qualitative research on the other hand is challenging due to the fact that data is based on interviews, personal accounts, real life experiences and face-to-face encounters. With the use of such data collection methods, there is a risk that misinterpretation, bias, errors and personal perceptions may affect the trustworthiness of the research. Therefore, it is crucial that qualitative researchers ensure that said risks are

minimized (Yin, 2003). Shank (2006) advocates the application of several methods for demonstrating reliability in qualitative research, such as asking for clarification and following-up when unsure of certain facts. In this sense, researchers should continuously verify facts and information with participants as well as verify facts between multiple sources to ensure accuracy. McMillan and Schumacher (1997) also recommend several strategies that contribute towards the reliability of research: the researcher's interactive style, data recording strategies, data analyses, interpretation of participant's meaning, presentation of the results and storage of data for audit purposes.

In this report, a considerable amount of effort has been expended on ensuring the reliability and trustworthiness of our findings. Thus, several methods were employed to minimize misinterpretation or bias in our research process;

- Data triangulation: the use of several data collection methods i.e. interviews and documentation enabled us to achieve better understandings of certain situations that needed clarification. Furthermore, this also allowed us to control and overcome participants' bias.
- Audio recording: given that all interviews were electronically recorded we were able to double-check on respondents' answers. This aided us in pinpointing possible misinterpretations by respondents.
- Data corroboration with participants: emails regarding areas of interest and questions were sent to participants prior to interviews¹, which allowed them to prepare accordingly and avoid misinterpretation. Furthermore, during or after interviews, we asked respondents to develop their answers whenever their statements were ambiguous or unclear.
- Data transcription: by transcribing interviews, we were able to derive data that we deemed most relevant to our research. This data was thereafter categorized into topics and themes. This not only ensured the avoidance of error and misinterpretation, but also facilitated data retrieval and analysis in later stages of the study.

¹ Emails were sent on average two to three days before interviews took place

This chapter seeks to provide the reader with an overview of prior research in the fields of M&A, strategic alignment and IT integration. Each theory section will consist of reviewing different scholars' viewpoints along with several frameworks that will serve as a basis for our investigation. The chapter concludes with a proposed IT integration framework, which we have designed based on prior research in these different fields.

3.1. Mergers and Acquisitions

3.1.1. Background

Today's globalized business environment has urged businesses to develop their capabilities in a way that allows for growth to take place not only organically i.e. internally but also by external means. External growth through M&A provides the means for businesses to achieve competitive advantage over their rivals e.g. by tapping into new markets or customer segments (McKinsey & Company, 2013). In this sense, M&A are considered a key element of corporate strategy as they allow firms to achieve both scale and scope advantages (Gaughan, 2007). However, M&A have also been established as being one of the greatest paradoxes in strategic management. With the lack of evidence suggesting that acquisitions create shareholder value for the acquiring firm (Grant, 2010), the question arises as to why they are the preferred means of corporate growth for so many companies.

3.1.2. Terminology

Throughout this thesis, the abbreviation "M&A" will be used for covering both mergers and acquisitions. Although both terms are often used interchangeably in current literature, we still find it necessary to provide the reader with clear cut definitions. A merger, also known as a consolidation, takes place when two companies join forces to create an entirely new organization (Gaughan, 2007, Giacomazzi et al., 1997). This entails the crossing of stocks as well as a complete integration of both companies' components as foundations for the new organizational entity. For political reasons, mergers are often preferred when the parties involved are in different countries (Grant, 2010). An acquisition on the other hand, involves one company purchasing another. Here the acquiring company makes an offer for the common stock of another for a fixed price per share. An acquisition can either be "friendly",

that is when the decision is supported by the board of the target company, or unfriendly, when opposed by the target company's board. This is also known as a hostile takeover (Grant, 2010).

A merger or acquisition typically consists of three broad phases; pre-merger, merger and post-merger (Haspeslagh & Jemison, 1991; Mehta & Hirschheim, 2004). The pre-merger phase involves strategic planning, searching for a partner, due diligence, negotiations and public announcement of the deal (Mehta & Hirschheim, 2004). Being relatively short, the merger phase typically begins once the agreement of both parties' shareholders has been reached and ends the day after the new legal entity is formed (Mehta & Hirschheim, 2004). Next, the post-merger phase involves the integration of the parties' functions, processes, systems and cultures (Haspeslagh & Jemison, 1991).

Typically, M&A literature (e.g. Gaughan, 2007) states that mergers appear in three forms, based on the competitive relationships between the merging firms;

- Horizontal: when two competitors in the same industry and similar production stages combine
- Vertical: when two companies in the same industry but different production stages combine
- Conglomerate: when two companies in unrelated businesses combine

A number of scholars (e.g. Brown & Renwick, 1996; Gertsen et al., 1998; Mehta & Hirschheim, 2004) add another type of M&A to this classification, which is that of concentric mergers. This type of merger takes place when two companies from different but "adjacent" industries merge.

3.1.3. Motives

There is a multitude of reasons why firms engage in mergers and acquisitions. In M&A literature, these are often categorized as being either financial, economic or strategic in nature (Angwin, 2007; Ravenscraft, 1987). However, such categorization provides somewhat of an overly broad view of M&A motivations. Therefore, it has been established that two of the most cited motives for M&A are faster growth and synergy realization (Gaughan, 2007).

There is consensus among theorists and practitioners that a growth-by-acquisition strategy provides grounds for faster expansion than would be the case for an organic growth strategy. For instance, Gaughan (2007) argue that the pursuit of an organic growth strategy would not make sense for a company seeking to diversify its operations by penetrating a new market where barriers to entry are high and competition responds quickly to change. This is especially true for companies seeking to establish themselves across national borders, where market conditions may be unexplored. In such instances, external growth has proved to be the fastest and lowest-risk alternative.

The realization of synergistic relationships is also a key motive for companies to engage in M&A. In a merger context, the term “synergy” refers to the ability of a corporate combination to be more profitable than the individual parts of the firms that were combined (Lubatkin, 1983 in Henningsson & Carlsson, 2006). Gaughan (2007) distinguishes between two types of operating synergies, revenue enhancing and cost-reduction. The former is based on enhancing the revenues streams of both merging partners e.g. through the cross-marketing of each partner’s products; and the latter, which is most commonly sought after by merger planners, refers to reducing costs e.g. by the means of economies of scale (Gaughan, 2007). Larsson & Finkelstein (1999) also propose their own set of synergy sources which are that of operational, collusive, managerial and financial synergies;

- Operational synergies are achieved through economies of scale and scope in areas such as production, marketing and R&D.
- Collusive synergies refer to the benefits gained from markets and increased purchasing power of the combined firms.
- Managerial synergies are realized through complementary competencies or the replacement of incompetent managers.
- Financial synergies refer to the benefits gained from risk diversification and coinsurance.

Parallels can be drawn between these synergy sources and those identified by Gaughan (2007) in the sense that they can be categorized as either revenue enhancing or cost-reducing. In their study, Larsson & Finkelstein (1999) also provide an integrative M&A model

depicting the key determinants of synergy realization. They identify three factors influencing the success of synergistic relationships which are that of combination potential i.e. degree of relatedness between the merging firms, organizational integration and employee resistance. The results drawn from their study suggest that combination potential and organizational integration facilitate the realization of synergies, while employee resistance acts as an inhibiting factor.

3.2. Strategic Alignment

3.2.1. Background

In this day and age where organizations are compelled to rely on Information Systems to support their business activities, strategic alignment has established itself as a familiar term widely used by researchers and practitioners in the field of IS/IT management. Developed in the late 1970s strategic alignment is a process that seeks to ensure that *"the business mission, objectives and plans support and are supported by the IS mission, objectives and plans"* (Hirschheim & Sabherwal, 2001; Mehta & Hirschheim, 2004). Organizations have grown increasingly aware of the importance of harmonizing business processes and activities with that of supportive information technologies (such as ERP systems) as a means to improve organizational performance (Mehta & Hirschheim, 2004). Despite this awareness, however, many companies have a particular tendency to underestimate the amount of effort needed not only to successfully align IS/IT with the overall business strategy but also to sustain and nurture this alignment over time. Numerous authors such as Hirschheim & Sabherwal (2001) and Henderson & Venkatraman (1990) shed light upon this issue in their works, claiming that strategic alignment should not be regarded as an event in time but rather as a process of continuous change and adaptation. Based on this premise, several models and theories have been designed in an effort to demonstrate the importance of strategic alignment for increased organizational performance.

3.2.2. Strategic Alignment Model

Henderson and Venkatraman (1990, 1993)'s Strategic Alignment Model (SAM) has established itself as a foundation for Business/IT alignment studies (See Figure 1). SAM encapsulates the process and goal of achieving competitive advantage through developing

and sustaining a symbiotic relationship between IT and business. The model is defined in terms of four domains of strategic choice: business strategy, IT strategy, organization infrastructure and processes and IT infrastructure and processes. Each has its constituent components: scope, competencies and governance at the external level and infrastructure, skills and processes at the internal level. SAM is conceptualized in terms of two fundamental characteristics of strategic management which are strategic fit (i.e. the interrelationships between internal and external domains) and functional integration (i.e. integration between business and technology domains)

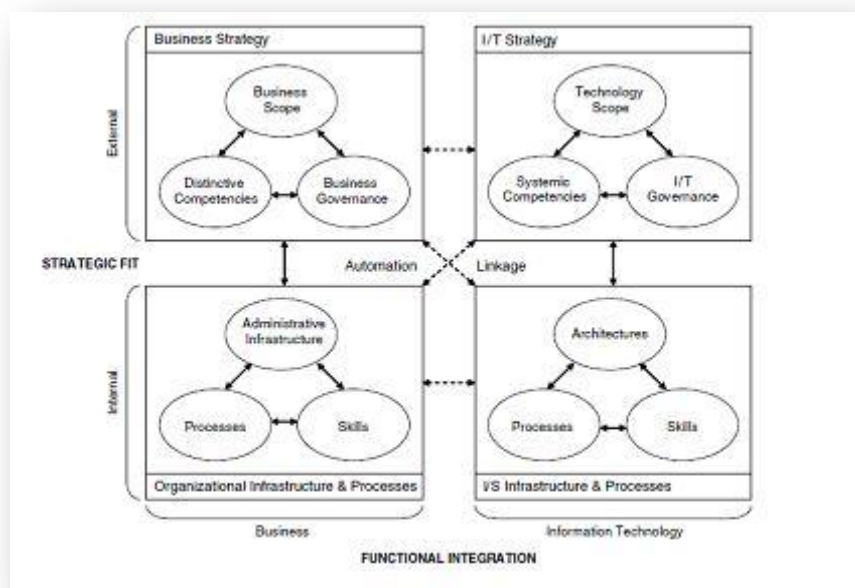


Figure 1. Strategic Alignment Model (Henderson and Venkatraman, 1990)

Henderson and Venkatraman (1990, 1993) argue that strategic alignment at the organizational level can only take place when three of the four domains are aligned. This means that change in one domain cannot happen without impacting at least two other domains. Hence, based on cross-domain relationships, Henderson and Venkatraman (1990, 1993) identify four dominant alignment perspectives which can be used for the analytic understanding of how IT and business can be aligned;

1. *Strategic execution:* In this perspective, a business strategy has been formulated and is the driver of both organizational design choices and the design of IS infrastructure.

Here top management plays the role of strategy formulator to articulate the choices pertaining to business strategy, while the role of the IS manager should be that of a strategy implementer, one that designs and implements the required IS infrastructure and processes that support the chosen business strategy.

2. *Technology transformation*: Business strategy is still the driver but it involves the articulation of an IT strategy to support the chosen business strategy and the corresponding specification of the required IS infrastructure and processes. The role of executive management here is to provide technology vision that would best support the chosen business strategy. The role of the IS manager should be that of a technology architect, who designs and implements the required IS infrastructure that is consistent with the IT vision.
3. *Competitive potential*: this perspective is concerned with the exploitation of emerging IT capabilities to impact new products and services (business scope), influence the key attributes of strategy (distinctive competencies), and develop new forms of relationships (business governance). Unlike the two previous perspectives that consider business strategy as given, this perspective allows the adaptation of business strategy via emerging IT capabilities. The specific role of top management in this case is that of the business visionary, who articulates how the emerging IT competencies, functionalities and changing governance patterns in the IT marketplace should impact the business strategy. In contrast, the IS manager acts as a catalyst, who identifies and interprets the trends in the IT environment to assist the business managers to understand the potential opportunities and threats from an IT perspective.
4. *Service level*: the focus in this alignment perspective is on how to build a world class IS/IT service organization. The role of business strategy in this case is indirect and is viewed as providing the direction to stimulate customer demand. This perspective is often viewed as necessary (but not sufficient) to ensure the effective use of IT. The IT organization must deploy resources and be responsive to the growing and fast-changing demands of the end-user population. In order to ensure the success of this alignment perspective, top management must act like a prioritizer, who articulates

how best to allocate the scarce resources both within the organization and in the IT marketplace (in terms of joint venture, licensing, etc). The role of the IS manager, however, is one of executive leadership, with the specific tasks of making the internal service business succeed within the operating guidelines from top management.

Undoubtedly, the main strength of the strategic alignment model lies in its effectiveness as a theoretical framework to convey the importance of aligning IT with business strategy, as a means to increase organizational performance. In doing so, the model is useful in conceptualizing how IT should be strategically managed in a way that enables sustainable competitive advantage. Nevertheless, while many scholars consider SAM to be a cornerstone in business-IT management practices, we consider it to have several limitations. First of all, its applicability to real life situations is put into question due to its overly simplistic and conceptual nature (Avison et al., 2004). For instance, even though the four alignment perspectives are useful in providing managers with best-practices on how to successfully align business and IT, actually applying these in practice is a difficult task. This is also mirrored in the works of Chan & Reich (2007) and Ciborra (1997). Furthermore, the framework's inability to measure the degree of alignment adds to this lack of practical credibility.

There has also been much debate surrounding the extent to which strategic alignment can be applied in more complex organizational situations such as that of M&A. Several authors e.g. Brown & Renwick (1996), Mehta and Hirschheim (2004) and Wijnhoven et al., (2006) have highlighted that research and literature concerning business-IT alignment in M&A contexts is very limited. Perhaps this research gap stems from the acknowledged difficulty of harmonizing business and IT strategies of merged organizational entities. Mehta and Hirschheim (2004:7), for instance, discuss their views on the matter;

"But achieving business-IT strategic alignment has been a constant struggle for many organizations, even as single, independent firms. We can only imagine the complexity and effort required to achieve this alignment when not one, but two firms are trying to merge into one."

Now this raises the question as to whether SAM is adequate as a strategic alignment framework to support the analytical aspect of this paper. Based on our criticism surrounding its lack of practical applicability, we have chosen to dismiss it as a theoretical foundation for this report. In spite of this, we do consider strong alignment of business and IT to be a precursor of successful M&A projects. Therefore, we propose the application of a more “practical” framework which is that of Hirschheim & Sabherwal (2001)’s taxonomy of strategic alignment profiles.

3.2.3. Dynamics of Business-IT Alignment

In their article, Miles & Snow (1978) describe the characteristics of three main strategic types of organizations, their relations to each other and the importance of maintaining an effective alignment with one’s environment. These three types are labeled as defenders, analyzers, and prospectors.

Defenders are characterized by creating a small market domain where a focus on stability is imperative for a company to thrive. In addition, a defender typically restricts itself to a limited amount of products and focuses only on a narrow market segment where it can create a niche for itself through e.g. specialization, efficiency and a steady customer base though this makes a defender highly susceptible to rapid and large changes in the market.

A prospector however, is defined as being able to make use of new market opportunities and adapting to the changing environments. This is done through innovations and the ability to adopt new trends and conditions within the market, and is thus highly dependent on being able to gain an overview and scan its environment for potential opportunities to exploit. Key features such as flexibility and suppleness are necessary for the prospector in order to accommodate its dynamic surroundings. However, by adopting new trends and quickly responding to the changes of the market, prospectors run the risk of low profitability and misutilization of resources due to the uncertainty of the projects invested in.

Lastly, the analyzers are categorized as being a combination of the two previous types of organizations. Their goal is to minimize the risks of the company while at the same time pursuing the opportunities for profit in new market segments. Balancing these aspects shows

a high level of difficulty due to the problematic task of maintaining a steady core of both products and customers while seeking to be the first analyzer to adopt and exploit the new market areas already validated by prospectors. Therefore, when attempting to combine the strengths of both prospector and defenders, analyzers are also sharing the same risk factors. The necessity to thrive in both stable and dynamic environments is a difficult task to balance and the constant need for innovation while maintaining an established customer base is a complicated strategy to ensure.

In their study *"Detours in the Path toward Strategic Information Systems Alignment"*, Hirschheim & Sabherwal (2001) are thorough in portraying the dynamic and adaptive nature of strategic alignment. In their investigation of several case companies they demonstrate to what extent the degree of business-IT alignment varies, due to ongoing strategic decisions made by organizations' top management. As a basis for their taxonomy, they adopt Miles & Snow (1978)'s typology of business strategies consisting of prospector, analyzer and defender. They also divide IT strategy into three components which are IS role, IS sourcing and IS structure. These components each represent a different aspect of a company's business strategy. According to Hirschheim & Sabherwal (2001), the IS role of a company reflects how a company's senior management regards the IS function and what role they prefer the IS function to fulfill. The IS role can be categorized as being opportunistic, comprehensive or efficient. An opportunistic IS role is focused on market flexibility and quick decisions to accommodate fast changing business environments. For an IS role to be comprehensive, it must adhere to careful decision making yet be able to respond rapidly by relying on knowledge already gained from other organizations. Lastly, an efficient IS role needs to focus on both internal and interorganizational process improvements combined with long term decision making in order to thrive.

The IS sourcing is determined by the amount of outsourcing/insourcing a company makes use of. For a company to be categorized as an outsourcing company, it is estimated that they should outsource approximately 80 percent of their IT budget, and to be categorized as insourcing they should allocate approximately 80 percent of their IT budget for internal IT

departments. Lastly, selective sourcing refers to companies opting to spend between 20 and 80 percent (usually around 40 percent) of their IT budget on third-party vendors.

IS structure relates to how the IS function is configured and who is responsible for managing it. The management of the IS function can be done by for instance a central unit of the company and is thus centralized. When the IS function is not centralized, it is managed by non-central business unit and is thus decentralized. Lastly, for the IS function to be categorized as shared, it would mean that the management of the IS function is shared between the aforementioned units.

Hirschheim & Sabherwal argue for three different alignment profiles, each with their associated business and IT strategies. These are depicted in the following table (See Table 3).

Alignment Profile	Infusion: Alignment through Business Leadership	Alliance: Alignment through Partnering	Utility: Alignment through Low Cost Delivery
Business Strategy	Prospector	Analyzer	Defender
IIS Strategy • IS Role	Opportunistic	Comprehensive	Efficient
• IS Sourcing	Insourcing	Selective Sourcing	Outsourcing
• IS Structure	Decentralized	Shared	Centralized

Table 3. Strategic Alignment Profiles (Hirschheim & Sabherwal, 2001)

Hirschheim & Sabherwal (2001) lay emphasis on the importance of maintaining strong alignment among components despite changes in business and/or IT strategy. In this sense, whenever organizations undergo strategic changes, all IT components should also be adjusted in a way that complements/supports the business strategy (and vice versa). This is what Hirschheim & Sabherwal (2001) call an ideal trajectory, where shifts in business and IT strategy are continuously paralleled and synchronized. Other significantly less optimal

trajectories are; paradoxical decisions, excessive transformations and uncertain turnarounds, which all denote a lack of synchronization between business and IT strategies and therefore produces a certain level of “strategic misalignment”. These problematic trajectories are explained below:

- Paradoxical decisions: when an organization decides to change one or more of the four components in one direction while changing others in the opposite direction
- Excessive transformations: when an organization goes too far in changing one or more components.
- Uncertain turnarounds: when an organization reverses a recent change and moves back toward the original position.

As reflected in Hirschheim & Sabherwal (2001)’s case material, ideal trajectories are rarely followed in practice. While such trajectories are considered optimal in literature, their occurrence in real life remains somewhat utopian. Typically, organizations follow the three problematic trajectories outlined above, in an effort to “incrementally” achieve alignment. This underpins the difficulty as well as the amount of effort required to achieve and sustain business-IT alignment. It is for this reason that we consider this framework to be a solid theoretical foundation for the assessment of strategic alignment in case study contexts. We base this on the framework’s (1) ability to capture the complex nature of the subject in real life as well as (2) its capacity to measure alignment levels

3.2.4. Critique

Despite the common assumption that strong alignment between business and IT is correlated with increased organizational performance, the concept of alignment has been subject to significant criticism. Several scholars have challenged this notion or hypothesis that organizations successfully aligning their business strategy with their IT strategy will outperform those that do not. Chan and Reich (2007) for instance share their skepticism surrounding the need for alignment, claiming that: (1) alignment research is mechanistic and fails to capture real life; (2) alignment is not possible if the business strategy is unknown or in process; (3) alignment is not desirable as an end in itself since the business strategy must always change, and; (4) IT should often challenge the business, not follow it. Ciborra (1997)

further this argument by stating that strategic alignment literature is flawed due to its overly theoretical and simplistic nature, and therefore suggests a more practical approach where researchers go into the field for insights. Shpilberg et al. (2007) also argue that contrary to traditional beliefs, the path to IT powered growth lies first in building high effectiveness and only then ensuring that IT projects are highly aligned to the business. They address the fact that a sound alignment alone is not sufficient to ensure success, and can actually to some extent distract the IT department from a high IT performance; they call this the alignment trap. In a nutshell, the alignment trap is based upon the premise that aligning a poorly performing IT organization to the right business objectives does not necessarily lead to the accomplishment of those objectives. Shpilberg et al. (2007) provide examples where IS/IT's effort to satisfy its various business constituencies created an ensemble of overlapping systems that might satisfy individual units for a while but did not advance the company's business as a whole. This is reflected in their survey of more than 500 senior business and IT executives worldwide, in which only 18% of respondents believed that their company's IT spending was highly aligned with business priorities. Hence Shpilberg et al. (2007) stress that companies should prioritize the standardization and upgrading of their legacy systems, rather than developing customized best-of-breed solutions designed to serve each business' unique needs.

3.3. IT Integration Strategy

3.3.1. Background

Commonly in M&A, it is required that merging organizations' respective operations/business processes be standardized and/or harmonized in a way that ensures synergistic relationships. This is especially true for that of IT when it comes to the post-merger integration of IT functions. However, it is a known fact that integrating former independent IT functions is one of the major challenges of any M&A process (Becker et al., 2009). In spite of this reality, there has been a tendency by top management in M&A to underestimate or even neglect IT departments' input when it comes to planning IT integration (McKiernan & Merali, 1995). Numerous authors (e.g. Cane, 2010) have stressed the importance of treating IT integration as a constituent part of any merging process

considering the pivotal role IS/IT plays in supporting organizational processes. As a result decision makers are often confronted with a number of dilemmas concerning the choice of IT integration strategies in newly merged organizations; for instance, should there be standardization of applications where one solution/software package is implemented and used in both companies or, should the companies' respective systems be left untouched and remain independent? Furthermore, to what extent are these IT integration strategies consistent with merger objectives? (Wijnhoven et al., 2006). These types of questions are very common throughout a merger process, where there is uncertainty concerning the fate of IT components.

3.3.2. Role of IT Integration

There has been considerable debate surrounding the role of IT integration in the attainment of M&A synergies. While there is a tendency in M&A literature to view IT integration as a post-merger issue, some scholars such as McKiernan & Merali (1995) for instance, argue that it should be dealt with prior to merger agreements. Therefore, to provide an understanding of IT integration in M&A contexts they make a distinction between IT integration as a post-merger issue, dealt with reactively, and as a pre-merger issue used proactively to maximize chances for positive outcome. Based on the investigations of several case companies, McKiernan & Merali (1995) observed a correlation between proactive IT integration processes and positive merger results. Furthermore, in accordance with reports by consulting firms such as Accenture (2002) and McKinsey (i.e. Sarrazin & West, 2011), McKiernan & Merali (1995) lay great emphasis on the importance of pre-merger planning activities and especially that of IT due diligence. For instance, Accenture (2002) suggest that performing an IT due diligence before the merger deal is signed enables companies to identify potential capacity constraints, low service levels or undocumented technologies. Sarrazin & West (2011) and Yetton et al. (2013) provide additional support for such recommendations by advocating the presence of IT management representatives in the due diligence process.

3.3.3. IT Integration Strategy and Decision Making

There is consensus in IT integration literature regarding the importance of matching merger objectives to IT integration strategies. According to Haspeslagh & Jemison (1991) mergers

may differ in the level of strategic interdependence and organizational autonomy the merging firms aim at. Bearing this in mind, a number of scholars e.g. Haspeslagh & Jemison (1991), McKiernan & Merali (1995) and Wijnhoven et al. (2006) agree on the following merger objectives:

- Absorption: the target company is completely absorbed by the bidder company to form one new entity in which the target company ceases to exist.
- Symbiosis: synergies are created by combining only the strengths of both merging companies.
- Preservation: the capabilities of the acquired company are maintained in order to allow them to further exploit and develop capabilities, from which the acquiring company can benefit.

Wijnhoven et al. (2006) define IT integration strategy as being the route to establishing the desired level of IT integration and consists of IT integration objectives and IT integration methods. In their study, they build upon Henderson & Venkatraman (1990, 1993)'s strategic alignment model by adding an M&A IT integration dimension (see Figure 2). Here Wijnhoven et al. (2006) depict IT integration strategy as being the objectives and methods of realizing the intentions of an M&A (business) strategy. They also suggest that pre-merger organizational and IT infrastructure & processes, referred to as priorities as conditions, affect IT integration strategy decisions and outcomes. Hence, in order to determine what IT integration strategy fits in the context of post-merger situations, Wijnhoven et al. (2006) have formulated the following research questions (these correspond to bold and thick arrows in Figure 2);

- **Q1:** What IT integration objectives are consistent with what type of merger?
- **Q2:** What integration methods are consistent with which IT integration objectives?
- **Q3:** What priorities and conditions influence decisions concerning IT integration strategies (objectives and methods)?

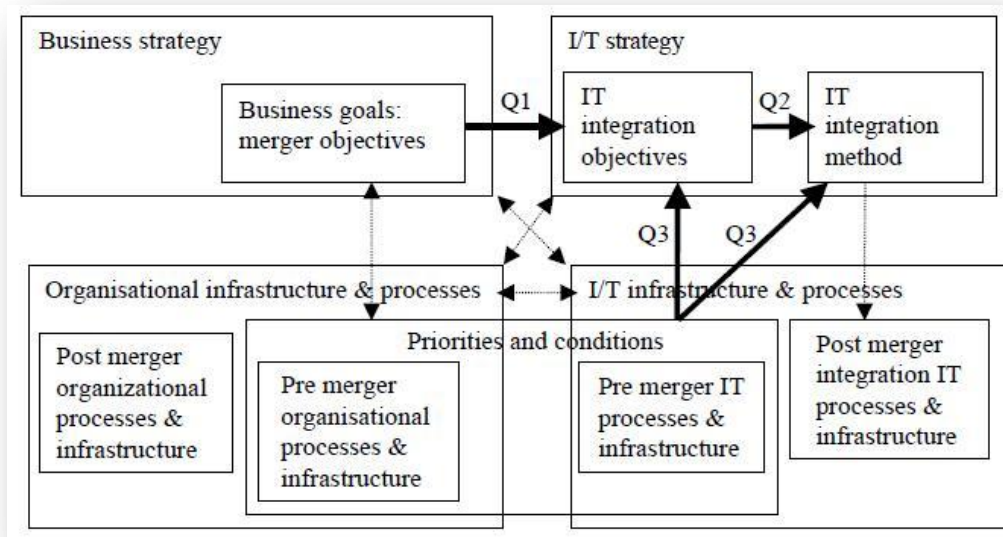


Figure 2. Post-Merger IT Integration Alignment Model (Wijnhoven et al. 2006)

In agreement with Giacomazzi et al. (1997) and Johnston & Yetton (1996), Wijnhoven et al. (2006) identify the following IT integration objectives:

- Complete integration: this is the most ambitious objective where the two organizations' IT functions are merged.
- Partial integration: priorities are established based on what are deemed to be the most important processes and systems to be integrated first. This objective is appropriate when synergies can be realized in some processes but not in others.
- Marginal integration (i.e. co-existence): this is the least ambitious objective where the two merging organizations' IT are kept separate and untouched. However, bridges can be realized but solely for data exchange and consolidation, where absolutely necessary.

Finally, these IT integration objectives can be realized through the application of four IT integration methods (Wijnhoven et al., 2006; Johnston & Yetton, 1996):

- Renewal: abolishes the IT of both merging partners and realizes new IT instead.
- Takeover: uses the IT of one of the merging parties as the new system of the newly formed organization.
- Standardization: based upon a best of breed procedure where the newly formed organization's IT is a combination of the best practices of the two previous ITs.

- Synchronization: both merging partners' IT are preserved. However software and hardware bridges are created as a means to ensure information flow between systems.

Below, we provide a table summarizing these different IT integration strategies along with their associated merger objectives (See Table 4):

Merger objectives	IT integration objectives	IT integration methods
Absorption	Complete integration	Renewal Take over Standardization
Symbiosis	Partial integration	Standardization
Preservation	Co-existence	Synchronization

Table 4. Fit of Merger Objectives with IT Integration Strategies (based on Wijnhoven et al., 2006)

Wijnhoven et al. (2006) argue that organizational and IT contextual factors influence IT integration decision making and success. Such factors could be e.g. quality of merger planning or the number of previous experiences with IT integration in merger contexts. This is also mirrored in the early works of Giacomazzi et al. (1997) where they discuss a number of variables and their effect on IT integration decision making. They identify the following; growth objectives of the merger, company structure, situation variables and information system requirements. In addition, Mehta & Hirschheim (2004) propose their own framework involving three theoretical lenses for understanding IT integration decisions during merger, which are: (1) The Wall-street effect; (2) Organizational Power Differentials between Acquirer and Target and finally (3) Business-IT Alignment. First of all, Mehta & Hirschheim (2004) argue that IT integration decision making in the early stages of M&A is governed by the desire to achieve the cost-savings promised to Wall Street; Halspeslagh & Jemison (1991) in Mehta & Hirschheim (2004) suggest that acquiring firms dominate the target firm because they are under pressure to deliver merger synergies to Wall Street. As a result IT integration strategies and policies are often chosen in terms of their ability to contribute to higher cost-savings. Secondly, power differentials between acquiring firms and targets may result in IT

integration process decision making which is based on political deliberations and pressures. Thirdly, in agreement with the findings of Wijnhoven et al. (2006) and Mehta & Hirschheim (2007), it is suggested that IT integration processes may actually be driven by the objective of achieving business-IT alignment in the merged firm.

3.3.4. Developing IT Integration Capabilities

A number of authors (e.g. McKiernan & Merali, 1995; Yetton et al., 2013) have stressed the importance of treating IT integration as a learning opportunity. They suggest that organizations pursuing external growth are likely to enhance their IT integration capabilities by accumulating the lessons learned (e.g. key success factors) from past/ongoing integration projects, thereby allowing the incorporation and utilization of this derived knowledge in future projects. Yetton et al. (2013), for instance, stipulate that companies following a growth-by-acquisition strategy require two types of IT resources for successful post-acquisition IT integration: (1) a scalable IT platform that is aligned with the growth by acquisition business strategy and (2) IT integration capabilities to capture scale and scope benefits, which requires the participation of CIOs and IT leaders in due diligence activities. They also state that the development of these IT resources only occurs over the course of several acquisitions, which often requires an extended period of time of several years. In this sense, considerable emphasis is laid on organizations' ability to derive best practices from previous IT integration experiences.

Yetton et al. (2013) provide the company of Danisco as an example to demonstrate the importance of tacit knowledge for acquiring organizations seeking to develop their IT integration capabilities. As part of their growth-by-acquisition strategy, Danisco decided to keep all "IT thinking" in-house, which engendered the accumulation of tacit knowledge concerning successful post-acquisition IT integration. Accenture (2002) provide additional support for these claims as they lay considerable emphasis on the use of experienced staff to manage IT integration. In one of their surveys, results suggest that a majority of organizations who were successful in terms of IT integration had employed IT staff with previous integration experience. Hence, the tacit dimension of IT integration capabilities is once again emphasized.

This learning dimension is also mentioned in the works of McKiernan & Merali (1995) in which they provide a model depicting the various stages in acquisition integration (see Figure 3). Here, it is argued that learning only takes place in the post-acquisition review phase, where ex-poste performance is evaluated. In an investigation of several case companies, they observed that the acquisition process was not well documented and organizations had difficulty providing information regarding past-acquisitions; results showed that only one sixth of the organizations in question conducted ex-poste reviews of their IT integration projects. As a result, in agreement with Yetton et al. (2013), McKiernan & Merali (1995) establish that organizations that fail to conduct post-integration reviews also fail to exploit each acquisition as a learning opportunity.

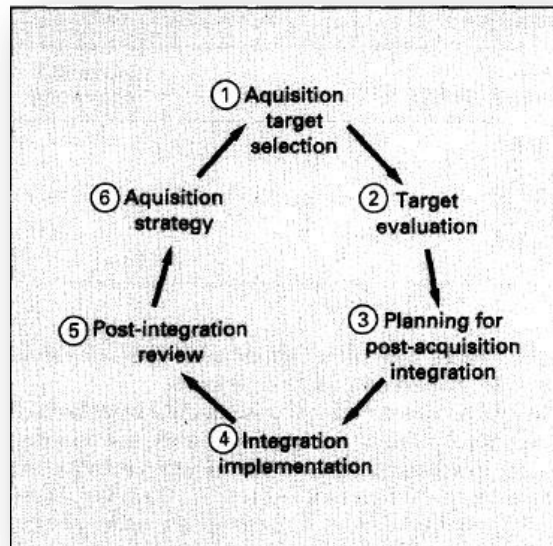


Figure 3. Acquisition Integration Lifecycle (McKiernan & Merali, 1995)

3.4. Proposed Theoretical Framework

Based on several models and theories presented in the literature review, we have designed a framework which will support our investigation of IT integration strategies in the M&A case studies of Dyrup and PPG. The premise underlying this framework is that the degree of business-IT alignment at acquiring firms in pre-acquisition contexts, as well as a number of circumstantial conditions (e.g. pre- and post- acquisition activities; contextual factors) influences firms' ability to successfully manage post-acquisition IT integration. More

specifically, we assume that acquiring organizations exhibiting high levels of strategic alignment in pre acquisition contexts are likely to be successful in their IT integration activities. We also assume that circumstantial conditions have the ability to influence IT integration outcomes. Furthermore, we argue for organizations to derive learning from their IT integration results as a means to potentially enhance their future IT integration endeavors (see Figure 4)

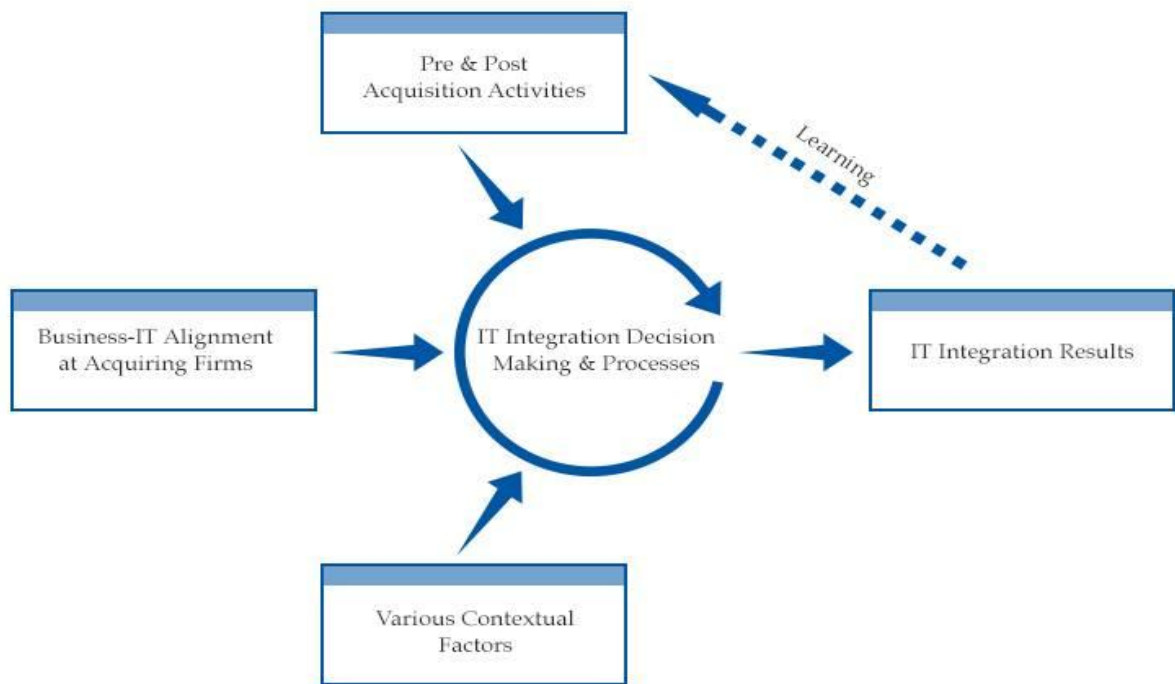


Figure 4. Proposed IT integration framework

Case Description

This chapter presents the two cases which this thesis is based upon. It seeks to provide the reader with an insight into the companies' backgrounds, their relevant acquisitions and their business strategies. Furthermore, a brief overview of the case companies' different IT systems is provided.

4.1. Dyrup

4.1.1. Background

Founded in 1928, Dyrup A/S is a privately owned Danish company specializing in the development, manufacturing and marketing of high quality paint and wood care products. Headquartered in Søborg, Denmark and employing approximately 1000 employees, Dyrup operates in several markets across Europe including Denmark, France, Germany and Portugal. As a means to maintain strong positions in these different markets, Dyrup has developed an extensive brand portfolio to represent its high quality and wood care products on an international scale. Brands include *Dyrup* (Denmark, Portugal and Spain), *Bondex* (France, Germany, Poland, Portugal and Spain), *GORI* (Denmark, France and Germany) and *Xylophene* (France). Today, Dyrup's sales channels are segmented as follows;

- The "Do It Yourself" (DIY) retail trade: customers are paint retailers and builder's merchants, whose main customers are private end users.
- The professional (PRO) trade: Dyrup sells to the PRO market through its own paints centers, independent paint wholesalers and builders' merchants catering for the building trade. The end users in this market are professional painters.

In addition to PRO and DIY segments, Dyrup also had industrial activities mainly serving window manufacturers, but these were divested in early 2009 as a result of Dyrup's strategic repositioning efforts.

4.1.2. Restructuring Efforts

Prior to undergoing a comprehensive turnaround process in 2009, Dyrup was faced with a number of challenges. One of which was stagnating sales and declining results, which was reflected particularly in the period of 2005-2006, where Dyrup had suffered a loss of DKK 45 million after tax. At the time, Dyrup's sales to the DIY market which accounted for 43% of total revenue, declined in 2006, while the general market showed a slightly upward trend

(see Figure 5). The PRO sales channel was also in need of strengthening as Dyrup was unable to cater for growth in the professional market.

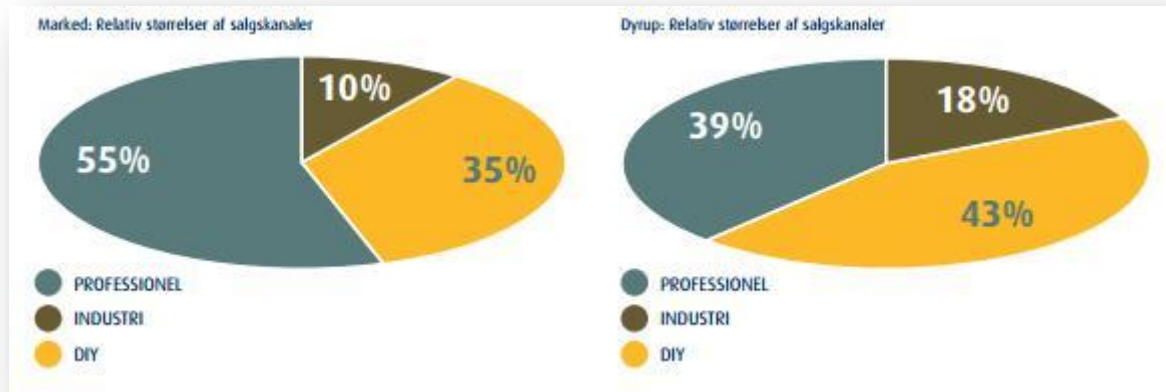


Figure 5. Relative sizes of sales channels in 2006

In 2006, Dyrup launched STRATEGY 2008, which was an initiative focused on the development and strengthening of Dyrup's strong positions within selected product categories and geographical market areas. The key elements of the strategy were focused upon developing Dyrup's market positions, strengthening distribution, and improving optimization and efficiency throughout the value chain. However, the initiative failed to deliver on several points. One of which was the growth through acquisition concept. Despite recognizing the benefits in acquiring market-related organizations as a basis for growth, no actual acquisitions were made during the period of 2006-2008.

It was also pointed out that the strategy was not adequate to cope with an increasingly competitive market characterized by intensified price pressure. It was therefore concluded that the financial targets of STRATEGY 2008 could not be achieved within the expected timeframe. Top management reviews suggested that the foundations for the strategy were weaker than assumed, which ultimately resulted in a strategy implementation that was more costly than initially expected.

In 2008, Dyrup had suffered its fourth consecutive annual loss in the regions of DKK 56 million (EBIT). This led the company to once again re-focus its strategic aims and directions in a way that ensures sustainable and profitable growth. As a result, Dyrup put into motion the Fresh start strategy in early 2009, which builds upon the STRATEGY 2008 initiative.

4.1.3. The Fresh-Start Turnaround

The Fresh Start strategy builds upon STRATEGY 2008 in its effort to reduce the cost base as well as create profitable growth. It seeks to ensure that Dyrup can occupy a strong market position, both in the short and the long term, and form the basis for the development of a more robust and financially healthy business. The divestment of non-core activities form a cornerstone of the strategy, as Dyrup strive to strengthen their core capabilities, most notably that of the DIY and PRO markets. This was reflected in 2008, where Dyrup were unable to maintain previous years' profitable growth in the industrial market mainly due to a slowdown in the industrial sector, which led to its divestment in January 2009. This paved the way for Dyrup to focus their attention on the development of their DYI and PRO markets, which are their two most profitable sales channels to date.

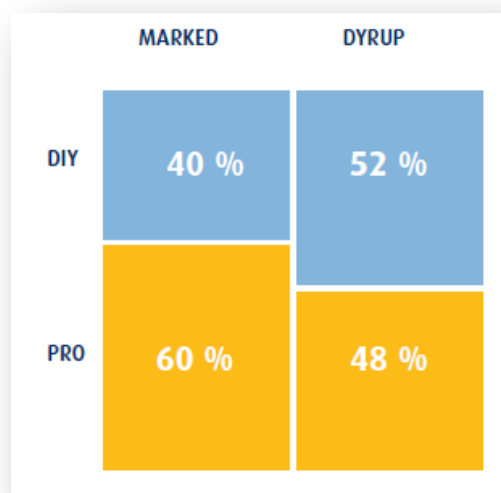


Figure 6. Relative size of sales channels in 2009

In contrast to STRATEGY 2008, the Fresh start initiative places great emphasis on external growth (i.e. M&A). Acquisitions are a key element in this strategy as they allow for the expansion into new markets, which supports Dyrup's endeavor to access a larger share of sales channels and therefore end users. As a result, after divesting its industrial activities Dyrup went on to make several acquisitions over a 2 year period. These are the following;

- **Hygæa A/S:** a Danish owned company that mainly produces and sells quality paints to the professional market. (acquired in June 2009)
- **Malfarb:** a privately owned Polish paint manufacturer with a strong position in the professional market. (acquired in January 2010)
- **Plus Paint A/S:** a Danish owned company that sells paint to the Danish professional market. (acquired in March 2011)

Another cornerstone of the strategy was the implementation of a new ERP system to better support business processes at all levels of the supply chain. For 10 years Dyrup had been running on an outdated ERP system called BPCS (Business Planning and Control System) which lacked the efficiency and functionality to cope with the market demands of a fast-changing and competitive paint industry. In the wake of the financial crisis of 2008, Dyrup was faced with decreasing activity in the construction industry (and therefore a decline in profitability) which has led the company to rethink its ways of conducting business. As a consequence, decisions were made to not only focus on cost savings and downsizing but also to streamline business processes in a fashion that favors competitiveness. Therefore, in the final quarter of 2008 Dyrup began de-rooting their legacy system BPCS in order to make way for their new ERP system, IFS applications. Dyrup's IFS application solution ultimately went live in May 2009.

4.1.4. Acquisitions

4.1.4.1. Hygæa A/S

Established in 1882 in Aalborg, Denmark, Hygæa is a Danish-owned company that develops, produces and sells quality paints to professional tradesmen and (to a lesser extent) to the DIY market. After selling its industrial activities to Finnish competitors Teknos in January 2009, Dyrup went on to acquire Hygæa in accordance with its newly revised strategy which

revolves around the strengthening of core activities. The rationale behind this acquisition was scale-based in the sense that the focal point was the Hygæa brand and sales channels rather than production assets (i.e. plants). Consequently, this has also strengthened Dyrup's position in the PRO market, which was plagued by fierce competition at the time.

In terms of IT integration, Dyrup planned to adopt a "rip and replace" strategy where Hygæa's legacy system was shut down and substituted by Dyrup's new solution, IFS applications. However, prior to setting this transition into motion Dyrup had to conduct a due diligence of Hygæa's IT, which consisted of two investigations. The first was to scrutinize Hygæa's IT equipment in order to ensure that it met Dyrup's hardware demands. For obvious reasons, Dyrup had to determine whether the Hygæa IT setup was up to par with Dyrup's as a means to guarantee a sound standardization and avoid incompatibility issues. The second investigation was solely based on data extraction, ergo making sure that Dyrup could successfully extract and convert Hygæa's master data and migrate it to their IFS platform.

4.1.4.2. Malfarb

Founded in 1982, Malfarb is a privately owned Polish paint manufacturer that has established itself as a major player in the PRO market by providing customers with high quality paints at attractive prices. Dyrup's incentive to acquire Malfarb was not only to strengthen its activities in Poland but also to gain greater access to the PRO market, where Dyrup had limited presence. At the time, Malfarb's manufacturing and warehousing facilities were located in Ostrow, approximately 130 km from Dyrup's factory in Lotz. Dyrup saw this as an opportunity to combine their production assets with those of Malfarb, which would also allow for cost-savings in the long run.

However, the distance between Dyrup and Malfarb's manufacturing activities did bring about a number of issues in regards to integration. These were predominantly related to differences in organizational cultures. The fact that Dyrup's factory was located in one of the largest cities in Poland while Malfarb's activities were located in a Polish rural area gave rise to certain discrepancies between the two organizational cultures. Furthermore, not only did both organizations differ in terms of national cultures (Danish and Polish), they also differed

in terms of work processes and IT. When the acquisition took place in January 2010, Malfarb was running on a CDN XL platform, while Dyrup had just recently transitioned to its new IFS applications solution. Therefore, Dyrup was faced with a major task which was that of integrating an organization with discrepant culture, business processes and IT into its own setup. In an attempt to facilitate transition and mitigate HR related problems, Dyrup launched change management initiatives.

4.1.4.3. Plus Paint A/S

Plus Paint, also known as Plus Malergrossisten A/S, was founded in 2004 and has established itself as a high quality professional brand in the Danish PRO market. The company's operations are divided in 6 PRO centers located in Aalborg, Viborg, Aarhus, Vejle, Copenhagen and Esbjerg. It comes as no surprise that Dyrup's rationale for acquiring Plus Paint was once again to strengthen their position in the PRO market, similarly to their acquisitions of Hygæa and Malfarb. What differentiates this acquisition from the previous two however, is the amount of control exerted by Dyrup; in the cases of Hygæa and Malfarb, Dyrup had full control over the merging process thereby having the power to alter management and re-structure as they saw fit. This was not the case for Plus Paint as the deal consisted of letting the company run as a legal entity, thus being immune to any reforms in management or business processes that could be imposed upon by Dyrup. This also applies to IT in the sense that Plus Paint where authorized to retain their supporting IT platforms without having to conform to Dyrup's IFS standard. As a result, no IT integration took place in this acquisition.

4.1.5. IT Systems

4.1.5.1. BPCS

Infor's² BPCS (Business Planning and Control System) platform is an ERP system that is commonly used to support and control the operations of manufacturing organizations. It runs on several IBM systems, with IBM AS/400 and IBM eServer iSeries being most popular, and is written in a combination of IBM languages such as RPG, SQL and AS/SET. The

² BPCS was developed by System Software Associates (SSA), which became SSA Global Technologies and was later acquired by Infor Global Solutions

strength of BPCS lies in its manufacturing and planning applications, which differentiates it from those of other ERP software. Given the high cost and uncertainty of implementing new ERP systems, some organizations are still utilizing prior versions of BPCS (such as Dyrup up to the point where IFS was implemented in 2009). As a result of this, it is often required that personnel undergo retraining and education in using the system.

BPCS applications are typically divided into the following:

- Configurable enterprise financials including accounts receivable and payable, cost accounting, remittance processing and budgeting and analysis
- Supply chain management applications including sale performance management, purchasing, promotion, inventory management and forecasting
- Multi-mode manufacturing applications including planning, production scheduling, capacity planning, shop floor control and plant maintenance

The following figure (Figure 7) showcases Dyrup's BPCS interface along with a list of menus describing numerous functions³:

³ The list of menus was authorized for our respondent, Suzanne Bunch

```
SYS500-05          ----- Dyrup A/S -----      TEST1A      26.06.14
                  List of Menus Authorized for User      DKSBU      14:23:31

Enter Menu Name or Program Name _____
Select action and press Enter.  1=Select

-      BPCS      BPCS Main Menu
-      UR10      Generel foresporgselsmenu
-      UR11      Laboratoriemenu
-      UR12      Statusmenu
-      UR13      Lagermenu
-      UR131     Tonemaskine menu
-      UR132     Lagermenu Hojlager
-      UR14      Planlægningsmenu
-      UR142     Lean - menu
-      UR15      Indkobsmenu
-      UR16      Prislister System Menu
-      UR17      Budget Menu
-      UR18      Salgsmenu
-      UR19      Produktions Menu
-      UR2       Regnskab menu
-      UR21      Rentemenu

F1=Help  F3=Exit  F7=Bwd  F8=Fwd  F12=Cancel  F13=Functions  F21=Command Line
```

Figure 7. Dyrup’s BPCS interface

4.1.5.2. IFS applications

Developed and sold by IFS (Industrial and Financial Systems), IFS applications is a single, integrated application suite that enables global and demanding organizations to successfully handle four core processes: service and asset management, manufacturing, projects and supply chain management. IFS applications includes financials, human resources, quality management, document management, customer relationship management, business intelligence, sustainability management and other core functionality to facilitate full lifecycle management of products, assets, customers, projects and more. The platform’s service oriented component architecture gives organizations the opportunity to choose a set of business components in a way that matches their needs (See Figure 8). Organizations can also add additional functionality as they please in the long run, depending on the emergence of new business demands.

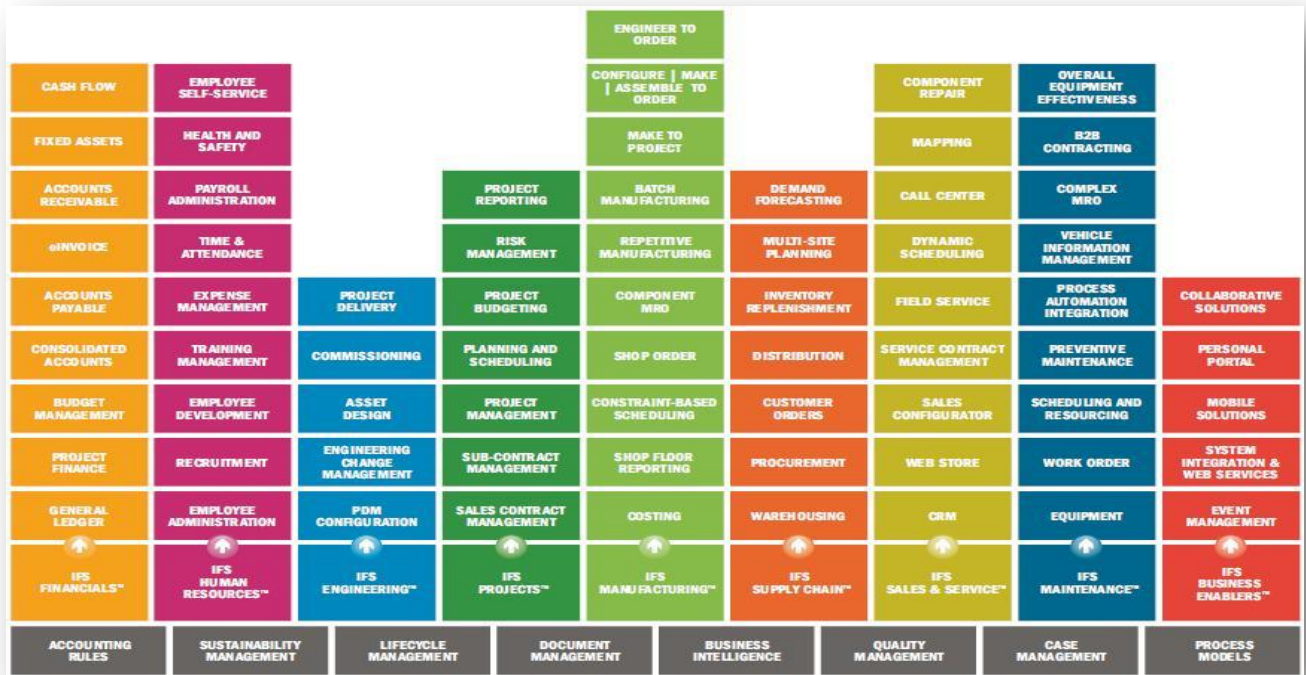


Figure 8. IFS foundation – architecture and technology

Dyrup selected a number of components to be implemented in their IFS application solution. These consist of the following: manufacturing, distribution, quality management, document management, IFS paint and Sales and Marketing, i.e. customer relationship management

4.2. PPG

4.2.1. Background

Founded in 1883 as Pittsburgh Plate Glass Company, PPG's global headquarters are located in Pittsburgh, Pennsylvania and operates in more than 70 countries on six different continents. When the company was founded, its primary industry was that of plate glass yet PPG have since opted to expand their line of products and moved onto the market of protective coatings. With their entrance into this market, PPG's primary business segment changed from plate glass into coatings, which has since become the foundation of PPG's growth. The expansive approach has continually been a part of their business strategy as PPG has sought to increase their range of businesses. To support the growth of the company and to accommodate their extensive business portfolio, PPG utilizes more than 150 manufacturing facilities around the globe and has approximately 40,000 employees. In 2012 the net sales of PPG were equaled to \$15.2 billion. As seen in Figure 9, performance coatings, industrial coatings and architectural coatings are the company's three major business segments.

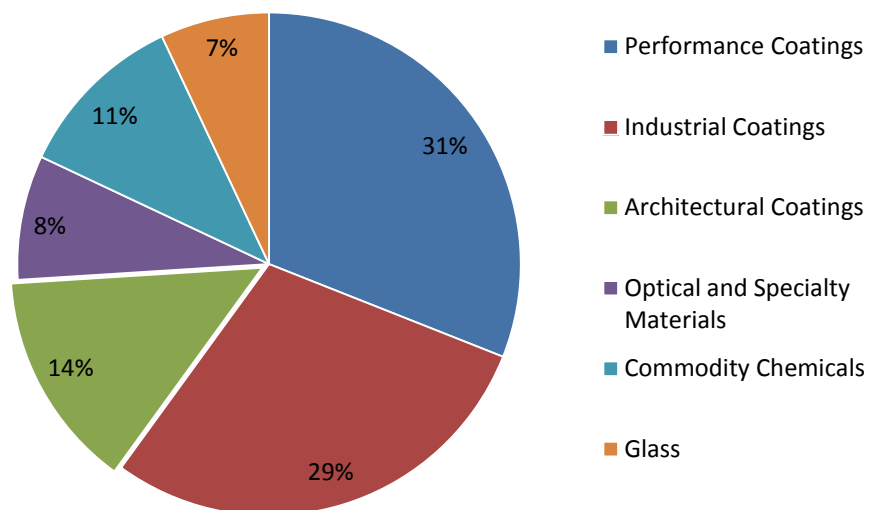


Figure 9. PPG's net sales overview in 2013

The above business segments include but are not limited to: aerospace coatings, automotive coatings, automotive refinish, marine coatings and packaging coatings. Today, products such as fiber glass and plate glass, which used to be PPG's primary industry, have dropped down to only 7% of their combined net sales.

4.2.2. Strategic Shift & Acquisitions

To support their vision of being the world's leading coatings and specialty products company, PPG has throughout the years opted to increase market share through various mergers and acquisitions. In the early 2000's, PPG's board of directors sought to further increase the company's focus on a growth-by-acquisition strategy. In 2005, a new CEO was appointed to helm this strategy, and PPG has since then increased their amount of acquisitions both nationally and internationally.

The most notable of these acquisitions took place in 2008 when PPG completed their largest acquisition to date. PPG acquired the Dutch company SigmaKalon, a worldwide architectural coatings producer, and thus making PPG the second largest coatings company of the world. The total transaction value of said acquisition was approximately \$3.2 billion and was estimated to add an extra \$3 billion annually to the sales of PPG (PPGWP1). This

acquisition increased their European market share considerably and allowed them to further extend the geographical footprint of PPG. Furthermore, this acquisition also enlarged the scope of PPG's business, seeing as this was PPG's first step onto the market of architectural coatings.

In 2011, PPG opted to acquire the Danish paint company, Dyrup. This complimented their acquisition of SigmaKalon, seeing as Dyrup was also invested in architectural coatings, and thus further extended their entrance onto the architectural coatings market. The combined transaction value was estimated to be \$200 million and was able to add \$270 million to PPG's annual sales (PPGWP 2). Even though the acquisition of Dyrup dwarfs in comparison to that of SigmaKalon in terms of finance, this was still an important acquisition to PPG seeing as Dyrup already had a significant market share in Europe which PPG was able to exploit and build upon.

To further emphasize PPG's growth-by-acquisition strategy and to add perspective on the IT governance of PPG, we find it important to touch upon PPG's partial acquisition of the Dutch company AkzoNobel, which was PPG's second largest acquisition to date. In 2013, PPG decided on acquiring AkzoNobel's North American architectural coatings division and thus further increased their market share within this industry. The overall transaction value of this acquisition was estimated at \$1.05 billion and added \$1.165 billion to PPG's net sales. The acquisition of AkzoNobel mirrors the acquisitions of Dyrup and SigmaKalon due to both the aspect of architectural coatings but also in terms of its IT governance aspect. Both SigmaKalon and AkzoNobel were utilizing SAP as their main ERP when they were acquired by PPG, and seeing as SAP was integrated into Dyrup after Dyrup's acquisition by PPG, these three acquisitions share overall similarities both in terms of PPG's growth-by-acquisition strategy but also from an IT viewpoint.

4.2.3. IT Systems

PPG's acquisition of SigmaKalon in 2008 had a considerable influence on the IT governance of PPG. Up until then, PPG had opted to utilize the legacy system Oracle as the company's main ERP. However, with the added business segment of architectural coatings, PPG was required to also make use of the ERP that SigmaKalon was relying on in order to support this

added scope of the company. This was done due to SAP being deemed the superior ERP in regards to the management of architectural coatings as compared to Oracle, and due to the financial and managerial implications of implementing Oracle into a company as large as SigmaKalon. Thus PPG opted to utilize SAP in all their future acquired companies in the architectural coatings industry.

This meant that when PPG acquired Dyrup in 2011, one of their main priorities was to implement SAP into Dyrup. This project was launched shortly after the acquisition took place in 2011. To provide the reader with an overview of the system that was being implemented, the following segment will present a brief description of the functions and capabilities of SAP.

4.2.3.1. SAP

SAP (System Applications and Products in Data Processing) is an ERP was created by a German company founded in 1972 named SAP SE (Systems Applications Products Societas Europaea) who brands themselves as “the world leader in enterprise software and software-related services”(SAPWP1). It is used in more than 188 countries and SAP SE is the third largest independent software manufacturer in the world today. The latest version of the system is SAP ERP 6.0 which was released in 2006.

As an ERP, SAP is capable of handling such areas as for instance marketing and sales, production, inventory control, finance and accounting. The use of SAP enables a company to accumulate the data regarding employees, customers, suppliers, partners, strategies and business processes. It provides data statistics to further improve business intelligence and is thus able to facilitate better decision making and company performance. However, due to its comprehensiveness, SAP requires a considerable amount of end user training to ensure adequate use of its functionalities and can therefore be cumbersome to implement.

The above segment presents only a minor insight into what the capabilities are of SAP and how they can be utilized. To provide a larger understanding of SAP’s functions, we have included a table listing its various modules (see Figure 10). These modules are customizable to the individual companies and thus provide added flexibility to the ERP.

End-User Service Delivery					
Analytics	Strategic Enterprise Management	Financial Analytics	Operations Analytics	Workforce Analytics	
Financials	Financial Supply Chain Management	Financial Accounting	Management Accounting	Corporate Governance	
Human Capital Management	Talent Management	Workforce Process Management		Workforce Deployment	
Procurement and Logistics Execution	Procurement	Supplier Collaboration	Inventory and Warehouse Management	Inbound and Outbound Logistics	Transportation Management
Product Development and Manufacturing	Production Planning	Manufacturing Execution	Enterprise Asset Management	Product Development	Life-Cycle Data Management
Sales and Services	Sales Order Management	Aftermarket Sales and Service	Professional Service Delivery	Global Trade Services	Incentive and Commission Management
Corporate Services	Real Estate Management	Project Portfolio Management	Travel Management	Environment, Health, and Safety	Quality Management

SAP NetWeaver[®]

Figure 10. SAP module overview

This chapter seeks to analyze the empirical data provided in the case description with support from theoretical frameworks outlined in the literature review. The chapter begins by analyzing Dyrup and PPG's business and IT strategies as well as the IT integration of their acquisitions. Next, we provide the reader with a juxtaposition of both companies in terms of their IT integration activities, along with the factors that have influenced the outcome of such activities.

5.1. Dyrup

5.1.1. Business Strategy

Before undergoing major strategic changes as a result of the STRATEGY 2008 and Fresh Start turnaround initiatives, Dyrup was operating in a rather stable manner by strictly focusing on the strengthening of its DIY, PRO and industrial activities. The organization sought to grow its existing businesses organically rather than explore new markets or opportunities for growth. Hence according to Miles & Snow (1978)'s typology of business strategies, Dyrup was pursuing what would be best described as a defender strategy. However, with declining revenue and increased competition on all fronts, it became clear that Dyrup had to undergo strategic reforms if they were to hold on to their market positions. When STRATEGY 2008 was launched in early 2006, Dyrup's ambition was to put an end to the financial slowdown it had been enduring, and focus on profitable growth. As indicated in the 2006 annual report, Dyrup was shifting its attention towards external growth;

"Acquisitions are an important element of the strategy, as organic growth in itself is not sufficient to secure the earnings targets that have been set. No acquisitions were made in 2006, but relevant acquisition candidates are being analyzed to clarify whether it will be possible to implement any acquisition in 2007 that can strengthen Dyrup's strategic position."

(Dyrup annual report, 2006:8)

In addition to Dyrup's aspiration to pursue external growth, the company was also determined to maintain and strengthen its current market positions, especially in that of its DIY segment;

"In the future, Dyrup will, as a minimum, hold its positions in the DIY area in its principal markets. One of the prerequisites for this remains strong branded products supported by the roll-out of innovative products and concepts that supplement and renew the existing portfolio of quality products"

(Dyrup annual report, 2006:8)

Hence, it becomes evident that the STRATEGY 2008 initiative was based upon shifting towards an analyzer strategy (Miles and Snow, 1978), seeing as Dyrup was determined to protect its base of operations as well as seek new market opportunities by means of e.g. external growth and innovation. Nonetheless, in late 2006 Dyrup top management deemed the strategy to be inadequate due to a lengthy implementation process along with costs that were higher than expected. It was also concluded that the financial targets in STRATEGY 2008 could not be achieved within the strategy period. This consequently led Dyrup to once again reconsider its strategic visions. The outcome of Dyrup's deliberations was the Fresh Start strategy, which builds upon key points of STRATEGY 2008.

After suffering its fourth consecutive annual loss in 2008, Dyrup was in dire need of a radical change in strategy, which would not only guarantee an improvement of poor financial performances, but also set the stage for profitable growth in the long run. According to Dyrup top management this could only be done by undergoing major re-structuring efforts at all levels of the organization;

"The heightened concentration of the management focus and resources create the basis for enhancing the organization's capacity for execution in the years ahead, which will be crucial to the long-term growth and earnings capacity."

(Dyrup annual report, 2008:10)

One of the principal foundations of Fresh Start was to mould Dyrup into a leaner organization focusing on core capabilities, and thereby removing capabilities that were deemed surplus to requirements. The divestment of its industrial activities reflects this initiative; In 2008, Dyrup realized it was unable to maintain previous years' positive growth

in the industrial market due to a slowdown in the construction sector (which it highly depends upon). As a result Dyrup entered an agreement in January 2009 on the sale of its industrial activities to Finnish competitors Teknos. This allowed Dyrup to focus its efforts on the strengthening of DIY and PRO markets, which constituted the majority of Dyrup's source of revenue at the time (43% and 38% for DIY and PRO respectively).

Another key element of Fresh Start was a growth-by-acquisition approach. Following the divestment of its industrial activities, Dyrup went on to make a series of acquisitions over a two year period in order to fortify its market positions in DIY and PRO. In 2009, PRO activities were strengthened thanks to the acquisition of Danish company Hygæa A/S, which resulted in DIY and PRO markets to account for 52% and 48% of revenue, respectively. The acquisition of Malfarb in 2010 consolidated Dyrup's PRO activities to a further extent, by increasing revenue to 50%. Finally, Plus Paint A/S, whom Dyrup acquired in 2011, was also a major player in the Danish PRO market. Altogether, this acquisition "streak" illustrates Dyrup's endeavor to strengthen its position in a down turning PRO market;

"Again in 2010, the PRO market saw the largest decline, as a natural reflection of the general slump in the construction sector in all European countries"

(Dyrup annual report, 2010:14)

In spite of this decline in Dyrup's markets, the Fresh Start turnaround was instrumental in putting an end to the company's series of annual losses. In 2010, Dyrup recorded a profit (i.e. EBIT) of approximately 42 million DKK.

Considering that it builds upon STRATEGY 2008, Fresh Start maintains the characteristics of an analyzer strategy. However, the strategy does differ from its predecessor in how it approaches growth. While STRATEGY 2008 was more focused on the strengthening of its existing markets than on external growth, Fresh Start maintained activities that it deemed necessary (DIY and PRO) and concentrated on creating new market opportunities by means of external growth. For instance, the acquisitions of Hygæa A/S, Malfarb and Plus Paint enabled Dyrup to broaden its product and brand portfolio, which, according to Miles and Snow (1978), are typical traits of an analyzer strategy.

In the next section we will be discussing to what extent IT was affected by Dyrup's business strategy reforms. This will help determine the level of alignment between business and IT strategy throughout Dyrup's organizational changes.

5.1.2. IT Strategy

Up to the point where IFS was implemented in 2009, Dyrup had been relying on Infor's BPCS solution to support its operations. Senior management considered the role of BPCS to be that of a cost-saver as it allowed for the reduction of administration and business costs (which was congruent with Dyrup's defender business strategy at the time). Peter Sørensen discusses the extent to which Dyrup was dependent on the cost-savings derived from BPCS, which led to a degree of IT inertia⁴;

"When I joined Dyrup, the business systems (BPCS) hadn't been updated and we had reached a crossroads: make cheap, temporary additions to the existing system – as we had done for several years – or take the bull by the horns and invest in a system that optimizes our operations and thereby opens up new opportunities."

(Peter Sørensen, Country Manager, IFS world report, 2009:16)

In terms of sourcing arrangements and IT structure, BPCS was insourced with dedicated on-site IT departments supporting each of Dyrup's subsidiaries across Europe. One of our correspondents clarifies this in an interview;

"The system (BPCS) was decentralized with an IT unit in each country."

(Suzanne Bunch, IT project manager at Dyrup)

When STRATEGY 2008 was introduced in 2006, Dyrup retained its BPCS platform despite a shift in its business strategy from being a defender towards becoming an analyzer. The role of BPCS however, remained the same, which was that of ensuring cost-reduction. In addition, sourcing arrangements and IS structure were also left untouched, with internal and decentralized IT departments retaining their responsibilities as serving Dyrup's subsidiaries.

⁴ When businesses are reluctant to challenge the status quo in terms of IT platforms

The Fresh Start strategy proved to be a catalyst for change in the IT landscape at Dyrup. When IFS was implemented as a result of the turnaround process, focus shifted from that of solely reducing costs towards creating business opportunities. This is addressed by Dyrup country Manager Peter Sørensen in an *IFS world* report;

“In 2008, Dyrup was facing a restructuring process in a market characterized by consolidation and increasing competition. Rather than focusing solely on downsizing and cost cutting, Dyrup chose also to make an investment to improve its business opportunities. One crucial point in this strategy was the implementation of IFS applications”

(Peter Sørensen, Country Manager, IFS world report, 2009:16)

Thus, once IFS was implemented at Dyrup, IT ceased to focus solely on efficiency and shifted towards becoming comprehensive. In regards to sourcing arrangements, Dyrup chose to delegate the handling of its IFS platform to a third-party as a means to limit “non-core” expenses (which ultimately led to a centralization of the IS structure). Ole Nygaard Andersen, an IT manager at Dyrup, discusses the rationale behind the decision to adopt an outsourcing arrangement;

“It’s [IFS] outsourced, it’s actually placed at Fujitsu services. So the platform itself has been outsourced so that we didn’t need to have skills on the databases or the technical setup. So we are focusing on the business.”

(Ole Nygaard Andersen, Group IT manager at Dyrup)

5.1.3. Strategic Alignment Profiles and Transition Paths

This section will consist of pinpointing the level of alignment throughout Dyrup’s turnaround efforts. In doing so, we will be drawing upon Hirschheim & Sabherwal (2001)’s taxonomy of transition paths for alignment profiles as a means to determine the degree of alignment in each event. Alignment will be investigated over the span of three periods: (1) Prior to any turnarounds taking place; (2) During the STRATEGY 2008 turnaround and; (3) During the Fresh Start turnaround.

Period 1: Pre Turnaround

Business Strategy	Prospector	Analyzer	<u>Defender</u>
IS Role	Opportunistic	Comprehensive	<u>Efficient</u>
IS Sourcing	<u>Insourcing</u>	Selective Sourcing	Outsourcing
IS Structure	<u>Decentralized</u>	Shared	Centralized

Business strategy was aligned with IS role, as was IS sourcing with IS structure. However, the fact that the two pairs were not aligned resulted in a low level of alignment.

Period 2: STRATEGY 2008

Business Strategy	Prospector	<u>Analyzer</u> ←	Defender
IS Role	Opportunistic	Comprehensive	<u>Efficient</u>
IS Sourcing	<u>Insourcing</u>	Selective Sourcing	Outsourcing
IS Structure	<u>Decentralized</u>	Shared	Centralized

While business strategy changed to analyzer, no changes were made in regards to IT strategy. Therefore, the only alignment which took place was at the level of IS sourcing and IS structure, which caused an even lower level of alignment than was the case in Period 1.

Period 3: Fresh Start Strategy

Business Strategy	Prospector	<u>Analyzer</u>	Defender
IS Role	Opportunistic	<u>Comprehensive</u> ←	Efficient
IS Sourcing	Insourcing →	Selective Sourcing →	<u>Outsourcing</u>
IS Structure	Decentralized →	Shared →	<u>Centralized</u>

IS role was changed to comprehensive given that business strategy had changed to analyzer in Period 2, thereby increasing alignment between these two dimensions. IS sourcing and IS structure shifted in a mutually consistent but excessive fashion to outsourcing and

centralized, instead of selective sourcing and shared, respectively. As a result, alignment was low in spite of being higher than that of Period 2; business strategy and IS role were aligned with each other, with IS sourcing and IS structure also being mutually aligned, but the two pairs were not aligned.

In sum, the use of Hirsscheim & Sabherwal (2001)'s taxonomy demonstrates that Dyrup did not experience strong business-IT alignment at any time over the course of its corporate renewals. Before undergoing any turnaround, Dyrup exhibited a low level of alignment with IS role being the only IT strategy component congruent with a defender strategy. STRATEGY 2008 was based on changing Dyrup's business strategy to an analyzer, which was an optimal decision considering the market situation at the time. However, little attention was paid to adjust IT strategy to this change in business strategy, which resulted in an unsuccessful turnaround. Later, the Fresh Start initiative was intended to rectify the lack of alignment experienced during STRATEGY 2008 by pursuing an "alignment through partnering" profile. However, this was only done to a small extent with IS role being the only IT strategy element changing in the right direction, while IS sourcing and IS structure changed in an excessive fashion to outsourcing and centralization respectively (instead of selective sourcing and a shared structure). An ideal solution to this would have been to adopt a selective sourcing arrangement where core IS functions (e.g. manufacturing, supply chain) were kept in-house and functions that were deemed non-core were outsourced to a third-party. Furthermore, a shared IS structure would have offered the flexibility to support such an arrangement.

Several authors e.g. Mehta & Hirsscheim, 2004; Myers, 2008; Wijnhoven et al., 2006; Yetton et al., 2013 have placed great emphasis on the importance of strategic alignment when engaging in M&A. They claim that the success of IT integration in M&A depends on the degree of alignment between the merged business and the merged IT function. In other words, merging companies that fail to mutually aligning their business and IT strategies are likely to endure a problematic integration of their IT functions. So far, our investigation points to the fact that Dyrup has been struggling to achieve a reasonable level of alignment throughout its numerous turnarounds. So how has this affected their IT integration abilities

in an M&A context? More specifically, how and in what way did the low level of alignment encountered in the Fresh Start turnaround impact Dyrup's acquisition of the three case companies from an IT integration standpoint? These are questions that will be addressed in the following section, where light will be shed upon the IT integration strategies employed by Dyrup in its three acquisitions.

5.1.4. Post-Acquisition IT Integration Strategy

In this section, we will discuss Dyrup's IT integration strategies in its acquisitions of the three case companies; Hygæa A/S, Malfarb and Plus Paint. Wijnhoven et al. (2006)'s post-acquisition IT integration alignment model will serve as a framework to identify which IT integration strategies were chosen in each acquisition based on acquisition objectives. Circumstantial conditions (i.e. pre- and post-acquisition activities and contextual factors) will also be a subject of discussion, given their ability to act as either barriers or enablers to successful IT integration.

5.1.4.1. Case 1: Hygæa

Acquisition objectives

The overall objectives of this acquisition may be best described as an absorption considering that Dyrup and Hygæa entered into an agreement of acquiring all of Hygæa's assets in the PRO and DIY segments. Seeing as both companies were direct competitors in the Danish paint industry, the rationale underlying the acquisition was to achieve market scale benefits (Grant, 2010; Yetton et al., 2013). However, Dyrup's interest lied in creating value foremost, by expanding its product and brand portfolio rather than gaining ownership of Hygæa's production capabilities to realize economies of scale. This is addressed by an IT manager at Dyrup;

"When we look at the strategy Dyrup used for the acquisition of Hygæa, that was a takeover, getting the brand, not taking over the company. It was taking over the brand, getting more sales and introducing the products and brands into our own system and setup and actually closing down the Hygæa setup. The production side from Hygæa was not part of the deal"

(Ole Nygaard Andersen, Group IT manager at Dyrup)

IT integration objectives

Seeing as Dyrup was primarily interested in Hygæa's brands and recipes rather than the IT setup itself, data extraction and transfer was a priority. Therefore, a marginal integration objective was initially chosen to enable data transfer between both setups. However, this was not in accordance with Dyrup's initial acquisition objective, which was that of absorption. Once the data extraction was completed, Dyrup shifted towards complete IT integration, which is consistent with the absorption objective.

IT integration methods

Initially Dyrup decided to follow a synchronization approach to integration despite being inconsistent with agreed upon acquisition and IT integration objectives (absorption and complete integration). However, this only took place in the short term to ensure that data concerning Hygæa's products, brands and recipes was bridged to Dyrup's IT setup. Once data extraction was completed, Dyrup opted for a takeover approach to integration, where Hygæa's IT setup was shut down and replaced by Dyrup's IFS platform.

Circumstantial Conditions

One of the key success factors in this IT integration was the technology due diligence (TDD) of Hygæa's IT setup. In accordance with M&A best-practices (e.g. Accenture, 2002), the due diligence was carried out prior to the deal taking place, which allowed Dyrup to thoroughly evaluate Hygæa's IT and determine the level of integration required. Another factor having a positive effect on the outcome of the integration was the appointment of a dedicated IT manager to oversee the process in its entirety;

"We had one person in the management group [with an IT background] who was dedicated to this acquisition (of Hygæa) so he was focusing only on that topic and he was doing that as his only job."

(Ole Nygaard Andersen, Group IT manager at Dyrup)

This involvement of dedicated personnel turned out to be instrumental for realizing the integration in the shortest amount of time possible. Integration was completed during

autumn 2009, a few months after the acquisition took place in June 2009. Furthermore, in an effort to preserve intellectual capital and ensure business continuity, Dyrup placed great emphasis on employee retention, which is synonymous with findings from e.g. Deloitte (2010) and Accenture (2002). Shortly after the acquisition was finalized, a number of Hygæa employees (22 to be exact) were integrated into Dyrup's PRO sales organization.

Findings

This case study illustrates how certain circumstantial conditions can affect the outcome of IT integration. Despite being deemed relatively successful by top management, the integration did not proceed as expected. One of the noteworthy impediments to IT integration was the necessity to create bridges between systems, in order for data exchange to take place. This resulted in a deviation from Dyrup's intended acquisition objective and associated IT integration strategy. Initially, Dyrup was aiming for absorption along with complete integration, but due to the aforementioned circumstances, preservation and co-existence objectives were required. Despite this inconsistency in regards to acquisition and IT integration objectives, the measures taken were necessary considering the situation at hand. Johnston & Yetton (1996), for instance, provide a somewhat similar scenario, where two Australian banks created a temporary bridge between their systems in order to allow the customers of either banks to have access to their accounts during the transition. In the mean time, systems integration continued in the background. Upon completion, the integration strategy was deemed successful.

A number of factors having a positive influence on the IT integration were also identified. First of all, the fact that IT due diligence was conducted pre-acquisition enabled Dyrup to pinpoint the issues regarding data exchange at an early stage, which allowed for the careful selection of adequate IT integration strategies accordingly. Second, the appointment of a dedicated project champion with a background in IT to oversee the process proved to be beneficial in terms of completing integration in a relatively short period of time as well as providing sound decision making throughout the process. Third, great emphasis was placed on retaining Hygæa staff, which, according to M&A best-practices (Deloitte 2010; Accenture, 2002), is key to preserving intellectual property. In this sense, Dyrup recognized the "people"

aspect in this acquisition, thereby ensuring that that Hygæa's core competencies were absorbed. This also eased the IT integration process, seeing as Hygæa staff were key participants in providing input regarding which functions and work flow procedures had to be included in Dyrup's IFS setup. The findings of this case are summarized in the table below (Table 5).

	Acquisition objective	IT integration objective	IT integration method
Intended acquisition	Absorption	Complete integration	Take-over
Realized acquisition	Preservation in the short term followed by absorption	Marginal integration in the short term followed by complete integration	Synchronization in the short term followed by take-over
Circumstantial Conditions (and their effect on IT integration outcome)	<ul style="list-style-type: none"> • IT due diligence carried out pre-acquisition (+) • Dedicated champion with IT background in charge of integration (+) • Need for data transfer (i.e. synchronization) (-) • Employee retention (+) 		

Table 5. Summarized findings for IT integration at Hygæa

5.1.4.2. Case 2: Malfarb

Acquisition objectives

In a similar fashion to the case of Hygæa, the objective of this acquisition is considered to be that of absorption. However, the rationale underlying this acquisition is somewhat different seeing as it transgresses national borders. In this sense, the intent was to achieve geographical scale benefits (Grant, 2010; Yetton et al., 2013) by leveraging upon Malfarb's strong position in the Polish professional market. This is indicated in a Dyrup annual report;

“On the PRO market, Dyrup strengthened its presence considerably by acquiring the Polish paint manufacturer Malfarb at the start of 2010, reporting considerable overall progress in Poland in 2010”

(Dyrup annual report, 2010:15)

Dyrup were faced with several challenges in their pursuit of an absorption objective. Considerable differences in organizational culture and IT infrastructure emanating from the geographical disparity between both companies proved to be an impediment to the realization of such an ambitious objective. In spite of these obstacles, Dyrup proceeded with their absorption plans at Malfarb, until a preservation objective was decided upon at a later stage due a change in ownership which took place in 2011.

IT integration objectives

Being consistent with their decision to pursue an absorption objective, Dyrup sought to realize complete IT integration at Malfarb. While Dyrup did acknowledge the effectiveness of the CDN XL platform for supporting Malfarb’s processes, a decision was made by top management to begin implementing the IFS applications solution in the newly acquired Polish firm. Such a decision was in agreement with Dyrup’s endeavors (as a result of the Fresh Start turnaround) to standardize IT and streamline business processes across national borders;

“Dyrup management has decided that the system (IFS applications) will be introduced as quickly as possible in the Group’s other companies. This will lead to further benefits – not least related to working across national borders”

(Peter Sørensen, Country Manager, IFS world report 2009:19)

However, at the time when integration began, Dyrup was acquired by PPG, which led to a discontinuation of all IT integration projects in Malfarb;

“When Dyrup took over, we were running an implementation project of our ERP system, which is IFS. We started the preliminary gap analysis, workshops etc in Poland and was almost ready to

implement IFS in Poland when Dyrup was taken over by PPG. Then of course all activities we stopped.”

(Ole Nygaard Andersen, Group IT manager at Dyrup)

Thus, once the PPG acquisition was announced and officialized, IT integration objectives changed to what can best be described as co-existence. Subsequently, contrary to what was initially planned, no integration took place in this acquisition.

IT Integration Method

Seeing as Dyrup were determined to standardize their IT function by implementing IFS applications, a take-over integration method was initially chosen. This was consistent with Dyrup’s acquisition and IT integration objectives. However, following Dyrup’s acquisition by PPG, the take-over strategy was cancelled arising from the fact that PPG were preparing the implementation of their own ERP solution. As a result, Dyrup adopted a synchronization strategy up to the point where PPG gained full control of IT integration and started implementing their SAP platform.

Circumstantial Conditions

First of all, Dyrup’s failure to include IT due diligence in their pre-acquisition activities resulted in an oversight of Malfarb’s IT landscape, which ultimately led to a postponement of IT integration activities;

“It would have been much easier if we had included IT [in pre-acquisition activities] because if we take the scenario at Malfarb, their IT was not included from the start. That gave us some delay in getting into the process where we were trying to get them onto one system. If IT had been a part of that, it would have been integrated into one system much earlier”

(Ole Nygaard Andersen, Group IT manager at Dyrup)

Secondly, differences in not only IT infrastructure but also in organizational culture gave rise to a troublesome integration process, in which a considerable amount of restructuring was required. It is also important to mention the fact that both companies were 130 kilometers

apart, which added further complexity to the matter (especially from a logistics standpoint). As a result, Dyrup encountered a number of change management issues regarding the integration of Malfarb's procedures and cultures. Furthermore, in contrast to the previous case at Hygæa, integration was steered by Dyrup top management, which is ill-advised according to IT integration best-practices (e.g. Accenture, 2002);

"For the Malfarb acquisition, Jørgen Nicolajsen (CFO at Dyrup) and also Erik Holm, who was the CEO of Dyrup, were in charge of the integration process."

(Ole Nygaard Andersen, Group IT manager at Dyrup)

What ultimately put an end to IT integration in this case was the change of ownership taking place in 2011. Once PPG took over, Dyrup's IT integration of Malfarb's ceased, leaving Malfarb in a state of disarray from an IT standpoint.

Findings

This case has shown to what extent the neglect of key pre-acquisition activities such as IT due diligence has a negative impact on the IT integration process. The incongruence between Malfarb and Dyrup in terms of IT infrastructure, culture and processes would have been identified and dealt with accordingly, if adequate scrutiny had taken place at an early stage. This led to a series of events hindering the progression of IT integration. Change management initiatives were launched to cope with restructuration activities at Malfarb, but failed to make a positive impact. Ole Nygaard Andersen, who was participating in workshops concerning these activities, stipulates that;

"[...] change management is a very big issue when doing acquisitions and if IT is not a part of it, and management is not realizing the issues regarding change management, you get into some bigger issues when you start running projects."

(Ole Nygaard Andersen, Group IT manager at Dyrup)

It is important to note that the main turning point in this IT integration came about when PPG acquired Dyrup (this also marked the third change in ownership at Malfarb in the space

of three years). Knowing that PPG would implement its own IT strategies in Malfarb, Dyrup chose to shut down its IT integration activities. Findings are summarized in the table below (Table 6).

	Acquisition objective	IT integration objective	IT integration method
Intended acquisition	Absorption	Complete integration	Take-over
Realized acquisition	Preservation	Co-existence	Synchronization (no integration)
Circumstantial conditions (and their effect on IT integration outcome)	<ul style="list-style-type: none"> • Failure to carry out IT due diligence pre-acquisition (-) • Geographical disparity between both organizations with different cultures and IT (-) • Poor change management (-) • Change in Dyrup's ownership (-) • Integration championed by top management (-) 		

Table 6. Summarized findings for IT integration at Malfarb

5.1.4.3. Case 3: Plus Paint A/S

Acquisition Objectives

Given Plus Paint's strong position in the Danish professional market, the rationale for this acquisition was for Dyrup to achieve market-scale benefits (Grant, 2010, Yetton et al., 2013). In contrast to Dyrup's previous acquisitions, however, Dyrup does not exert full control over Plus Paint as the agreement was based on a purchase of 51% of stocks. Therefore, the organization remained as an autonomous legal entity;

"Plus Malergrossisten will continue as a separate chain with separate management. Dyrup's acquisition will therefore not result in any noticeable changes in the day-to-day operations for either employees or customers of Plus Malergrossisten"

(Stock exchange announcement, Monberg & Thorsen A/S, 2011)

Hence, absorption would not have been a possibility given Plus Paint's level of independence. As a result, Dyrup chose to opt for a preservation objective for several reasons. One reason was to (separately) consolidate and nurture the Plus Paint brand in a way that complements Dyrup's existing PRO operations;

"The acquisition reflects Dyrup's strategy of strengthening its position on the Danish PRO market. At the same time, Dyrup considers Plus Malergrossisten's local ownership structure in the form of a franchise model to be a definite strength that supplements Dyrup's own PRO centres"

(Stock exchange announcement, Monberg & Thorsen A/S, 2011)

Another factor that influenced acquisition objectives was the imminent change of ownership at Dyrup. Not long after Dyrup's purchase of Plus Paint was agreed upon and sealed, PPG were in talks about a possible acquisition of Dyrup. As a result, Dyrup maintained its pursuit of a preservation objective, knowing that PPG would adapt Plus Paint's organization as they saw fit once they took over.

IT Integration Objectives

Despite pursuing a preservation objective, Dyrup began considering a complete integration of Plus Paint's C5 system. However, such deliberations ceased when PPG entered talks with Dyrup over a possible acquisition. As a result, IT integration objectives were what can be best described as co-existence, which is consistent with the preservation acquisition objective;

"So we put it (IT integration) on hold because they are running on an old C5 system. So we left it at that and when we know what will happen with PPG, we will take it from there"

(Ole Nygaard Andersen, Group IT manager at Dyrup)

IT Integration Method

Shortly after the acquisition, Dyrup were discussing the possibility of complete integration by means of a take-over strategy. This choice of IT integration strategy was based on the premise that Plus Paint's C5 system was considered inferior to the IFS solution, and therefore

could not complement Dyrup's existing IT functions. Therefore a best-of-breed strategy would not have been possible. However, Dyrup later changed its focus, thereby shifting to a synchronization integration method. This was done for two reasons; the first being that Dyrup did not possess complete authority in regards to IT integration decision making, given Plus Paint's level of independence. Ole Nygaard Andersen touches upon this as he discusses the issue of politics in this acquisition;

"It's also the political part here saying that we don't want to change until we are totally in control, and when we are, we can act accordingly"

(Ole Nygaard Andersen, Group IT manager at Dyrup)

The second reason concerns Dyrup's acquisition by PPG. Becoming aware of the fact that PPG would bring into play its own IT integration activities, Dyrup chose to cease its integration efforts altogether;

"From an IT side we have talked about having them integrated into our setup, but we stopped when we were acquired by PPG because it didn't make sense knowing that we were going to change our systems next year"

(Ole Nygaard Andersen, Group IT manager at Dyrup)

Circumstantial Conditions

Several constraints to IT integration were identified in this case. Similarly to the scenario at Malfarb, Dyrup failed to include an IT due diligence as part of its pre-acquisition activities. This was only done once the deal was official, which delayed the identification and documentation of constraints within the Plus Paint setup. Furthermore, Plus Paint's autonomy as a legal entity created restrictions for Dyrup in terms of IT integration decision making. One can safely assume that a more ambitious level of IT integration would have been selected, had Dyrup acquired full ownership of Plus Paint. Another factor constraining a more ambitious level of IT integration was Plus Paint's obsolete IT setup, which was left intact despite continuous deliberations concerning complete integration taking place

between both parties. As was the case with Malfarb, integration was exclusively steered by top management executives;

“When we took over at Plus Paint, that was dealt with by the top management level with Jørgen Nicolajsen (CFO at Dyrup) at that time and Peter Sorensen, the general manager at Dyrup.”

(Ole Nygaard Andersen, Group IT manager at Dyrup)

Finally, PPG’s acquisition of Dyrup had a major negative impact on IT integration processes. Dyrup’s change in ownership was accompanied by an abandonment of all IT integration activities at Plus Paint.

Findings

One prominent finding is the extent to which political processes govern acquisition objectives and IT integration decision making (Earl, 1989 in Wijnhoven et al, 2006; Mehta & Hirschheim, 2004). The fact that Dyrup did not retain full control over Plus Paint’s management disallowed them from freely implementing their own IT integration strategies without debate. As a result, Dyrup had no choice but to opt for a preservation acquisition objective along with a co-existence IT integration strategy, which was not an ideal solution, considering Plus Paint’s obsolete IT landscape. Indeed, literature concerning this topic (e.g. Wijnhoven et al., 2006; Yetton et al., 2013) suggests that complete IT integration is an adequate strategy when the IT of one of the merging parties (often the acquirer) is technically superior to the other. This demonstrates how power relations between both parties impeded the realization of Dyrup’s desired level of IT integration. Therefore, it becomes clear that if the acquisition agreement had been based on a full purchase (i.e. 100% of stocks), Dyrup would have been able to adopt a more absorptive approach to IT integration. In such an instance, Dyrup would have ideally pursued complete integration (through take-over) by shutting down Plus Paint’s C5 system and replacing it with their IFS setup. Ultimately, preservation and co-existence strategies were cemented when Dyrup entered an agreement to be acquired by PPG. Once again, as was the case with Malfarb, Dyrup’s change in ownership acted as a “force majeure” by inhibiting the realization of more ambitious acquisition and IT integration objectives. The findings are summarized in Table 7.

	Acquisition objective	IT integration objective	IT integration method
Intended acquisition	Preservation	Co-existence (with debate about complete integration in the short term)	Synchronization (with debate about take-over strategy in the short term)
Realized acquisition	Preservation	Co-existence	Synchronization
Circumstantial conditions (and their effect on IT integration outcome)	<ul style="list-style-type: none"> • Failure to carry out due diligence pre-acquisition (-) • Plus Paint's autonomy (-) • Outdated IT landscape (-) • Change in Dyrup's ownership (-) • Integration championed by top management (-) 		

Table 7. Summarized findings for IT integration at Plus Paint

5.1.5. Summary

In the first section of the analysis our findings suggest that Dyrup did not experience strategic alignment at any time over the course of their turnaround projects. The Fresh Start strategy, which was based on the development of Dyrup's external growth capabilities, failed to realize a thorough alignment of business strategy with IT components, which gave rise to a somewhat "unstable" foundation for M&A initiatives (especially from an IT integration standpoint). This is consistent with the findings of several studies (Mehta & Hirschheim, 2004; Hirschheim & Sabherwal, 2001; Dameri, 2013; Yetton et al., 2013), where a correlation between degree of strategic alignment and IT integration success is established. Therefore, the second section regarding the IT integration of Dyrup's three acquisitions serves as a validation of this correlational hypothesis. Here, results were somewhat mixed. The first case in point, which was that of Hygæa, describes a process where evaluation of IT was carried out at a reasonable stage. This allowed for the close scrutiny of Hygæa's IT setup, thereby enabling Dyrup to choose adequate IT integration strategies accordingly. Additional factors such as leadership and employee retention further reinforced the positive outcome of this IT integration. The two latter cases of Malfarb and Plus Paint, however, were

rather problematic integration projects. Failure to include IT due diligence in pre-acquisition activities at Malfarb led to an oversight of the company's IT culture and processes. Efforts to harmonize work cultures and systems were put in motion with support from change management, but once again, IT was not considered a priority in the transitional process (as stated by our correspondent at Dyrup). Myers (2008) for instance, in his study concerning the integration of different ERP systems, addresses this neglect of change management in IT integration contexts. He suggests that when a high level of integration takes place, resources should be mobilized in a way that favors business process re-engineering and change management, given that these processes are sources of competitive advantage. In the case of Plus Paint, political processes constrained Dyrup's decision making in regards to integration, thereby limiting acquisition and IT integration objectives to low ambition levels. As a result, Plus Paint's obsolete IT infrastructure was preserved in spite of its inferiority to Dyrup's IFS setup. We also found that this was in disagreement with IT integration best practices. Another point worth mentioning is how the acquisition of Dyrup by PPG impacted IT integration processes at both Plus Paint and Malfarb. Dyrup decided to quit all its IT integration activities at both firms being aware of the fact that PPG would put into motion its own integration projects. As a consequence, Dyrup's high ambition levels of IT integration were once again hindered.

Our findings suggest that Dyrup neglected a number of best-practices in its IT integration efforts. One of which is the inclusion of IT due diligence in pre-acquisition activities. It is a well known and documented fact that pre-acquisition IT due diligence is strongly correlated with the achievement of IT integration success (e.g. Accenture, 2002; McKiernan & Merali, 1995). The absence of this component was reflected in two of Dyrup's integration projects, where several IT related constraints were not identified until after the deal was signed. One of our correspondents at Dyrup confirmed this by stating that;

“What Dyrup did was that IT came late in the process [at Malfarb and Plus Paint]. IT only came in when it was official”

(Ole Nygaard Andersen, Group IT manager at Dyrup)

Hence it becomes evident that Dyrup used IT integration reactively rather than proactively (McKiernan & Merali, 1995), meaning that it was regarded as a post-acquisition issue rather than a pre-acquisition issue. Another inconsistency in regards to IT integration best-practices was the appointment of Dyrup top management executives to oversee integration projects at Plus Paint and Malfarb. This does not conform to one of Accenture (2002)’s imperatives, which is that of appointing a dedicated IT manager to steer the integration process on a full-time basis. Interestingly, Dyrup only followed this rule of thumb in its acquisition of Hygæa, which, as our findings suggest, proved to be an instrumental factor in the attainment of positive IT integration results. However, the question arises as to why Dyrup did not apply the “lessons learned” from this positive IT integration experience in its subsequent acquisitions of Malfarb and Plus Paint. McKiernan & Merali (1995) and Haspeslagh & Jemison (1991), for instance, lay considerable emphasis on the importance of post-acquisition reviews as a means to exploit each new acquisition as a learning opportunity. It has become evident that such ex-ante evaluations were not properly conducted in any of the three acquisition cases, despite Dyrup’s recent shift towards a business strategy i.e. Fresh Start which is highly based upon a growth-by-acquisition vision.

The results derived from our three case studies point to the fact that Dyrup’s IT integration capabilities were inhibited due to poor strategic alignment and lackluster pre- and post-acquisition activities. These are summarized in the following points;

- Lack of attention given to aligning business with IT strategies in pre-acquisition activities
- Neglect of IT component in pre-acquisition planning activities i.e. technology due diligence
- Poor decision making in regards to IT integration steering

- Non-inclusion of IT component in post-acquisition activities such as change management
- Failure to conduct adequate post-acquisition evaluation

5.2. PPG

5.2.1. Business Strategy

In 2005, PPG decided on hiring a new CEO to manage the company and to change the direction the company was going in. This marked a turning point for PPG in terms of goals and strategy seeing as they adopted a much more aggressive and expansive strategy to enforce their position on the global market. As stated in the case description, PPG has performed several acquisitions throughout their existence, yet this aspect had not been fundamentally embedded in their business strategy up until then. This meant expanding their current operations in various ways including innovation, cost and supply chain management, but most importantly it meant acquiring different companies to increase both their economies of scale and scope (Grant, 2010; Yetton et al., 2013).

“Looking ahead, we plan to continue our strategy to grow and strengthen our coatings businesses through innovation and expansion in emerging regions”

(Charles E. Bunch - PPG Chairman and CEO)⁵

Characteristics of their strategies such as moving towards new products and the penetration of new markets solidified the company's position as what Miles & Snow (1978) would classify as an Analyzer. Furthermore, the aspiration to also strengthen their core competences in relation to plate glass and coatings also became a vital part of their strategy and further emphasized the Analyzer characteristics of PPG. These initiatives were intended to support PPG in reaching their set goal of becoming what they have referred to as “the leading company in their field”⁶.

Through the 2008 acquisition of SigmaKalon Group i.e. the largest acquisition done by PPG to date, PPG was able to greatly expand their operations in Asia, Europe and Africa. The

⁵ PPGWP3

⁶ PPGWP4

desired result of acquiring SigmaKalon was for PPG to gain access to the market of architectural coatings which had previously not been a part of their operations. This acquisition further enabled a steady growth through product development and market penetration while still retaining their established products and customer base, which according to Miles & Snow (1978) is also one of the key characteristics of an Analyzer. Combining this with the above notions concerning PPG's business strategies, it is evident that PPG's should be classified as an Analyzer. Furthermore, the acquisition of SigmaKalon was able to surpass their initial expectations in terms of projected revenues and exceeded PPG's success criteria as seen in the following quote:

"This acquisition greatly expanded our international business, extended our participation in various end-use markets, and sharply increased the proportion of sales coming from coatings. The acquisition has, by all measures, outperformed our expectations"

(Charles E. Bunch - PPG Chairman and CEO, PPG Annual Report 2008:4)

With PPG continuing to make use of their growth-by-acquisition strategy, they decided on acquiring the Danish company Dyrup A/S in 2011. This was a strategic decision for PPG done in order to expand their European market share and to facilitate the improvement of raw material procurement.

"The acquisition of Dyrup will help grow PPG's presence in several key European countries where PPG today has little or no architectural coatings presence, as well as broaden our product offerings."

(Pierre-Marie De Leener – PPG Executive Vice President, 2011)⁷

With the acquisition of Dyrup, PPG was able to further increase their production levels in Europe as well as enhance their competitive advantages. As noted in the case description, the acquisition of Dyrup added \$270 million to PPG's net sales in 2011 (PPG Annual Report 2011:20).

Furthermore, as a part of their newly adopted growth-by-acquisition strategy, PPG opted to take upon them their second largest acquisition to date when they decided on acquiring the

⁷ PPGWP5

North American operations of AkzoNobel in 2013. This acquisition was done to further their already substantial market share in North America and resulted in PPG becoming the world's largest coatings maker (PPG Annual Report, 2013:1).

The growth-by-acquisition strategy adopted by PPG proved to be beneficial to PPG net sales. This is evident when scrutinizing their yearly reports with continues to display an increase in stock value. The strategic shift opted by PPG was starting to manifest itself, and PPG's differentiation of their strategies was shown to be an improvement to PPG's earnings. The success caused by PPG's strategic alteration and their acquisitions is noticeable when regarded from a financial standpoint. Even when considering the financial crisis of 2008, PPG were able to perform above their expected goals. With the acquisition of SigmaKalon in 2008, PPG was able to generate record sales with an increase of more than 30% when compared to the year before (PPG Annual Report, 2008). Comparing that to the year of 2013 where AkzoNobel was acquired, PPG continues to show steady financial growth. The acquisition of AkzoNobel helped PPG increase their sales with an added 15% (PPG Annual Report, 2013) which further underline the success of PPG's acquisition strategies and also emphasizes the scale of said acquisitions.

The extensive acquisition strategy has resulted in PPG experiencing a significant growth in a fairly limited timeframe and has thus had a considerable impact on several aspects of the company. One such aspect is that of the IT governance within PPG and will be discussed in the following segment.

5.2.2. IT Strategy

As noted in the case description of PPG, the acquisitions of a large scale company such as SigmaKalon inclined PPG to adapt to and make use of a new ERP i.e. SAP. Before the acquisition of SigmaKalon in 2008, PPG was only making use of Oracle as their main ERP throughout the company. However, due to certain IT aspects of managing the production, sale, and distribution of architectural coatings within SigmaKalon, Oracle was not able to suffice as the primary ERP of PPG outside of North America. This meant that SAP was kept as the primary ERP within SigmaKalon after the acquisition. Furthermore, after the acquisition of Dyrup in 2011, PPG decided on implementing SAP in this company as well as

PPG's other architectural coating companies in order to create IT congruence within its architectural coatings industry. The decision to utilize SAP as their primary ERP within architectural coatings further supported PPG's business strategy due to the capabilities of SAP. More specifically, this is due to SAP being a scalable IT platform which thus supports the growth by acquisition strategy adopted by PPG (Yetton et al., 2013). It should be noted however, that the decision to keep the ERP of an acquisition target is a rare strategy to pursue. Nevertheless, other companies have done so before. PPG's decision to keep the ERP of an acquisition target is similar to the case of Sallie Mae (Brown, 2003) acquiring USA Group and subsequently utilizing USA Group's ERP. This case had a positive outcome, due in parts to sound IT due diligence and IT steering and thus mirrors PPG's acquisition of SigmaKalon.

With the multitude of different business areas of PPG spanning from aerospace coatings and automotive coatings to fiber glass and plate glass, PPG has opted to use specifically tailored versions of Oracle to meet the various IT requirements of each of the individual industries of PPG who utilizes Oracle as their ERP. Therefore, each business segment has a dedicated IT business unit overseeing the IT management of said segment. To further support this IT structure, PPG makes use of a central IT department in Pittsburgh which is responsible for the combined IT management of Oracle within PPG. Furthermore, after the arrival of SAP within PPG, PPG has made use of a centralized IT department in Amsterdam which manages the overall use of SAP within their architectural coatings divisions. In addition, the management of SAP is done much like the management of Oracle seeing as SAP utilizes both the centralized IT department in Amsterdam and also individual IT staffs for each business unit.

"We are running on two platforms, SAP and Oracle [...]. On the SAP environment we actually have [the management of it] split into the divisions, we have IT people that belong to the businesses"

(Ole Nygaard Andersen, Group IT Manager at Dyrup)

This shows that PPG utilizes a shared IT structure to accommodate its IT supervision, and is thus congruent with the Analyzer strategy as explained by Hirschheim & Sabherwal (2001).

Furthermore, the use of modified Oracle versions for different business areas of PPG shows an efficiency aspect of the IS role through process improvement, while having a central IT department is ensuring PPG in being able to quickly respond to the changes of the market if need be, i.e. taking on an opportunistic role. This for instance, was shown with the aforementioned acquisition of SigmaKalon where PPG was able to rapidly adapt to the ERP being used by SigmaKalon, i.e. SAP. This demonstrates a comprehensiveness of the ERP used by PPG and thus further supports PPG's role as an analyzer (Hirschheim & Sabherwal, 2001).

Before the shift in PPG's business strategy took place with the arrival of the new CEO, PPG's IT strategy was focused on insourcing its management of IT. This however, is an approach best utilized by a prospector and therefore did not coincide with the analyzer strategy PPG seemed to aspire to. This aspect was changed though when PPG opted to significantly reinforce its growth-by-acquisition strategy. With the acquisition of companies such as SigmaKalon and Dyrup, where PPG was required to adapt to new ERPs instead of implementing Oracle, PPG adopted a shared sourcing IT strategy. Seeing as a shared sourcing strategy is a strategy best employed by an analyzer (Hirschheim & Sabherwal, 2001) this helped PPG in successfully achieving full alignment.

5.2.3. Strategic Alignment Profiles and Transition Paths

In this part we will examine the level of alignment within PPG both before and after their shift in business strategy through the use of Hirschheim & Sabherwal's (2001) theoretical framework concerning Strategic Alignment. This is done by examining the periods of PPG before and after the arrival of the new CEO in 2005, which ultimately resulted in a strategic shift and in the increased focus on PPG's growth-by-acquisition strategy. As seen in the following tables, we refer to this as Pre- and Post Strategy Shift.

Period 1: Pre Strategy Shift

Business Strategy	Prospector	<u>Analyzer</u>	Defender
IS Role	Opportunistic	<u>Comprehensive</u>	Efficient
IS Sourcing	<u>Insourcing</u>	Selective Sourcing	Outsourcing
IS Structure	Decentralized	<u>Shared</u>	Centralized

Before PPG's increased focus on expansion, PPG was already experiencing a high level of alignment. As explained in the previous section, the IS role was regarded as being comprehensive and therefore matching the analyzer strategy. The IS structure was also determined as being shared and thus also supported the business strategy of PPG. However, with PPG opting to insource their IT management, PPG's IS sourcing were corresponding to that of a prospector business strategy (Hirschheim & Sabherwal, 2001) and PPG was thus not able to achieve full alignment.

Period 2: Post Strategy Shift

Business Strategy	Prospector	<u>Analyzer</u>	Defender
IS Role	Opportunistic	<u>Comprehensive</u>	Efficient
IS Sourcing	Insourcing →	<u>Selective Sourcing</u>	Outsourcing
IS Structure	Decentralized	<u>Shared</u>	Centralized

With the various acquisitions of large scale companies utilizing a different ERP than PPG, PPG transitioned from insourcing their IT management to having a selective sourcing. This was done out of two reasons. Firstly, SigmaKalon was utilizing SAP as their main ERP which at the time PPG had no experience with. Therefore, the cost of implementing Oracle in these newly acquired companies did not meet the practical incentive of doing so. Secondly, PPG management recognized that SAP as an ERP was more adequately designed for managing architectural coatings in comparison to Oracle. This rendered the implementation of Oracle

futile and PPG thus decided against it. Hence, SAP was also implemented into Dyrup. This was further supported through an interview carried out at Dyrup headquarters:

“PPG did not have a large enough incentive to implement Oracle in the companies using SAP. Yes, it would be nice to have the same system throughout, but it’s too demanding to carry out. [Furthermore], SAP was better equipped to handle the type of data associated with architectural coatings.”

(Suzanne Bunch, IT Project Manager)

With PPG changing their IS sourcing to shared sourcing, PPG was able to gain full strategic alignment as an analyzer. However, even before the strategic shift of PPG, PPG’s analyzer business strategy was still aligned with both IS role and IS structure and PPG was thus still experiencing a high business-IT alignment level (Hirschheim & Sabherwal, 2001).

In sum, the expansive strategy employed by PPG through the acquisitions of companies such as Dyrup and SigmaKalon, has only changed PPG’s business strategy in terms of IS sourcing. With PPG increasing their amount of IT outsourcing primarily due to the implementation of SAP, they shifted their IS sourcing from insourced to selective sourcing. The other aspects of their business strategy in relation to strategic alignment, i.e. IS role and IS structure, remained unaltered.

The importance of strategic alignment in relation to IT integration in an M&A setting has been stressed by several authors. The notion that IT integration in a target company can suffer a negative influence by an acquiring company’s low strategic alignment is supported by the findings of numerous scholars as examined in the literature review. However, as demonstrated in this section, PPG has only experienced either a high level of or full alignment⁸. Whether this has positively influenced the IT integration within Dyrup when acquired by PPG will be examined in the following segment.

⁸ Only the strategic alignment of PPG post 2005 is referred to in this thesis.

5.2.4. Post-Acquisition IT Integration Strategy

When Dyrup was acquired by PPG in 2011, PPG opted to change the ERP that Dyrup was already using i.e. IFS applications, and implement their SAP platform. The analysis of the IT integration within Dyrup will be the focus of this section and will be primarily based on the use of Wijnhoven et al. (2006)'s post merger IT integration framework.

Acquisition Objectives

With the acquisition of Dyrup, PPG sought to expand their business involving architectural coatings. When PPG decided on acquiring Dyrup, PPG had recently acquired SigmaKalon which was their first step onto the market of architectural coatings. Therefore, when part of PPG's main business areas consist of paints and coatings, the acquisition of an architectural coatings company such as SigmaKalon would be regarded as an acquisition of complementary scope (Grant, 2010; Yetton et al., 2013). Hence, when PPG opted to expand their European market share within architectural coatings, the acquisition of Dyrup was a logical step. With the significant growth and progress facilitated by the strategic turnaround made by Dyrup in the recent years before the acquisition, and with their solid market shares in numerous European countries, Dyrup was considered a company of interest for PPG to overtake.

Seeing as PPG's main objectives with the acquisition of Dyrup was to take advantage of Dyrup's market share in the aforementioned countries, amongst others, the acquisition would be classified as one of geographical scale (Grant, 2010; Yetton et al., 2013). This is further supported by the statement released by PPG after the publication of the acquisition.

“The acquisition of Dyrup would expand PPG’s European architectural coatings business by extending our geographic presence in the region and by bolstering our [architectural coatings division]. Dyrup’s operations and sales channels would be a great complementary fit with PPG’s structure. The transaction will expand PPG’s growth in key countries, such as Poland, France and Denmark, and further establish PPG in markets where we have limited or no architectural coatings presence, especially in Portugal, Spain and Germany”

(Pierre-Marie De Leener – PPG Executive Vice President, 2011)⁹

In relation to Wijnhoven et al. (2006)’s post merger integration framework, we consider the acquisition objectives of PPG acquiring Dyrup to be regarded as a combination of both absorption and preservation (Wijnhoven et al., 2006). Seeing as Dyrup has remained fairly autonomous and with their already established capabilities being left intact, i.e. the production and sales of architectural coatings, and without much being dictated by the management of PPG, it appears that PPG has opted to preserve the business processes of Dyrup. This is also evident in one of the interviews conducted with Dyrup personnel.

“I am surprised, PPG is a big company, but they do not impose on us (Dyrup) as much as you would expect. [...]PPG has not imposed any specific business strategies onto Dyrup. They do however have a say in what systems should be used [...]

(Suzanne Bunch, IT Project Manager)

The above quotation emphasizes that specific business strategies were not imposed onto Dyrup by PPG which supports the autonomous aspect of a preservation acquisition. However, it also states that PPG decided on which ERP Dyrup should utilize. As mentioned in the IT strategy part of this analysis, PPG opted to exchange the use of IFS with that of SAP within Dyrup in order to maintain congruence within architectural coatings and to streamline business processes. Nevertheless, the implementation of a new ERP does not match the preservation strategy, and is a trait typically seen when utilizing the absorption strategy. Thus, PPG’s acquisition objectives embody aspects of both absorption and

⁹ DYRUPWP2

preservation strategies and only partially matches the standards illustrated by Wijnhoven et al.'s 2006 article. Furthermore, while Wijnhoven et al. (2006) suggest adhering to only one type of acquisition objective, it is important to note that even though PPG's acquisition objectives employs a combination of elements of both absorption and preservation, we have not been able to discern any notable negative impact on the IT integration strategy at Dyrup stemming from this. The IT integration of SAP within Dyrup is further discussed below.

IT Integration Objectives

PPG's integration objectives are best described as being that of a complete integration (Wijnhoven et al., 2006). With PPG implementing the same ERP into Dyrup as the one being used by PPG's other architectural coating divisions, PPG was able to obtain congruence within this particular industry of theirs. This was also done to further improve the communication and data exchange between the subsidiaries of PPG, seeing as a shared ERP would facilitate the streamlining of business processes. The choice of utilizing complete integration is typically related to an absorption acquisition strategy and thus corresponds to the proposed method provided by Wijnhoven et al. (2006)

IT Integration Methods

By choosing to completely remove the IFS platform within Dyrup and implementing their own system of choice i.e. SAP, PPG made use of what Wijnhoven et al. (2006) refers to as a take-over. This allowed PPG to avoid any IT redundancies that could have occurred had PPG opted to make use of for instance a synchronization strategy. However, by utilizing the take-over strategy, PPG negated the preservation strategy aspects highlighted in their merger objectives and instead adhered to the absorption strategy proposed by Wijnhoven et al. (2006). Thus it should be noted that the take-over strategy employed by PPG is in correlation with the complete integration strategy described previously, and thus there is an added congruency to their choice of strategy.

Circumstantial Conditions

Concerning the IT integration within Dyrup, PPG exhibited a number of key factors ensuring a successful acquisition in regards to IT. As part of their pre-acquisition activities, PPG opted to conduct a thorough ex-ante due diligence of Dyrup's IT setting helmed by PPG IT personnel. This allowed PPG to gain a more substantial insight into Dyrup's ERP and IT processes and resulted in PPG being able to evaluate and prepare the IT integration within Dyrup prior to the merger whilst diminishing potential ex-poste problems (McKiernan & Merali, 1995). Thus the IT integration planning was greatly optimized which decreased the amount of uncertainty and common pitfalls typically related to IT integration e.g. information asymmetry and IT constraints (Accenture, 2002). With PPG conducting an in depth technology due diligence of Dyrup's IT, PPG was able to gain an intimate understanding of Dyrup's IT infrastructure and processes and was thus able to prepare the IT integration much more thoroughly in advance. Following the IT due diligence and the acquisition of Dyrup, PPG opted to make use of a project champion with an IT background onsite to manage the out phasing of IFS and the implementation and IT integration of SAP. This facilitated a much smoother transitioning for Dyrup and helped mitigate typical ad hoc problems that would occur during the acquisition phase. Furthermore, having personnel with IT capabilities served the integration of the IT as a whole, whereas this being done by top management for instance, would likely have caused increased uncertainty. The value of having a dedicated IT manager is also noted in our interview conducted with Dyrup.

"For IT integration within Dyrup [...] we had a project manager, an IT expert from PPG to manage it [...] which really helped us in the transition processes"

(Suzanne Bunch, IT Project Manager)

Another key factor adding to the success of the IT integration was that Dyrup found SAP to be highly similar to IFS. Seeing as IFS and SAP employs many of the same functionalities and system features, the learning process came off as more intuitive to the employees. This greatly assisted PPG in teaching Dyrup how to utilize the ERP while simultaneously diminishing the potential resistance to change of the employees, both of which contributed

towards a shortened implementation time. This was further underlined by our contact within Dyrup.

"Changing our ERP from IFS to SAP was a much easier project than going from BPCS to IFS [...]. IFS and SAP share a lot of similarities [...] which was very helpful when we changed the ERP."

(Ole Nygaard Andersen, Group IT Manager at Dyrup)

One of the greatest influential factors in the successful IT integration of Dyrup was the previous M&A experiences of PPG. With a variety of prior acquisitions including SigmaKalon and other large scale companies, and with the subsequent IT integration within those companies, PPG was drawing on know-how garnered from their earlier experiences (as suggested by McKiernan & Merali, 1995). This IT integration learning was instrumental in achieving the sound IT integration conducted by PPG within Dyrup. Furthermore, with the variety of businesses that PPG has extended into, spanning from marine, surface and air coatings to plate glass, fiber glass and silica, PPG has acquired the ability to quickly adapt to the varying circumstances of the markets they are penetrating. These experiences have taught them to continuously develop their acquisition capabilities as well as their IT integration skills and thus further improve their M&A undertakings. It should be noted however, that the issue of politics did not cause problems concerning the IT integration within Dyrup. This contrasts with our analyses of Dyrup's acquisitions seeing as the issue of politics was more prominent there, and thus greatly influenced IT integration outcome as illustrated in the acquisition of Plus Paint.

Findings

The case of PPG acquiring Dyrup has highlighted several prominent points within IT integration which has had an influence on the acquisition as a whole. By taking over Dyrup, PPG has made an acquisition of geographical scale to complement their growth-by-acquisition strategy (Grant, 2010; Yetton et al., 2013). According to the theoretical framework proposed by Wijnhoven et al. (2006), the acquisition objectives of PPG contained aspects pertaining to both absorption and preservation, seeing as PPG's IT integration strategy focused on both preserving Dyrup's business processes while simultaneously implementing

a new ERP into Dyrup. However, despite their acquisition objectives not being consistent with Wijnhoven et al.'s (2006) theories, i.e. combining absorption and preservation, PPG was still able to realize their intended acquisition objectives without any apparent negative consequences stemming from this. Moreover, the IT integration objective, which was based upon a complete integration, was also fully realized with the implementation of SAP while simultaneously adhering to the absorption acquisition objective. This in turn also complemented their IT integration method which consisted of a take-over strategy. Furthermore, the take-over strategy was greatly alleviated by IFS and SAP being similar to one another and by having a dedicated project champion with an IT background on site. This, combined with their past M&A experiences and by conducting an ex-ante IT due diligence, resulted in PPG being able to significantly mitigate the complications of the IT integration and thus PPG was able to realize their intended acquisition objectives and method as seen in Table 8.

	Acquisition objective	IT integration objective	IT integration method
Intended acquisition	Preservation/Absorption	Complete integration	Take-over
Realized acquisition	Preservation/Absorption	Complete Integration	Take-over
Circumstances and conditions (and their effect on IT integration outcome)	<ul style="list-style-type: none"> • IT due diligence carried out pre-acquisition (+) • Dedicated champion with IT background in charge of integration (+) • IFS similar to SAP (+) • Experience in M&A (+) 		

Table 8. Summarized findings IT integration at Dyrup

5.2.5. Summary

At the start of this analysis we examined the IT and business strategy of PPG, noting that the arrival of a new CEO in 2005 was instrumental in shifting PPG's business strategy to that of an increasingly expansive one. This resulted in PPG undertaking their two largest

acquisitions to date (amongst others) and consequently adopted the use of a new ERP, namely SAP. By using theories of strategic alignment (Hirschheim & Sabherwal, 2001) to analyze the IS role, IS sourcing and IS structure, we were able to pinpoint the level of alignment PPG experienced both before and after the implementation of SAP. As noted during this analysis, PPG was experiencing a high level of alignment before their strategic shift, which ensured improved organizational performance (Mehta & Hirschheim, 2004). It was evident that, due to the arrival of SAP, PPG opted to make use of a selective sourcing strategy instead of insourcing, and thus PPG was able to achieve full strategic alignment. With a high level of alignment, PPG was better able to implement IT integration strategies in a way that is congruent with its overall business and IT strategies. This supports our proposed theoretical model showing a correlation between high alignment and sound IT integration. In regards to PPG's IT integration within Dyrup, it was shown that their acquisition objective differed from what was recommended from a theoretical viewpoint and chose to combine aspects of both preservation and absorption. While this negates theories put forth by both McKiernan & Merali (1995) and Wijnhoven et al. (2006), the IT integration within Dyrup did not seem to be diminished. However, it is important to note that the remaining factors of the post-merger IT integration strategy, i.e. IT integration objective and IT integration methods, corresponded to the absorption objective of PPG and were thus carried out in accordance with the aforementioned theorists' framework. Furthermore, when PPG opted to utilize a pre-acquisition IT oriented due diligence, their actions corresponded with the suggestions of Yetton et al. (2013), McKiernan & Merali (1995) and Tanriverdi & Du (2011). Moreover, PPG using a dedicated project champion with an IT background was instrumental in transitioning to SAP and ensuring an effective IT integration which is further supported by Accenture (2002) and Brown et al. (2003). Thus, stemming from their vast experiences concerning M&A throughout the coatings industry, PPG has accumulated a significant knowledge base in regards to IT integration which indicates that they have treated each of their acquisitions as a learning opportunity (McKiernan & Merali, 1995; Haspeslagh & Jemison, 1991). By combining this experience with their high strategic alignment, PPG has been able to execute superior post-acquisition IT integration within

Dyrup which has been demonstrated continually throughout this analysis whilst supported by relevant theories.

5.3. Cross-Case Comparison

5.3.1. Alignment of Business and IT

We have established based on our analysis that Dyrup and PPG were polar opposites in regards to the alignment of business and IT strategies in pre-acquisition contexts. While Dyrup's endeavor to shift its business strategy from a defender towards an analyzer was justifiable (given the market conditions at the time), the organization was unable to angle its IT components in a way that complemented such change. This was particularly evident in the aftermaths of the Fresh Start turnaround process, where only two out of the four components were aligned i.e. Business strategy and IS role. PPG, on the other hand, appeared to be considerably more aware of the importance of congruence between business and IT strategies. Following the acquisition of SigmaKalon, IS sourcing shifted from that of insourcing towards that of selective sourcing, due to their increased outsourcing activities (and as a result of the implementation of SAP). This led to full alignment given that their business strategy i.e. analyzer was aligned with corresponding IT components (namely comprehensive IS role, selective sourcing and shared structure). We consider this discrepancy in regards to strategic alignment to be one of the reason for which both companies exhibited very different IT integration outcomes. The impact garnered by the alignment within PPG onto their IT integration strategies and outcome is in stark contrast when juxtaposed with Dyrup. This further supports our findings in relation to the importance of pre-acquisition business-IT alignment and its influence on IT integration.

5.3.2. IT Integration Steering

Throughout the analyses conducted in the previous segments, aspects pertaining to the IT integration steering in both Dyrup's acquisitions and PPG's acquisition have been scrutinized. The differentiation between these aspects is highly noticeable when comparing them to one another. In addition, the outcome of the acquisitions made by Dyrup and PPG as described in the analyses, serves to further highlight the contrast between their IT integration steering. First of all, while PPG was able to achieve sound IT integration regarding their

acquisition of Dyrup, Dyrup seemed to have considerable trouble in this aspect. The findings in our analysis suggest that Dyrup have not focused adequately on the importance of steering the IT integration while the implementation process took place. We have in our analysis ascribed PPG's integrations success to them being aware of the significance of this. However, in our analysis of Dyrup, we have noted that Dyrup did only utilize sound IT steering activities in one of their acquisitions, i.e. that of Hygæa. This in turn proved to be their most successful acquisition in regards to IT integration. As with the acquisition of Dyrup by PPG, Dyrup chose to employ a dedicated IT project champion to govern the IT steering when acquiring Hygæa. This was an instrumental factor in ensuring quality IT integration, seeing as the implementation time of the ERP was greatly diminished while the decision making throughout the process was improved. The importance of having dedicated IT personnel on site while seeking to integrate an ERP has been stressed in several articles such as Accenture (2002) and Yetton et al. (2013) and have further been confirmed throughout our analyses. However, during the acquisitions of Malfarb and Plus Paint, Dyrup did not make use of dedicated IT personnel which considerably hindered their IT integration process. This again demonstrates the discrepancy in the quality of PPG's acquisitions when compared to Dyrup. Furthermore, the IT steering conducted by Dyrup in the cases of Malfarb and Plus Paint suffered from being administered by top management who do not have the necessary insight or qualifications to adequately helm this process. This serves to further polarize PPG and Dyrup in terms of their M&A abilities.

5.3.3. Technology Due Diligence

As shown throughout the analyses, the focus on IT due diligence differed greatly in regards to Dyrup and PPG. This is yet another aspect showcasing how Dyrup's IT integration strategies did not match those of PPG. However, during Dyrup's acquisition of Hygæa, considerable emphasis was laid on conducting a thorough due diligence. This contributed to a relatively successful IT integration process and thus mirrored PPG's strategy during their acquisition of Dyrup where it was shown that a sound technology due diligence greatly influences IT integration outcome. Nevertheless, this particular strategy was not utilized during Dyrup's acquisition of neither Malfarb nor Plus Paint and Dyrup thus failed to adhere to the suggested strategies put forth in articles such as Accenture (2002) and Yetton et

al. (2013). Here, including personnel such as CIOs or IT leaders in the IT due diligence is highly recommended, yet Dyrup did not take this aspect into consideration. This resulted in the IT integration suffering due to lack of adequate ex-ante due diligence (McKiernan & Merali, 1995; Tanriverdi & Du, 2011). As noted in the analysis of Dyrup, the carrying out of IT due diligence was done post-acquisition in the cases of Malfarb and Plus Paint and thus neglects how IT due diligence in the early stages serves to prevent IT related constraints. Again, this further negates the findings presented in the aforementioned articles while simultaneously contrasting the methods utilized by PPG in their acquisition of Dyrup.

5.3.4. Politics

In our analysis we have laid considerable emphasis on the impact of politics on IT integration decision making and outcome. While we argue that political influences did not have any considerable impact on PPG's IT integration activities, our findings suggest that this was not the case in regards to Dyrup. This was particularly prominent in the acquisition of Plus Paint, where Dyrup could not exert full control over IT integration decision making processes given the nature of the purchase (i.e. 51% purchase of stocks). This consequently disallowed Dyrup from realizing their desired level of IT integration strategy which was that of complete integration and take over (Wijnhoven et al., 2006). As a result, Dyrup had no choice but to settle for a preservation strategy in which Plus Paint's IT platform would be retained, despite its alleged lack of harmonization with Dyrup's IFS solution. Another aspect which provides further support for our claim of political influence concerns Dyrup's change in ownership. When Dyrup was acquired by PPG in 2011, PPG urged Dyrup to discontinue its ongoing IT integration activities given that PPG was preparing the implementation of its SAP platform. This resulted in a certain level of turmoil in Dyrup's IT integration endeavors, most notably in the case of Malfarb, where Dyrup had to terminate its integration activities despite being in the midst of implementing its IFS solution. Altogether, this demonstrates the extent to which political processes and power relations (between acquirer and target) were inherently different in the cases of Dyrup and PPG, and so was their impact on IT integration outcomes.

5.3.5. Nurturing IT Integration Capabilities

Another aspect where both companies highly differed relates to that of IT integration learning. It was apparent in the case of Dyrup that ex-poste evaluation was not carried out upon completion of IT integration projects. This was prominent in the acquisition of Hygaea; despite the fact that IT integration at Hygaea was deemed relatively successful, no effort was made to exploit the knowledge and best-practices gained in a way that benefited future IT integration endeavors. This was highlighted in the subsequent acquisition cases of Malfarb and Plus Paint, where several critical success factors (e.g. pre-acquisition IT due diligence and adequate IT integration steering) were neglected. This highly differed from our findings in the analysis of PPG, where the importance of IT integration learning is recognized. Even though our case study of PPG solely consisted of the acquisition of Dyrup, our results indicate that PPG had accumulated a considerable amount of IT integration experience through their earlier acquisitions such as SigmaKalon. This was demonstrated through PPG's IT integration efforts at Dyrup, where pre- and post- acquisition activities were diligently planned and executed. Hence, this juxtaposition has illustrated the extent to which both companies differ in regards to their development of IT integration capabilities; while Dyrup failed to view its acquisitions and IT integration activities as a learning opportunity, PPG was conscientious in reinforcing its growth-by-acquisition strategy by developing its IT integration capabilities i.e. through learning.

On the following page we provide a table as a juxtaposition of the findings described above in the cases of Dyrup and PPG (See Table 9)

Acquiring firms	Dyrup				PPG
Business-IT alignment	Low level of strategic alignment				High level of strategic alignment
Acquisitions	Hvgaard	Malfarb	Plus Paint	Dyrup	
Pre- & Post acquisition activities	Pre-acquisition II due diligence	II due diligence carried out in later stages	II due diligence carried out in later stages	Pre-acquisition II due diligence	
	II integration steered by II leaders	II integration steered by top management	II integration steered by top management	II integration steered by II leaders	
	Employee retention	Poor change management			
Contextual factors	Need for data transfer	Geographical disparity between both organizations	Politics and power relations	Similarity between IFS and SAP in terms of functionality	
IT integration decision making and processes	Synchronization in short term followed by take over	Synchronization	Synchronization	Take-over	
IT integration results	Relatively positive	Negative	Negative	Positive	
Development of IT integration capabilities	II integration experiences were not treated as learning opportunities				Learning was derived from IT integration experiences

Table 9. Summary of factors influencing IT integration at Dyrup and PPG

This chapter seeks to discuss the findings of this study as well as their importance. To provide perspective, we relate our findings to that of other studies whilst also presenting alternative explanations to our findings. Lastly, we discuss the limitations of this study and offer suggestions to future research.

6.1. Prominent Findings of the Study

Throughout the analyses of the three acquisitions made by Dyrup and the acquisition of Dyrup by PPG, we have been able to pinpoint and identify numerous key factors related to our study. By applying the necessary theoretical frameworks for scrutinizing the companies' business and IT strategies and their acquisition and IT integration capabilities, we have been able to transform the data obtained from the companies into the findings that will serve as the basis of this discussion. In the literature review section of this thesis, a variety of academic articles pertaining primarily to the frameworks of strategic alignment and IT integration were examined and explained. This provided us with the theoretical basis to properly dissect and analyze the data that had been obtained from the two case companies.

At the beginning of the two analyses, a brief focus was put on Dyrup's and PPG's overall business strategy. In the case of PPG, we examined how their acquisition of companies such as SigmaKalon was instrumental in increasing PPG's level of alignment due to their influence on PPG's sourcing strategy. This high level of alignment was shown to complement PPG's acquisition of Dyrup due to its positive influence on IT integration. Furthermore, our analysis suggests that PPG's history of prior acquisitions has contributed to the development of their IT integration capabilities. Thus one can infer that PPG has treated each of these experiences as a learning opportunity.

In the case of Dyrup, despite the change from a defender business strategy towards an analyzer business strategy, the organization still exhibited low business-IT alignment. Nevertheless, their subsequent acquisition of Hygæa proved to have a relatively successful outcome. This illustrated that having low strategic alignment alone does not necessarily result in a negative IT integration outcome for an acquisition. However, we were able to indicate that there was a significant correlation between strategic alignment and whether or not the IT integration is a success. This was apparent through our analysis of Dyrup's acquisitions of Malfarb and Plus Paint, as well as PPG's acquisition of Dyrup. There, it was

shown that the level of alignment was able to influence the outcome of the acquisitions both positively and negatively. Therefore our findings point to strategic alignment indeed having an influence on IT integration, yet other factors are able to sway the results as well. This is evident both in our analysis of the acquisition of Dyrup by PPG as well as the analyses of Dyrup's acquisitions of Malfarb and Plus Paint. In the case of PPG acquiring Dyrup, PPG's high level of alignment was established as having a positive influence on the IT integration process and decision making. Furthermore, the pre- and post-acquisition activities conducted by PPG combined with the influence of contextual factors (e.g. similarities between IFS and SAP) during the IT integration process were shown to positively impact the IT integration results as well. This further supports not only the suggested correlation between strategic alignment and IT integration but also the added influence of factors such as pre- and post-acquisition activities along with contextual factors. This was also showcased in Malfarb and Plus Paint's poor IT integrations results due to Dyrup's low level of alignment paired with factors such as politics and lackluster pre- and post-acquisition activities. Moreover, the acquisition of Malfarb and Plus Paint made by Dyrup did not seem to benefit from the experience garnered by their acquisition of Hygæa. This shows that their IT integration capabilities were not developed by the positive IT integration aspects of Hygæa and thus Dyrup did not exhibit competent learning skills.

Furthermore, our analyses have shown how the results of the IT steering was paramount in achieving optimal IT integration. This was shown both in PPG's acquisition of Dyrup and Dyrup's acquisition of Hygæa, where having dedicated IT personnel greatly influenced the IT integration. However, in the cases of Malfarb and Plus Paint, the IT steering was administered by top management which had negative repercussions on the IT integration outcome. This further underlines our suggestion that the IT integration outcome is influenced by a variety of factors including strategic alignment, IT integration decision making and processes, and pre- and post-acquisition activities combined with contextual factors as shown in our proposed framework model (See Figure 4 in section 3.4.).

6.2. Meaning and Importance of the Findings

By analyzing the three acquisitions made by Dyrup and the acquisition of Dyrup by PPG, we have been able to demonstrate the variety of consequences that arise when either utilizing or neglecting the suggestions put forth in the theoretical frameworks. Our findings have shown how strongly these consequences are able to influence the outcome of a company's IT integration results and thus underline the importance of companies recognizing these aspects of an acquisition. By not adhering to the findings stated in this thesis and by not following the suggestions made by the theories used throughout our analyses, companies run the risk of severely compromising the outcome of their acquisition in regards to IT integration. This is evident when considering the negative implications inflicted in the cases of Malfarb and Plus Paint. Furthermore, our findings have shown that not only is a company's high level of alignment able to positively influence the IT integration outcome, it is also able to act as a means to strengthening overall business processes. Moreover, even though the correlation between low alignment and poor IT integration has been established in several articles, the notion that high IT alignment facilitates sound IT integration seems to be relatively unfounded in comparison. However, seeing as this thesis suggests that a high level of alignment positively influences the IT integration outcome as noted above, further support has been added to this notion which contributes to the importance of achieving a high level of strategic alignment.

Another aspect which we find relevant to highlight in this part is how the focus on IT integration from an academic standpoint is relatively new. The majority, if not all of the articles pertaining to the topic of M&A IT integration strategy which we have used throughout this thesis have been written within the past 25 years. Therefore, the body of knowledge concerning this subject has not yet been sufficiently delved into and thus seems far from depleted. This thesis has sought to build on the already established findings of this subject and subsequently further explore it through case based analyses. In doing so, further emphasis has been laid on the importance of this subject and by extension our findings as well.

6.3. Relating to Other Studies

Several parallels can be drawn between our findings and those of other studies in the field of M&A IT integration. To begin with, the neglect of IT in the acquisition process was highlighted on several occasions in this thesis, most notably in Dyrup's acquisitions of Malfarb and Plus Paint. Authors such as Toppenberg et al. (2013) provide support for these findings by arguing that organizations generally do not consider IT as being critical for M&A success. This is reflected in their literature research of IT integration in M&A, where there is consensus surrounding the lack of representation by IT in valuation and due diligence processes. As we have seen earlier in this thesis, this is also a subject of discussion in Yetton et al. (2013)'s case study of Danisco, where they advocate the participation of CIOs and IT leaders in pre-acquisition activities.

Dawson et al. (2010) further emphasize the role of IT and its importance for merger integration. As one of their main findings, they argue that successful merger integration requires close alignment between IT and the business side of organizations before, during and after the merger. While in this paper we have not investigated Dyrup and PPG's business-IT alignment in post-acquisition contexts, heavy emphasis was laid on the importance of alignment in pre-acquisition processes. We have also identified similarities between our findings and those of Brown et al. (2003) in their investigation of the Sallie Mae's acquisition of USA Group. Here, the authors touch upon a number of critical success factors that engendered a successful IT integration outcome. One of which was the emphasis on staff retention as a means to preserve intellectual capital. As highlighted in Dyrup's acquisition of Hygaea, staff retention of Hygaea employees played a pivotal role in the IT integration process, in the sense that it enabled the absorption of tacit knowledge relating to IT and work processes. Another matter where our findings seem to converge with those of other studies relates to that of the development of IT integration capabilities.

Throughout this thesis, we examine how deriving knowledge and best-practices from previous IT integration experiences can contribute to sustainable IT integration capabilities. Such findings are also mirrored in numerous works e.g. McKiernan & Merali (1995), Tanriverdi & Du (2011), Yetton et al. (2013), Accenture (2002), Haspeslagh & Jemison (1991).

These studies not only served as a motivation factor for this thesis but also provided additional support for our study's results.

Furthermore, the issue of politics which we have addressed throughout this thesis has also been elaborated on by e.g. Mehta & Hirssheim (2004; 2007). In their article, Mehta & Hirssheim (2007) provide a framework describing the various factors influencing IT integration decision making during M&A. Here, based on case study evidence the authors provide several sources of political influences (e.g. the imposition of the acquiring organization's processes and rules) that shape IT integration decision making. We consider such findings to be consistent with those of our study, as illustrated in the case of Dyrup (most notably in the acquisition of Plus Paint) where political influences hindered the progression of IT integration activities.

6.4. Alternative Explanations of Findings

The analyses in this thesis have repeatedly highlighted the impact of pre- and post-acquisition activities, strategic alignment, IT integration decision making and processes along with contextual factors in relation to IT integration results. However, other factors are likely to sway the results as well. Different aspects such as change management, knowledge management and project management indubitably influence IT integration results.

In terms of change management, authors such as Orlikowski (1992) and Davis et al. (1989) describe the difficulties that may arise when seeking to implement new information systems, e.g. an ERP. Orlikowski (1992) discusses how cognitive and structural elements are able to hinder the usage and understanding of a new system if change management is not a vital part of the integration. This outlook is also supported by Davis et al. (1989), who discusses people's resistance to groupware implementation, i.e. resistance to change, and how there should be an added focus on factors such as stressing the systems usefulness when adopting a new information system. Seeing as one of our correspondents at Dyrup was aware of change management issues during the acquisition of Malfarb, it is a possibility that resistance to change was also a caveat in this acquisition and thus these aspects could have influenced our findings.

In regards to knowledge management, authors such as Rumyantseva et al. (2002) and Bresman et al. (1999) discuss how knowledge transfer and knowledge integration is able to influence the outcome of an M&A. In Bresman et al. (2002)'s longitudinal study of knowledge transfer in a post-acquisition integration process, the relationship between target and acquirer is examined. Here it is shown how using only one-way communication from the acquirer to the target damages the integration of IT. That is to say, that the acquirer imposes their methods onto the target and thus there is no room for an ongoing development of the integration process during the acquisition. Rumyantseva et al. (1999) discuss how establishing cultural similarities in order to ease communication and thus improve the post-merger integration can facilitate a positive integration outcome. As stated in our analyses, the issue concerning cultural dissimilarities proved to be evident in the acquisition of Malfarb, and thus may have had an impact on our findings.

Lastly, Deloitte (2010) discusses how sound project management and a focus on due diligence and integration management is able to greatly sway the outcome of an acquisition. Here, there is added emphasis on the importance of leadership as well as the consequences of neglecting such an aspect. In the case of PPG acquiring Dyrup, PPG seemed to be aware of notions such as those put forth in Deloitte's (2010) article. Therefore, it is possible that these aspects have positively influenced PPG's acquisition of Dyrup.

The various aspects pertaining to the different frameworks noted above are all able to influence a company's IT integration in different ways. Many more factors have this potential as well, and thus the above segment should only serve to deliver a fragment of what issues could have an added influence on our findings.

6.5. Limitations of the Study

While we do consider the findings provided in this report to be trustworthy, a number of methodological and theoretical constraints have been identified. One of which concerns the small sample size of the study which consists of only two acquiring organizations and four targets. This consequently raises concern regarding the credibility of the data gathered, given that the sample size may not be a representative distribution of the population. Moreover, it is also important to note that our sample selection was confined to organizations in the wood

care and paint industry, which prevented us from making generalizations surrounding IT integration in cross-industry M&A contexts.

Another constraint worth mentioning involves the shortage of data, which has required us to limit the scope of our study in several areas. First of all, there was an asymmetry between both acquiring organizations regarding the gathering of data; given the difficulty of establishing contact with PPG management, a majority of our data collection stemmed from ongoing communication with Dyrup personnel. This resulted in somewhat of an imbalance in terms of our analyses, due to the larger amount of knowledge concerning Dyrup's IT integration activities as opposed to the case of PPG.

Secondly, we encountered difficulties in respect to finding additional participants who were willing to assist us in our research. We attribute this to the fact that M&A is a sensitive context (Mehta & Hirschheim, 2007) in which participants are not only plagued by busy schedules and heavy workloads, but also constrained in regards to the amount of M&A related information they can disclose. As a result, this prevented us from conducting a longitudinal study of the various IT integration cases with support from key participants (e.g. CIO, CEO), which potentially would have provided us with a more comprehensive understanding of such activities on a long term basis.

Finally, the acknowledged scarcity of literature pertaining to IT integration in M&A contexts (as noted by e.g. Mehta & Hirschheim, 2007; Myers, 2008; Toppenberg et al., 2013) has further added to the limitations of this study. Given the narrow spectrum of established theories relating to the topic, we were considerably limited in our selection of theoretical frameworks.

6.6. Recommendations for Further Research

As we have acknowledged in the previous section, several factors limiting our study have been identified, which encourages additional exploration into this field. To further support the study of IT integration we have proposed the following suggestions which we think could have supplemented either our own research or the conducting of future research within this field.

We recommend increasing the amount of cases combined with quantitative research methods for future practitioners performing investigations similar to ours. The added amount of cases would result in a higher amount of data and the obtention of quantitative data would provide a statistical overview in terms of common elements. For instance, if a majority of cases could point to a need of increased IT steering, this would highlight a common pitfall. The statistical data would thus illustrate what pros and cons to be most aware of yet also show which components that are able to have the largest impact on IT integration.

Another recommendation would be to conduct this same type of research in contexts where acquiring companies differ with their targets in terms of industry. This would facilitate a broader perspective on the study due to the potential issues that may arise from companies belonging to different industries. For instance, if a conglomerate were to acquire a company outside of their current business area, the lack of insight into the specific industry might result in issues that did not occur throughout the analyses in this thesis. As such, this would show whether or not the IT integration would be inhibited due to not belonging to the same business area.

We also suggest carrying out this research over an extended period of time in order to research the issues from when the acquisitions first took place. This would result in a longitudinal study and perhaps provide data that has not been evident in this study. For instance, our findings are ascribed to data which has been obtained after the fact. Therefore, some of the data extracted might be lost during the time in between and thus suffer from being incomplete. In addition to this, the data retrieved during a longitudinal study could potentially be more in depth due to not having a time gap.

Lastly, we suggest the implementation of other theoretical frameworks when studying IT integration. As stated earlier, the use of other theories stemming from e.g. change management, knowledge management and project management will result in a considerably more nuanced research and thus grant a much more wholesome answer to the issues regarding IT integration. However, we recognize that the comprehensiveness of this type of study would be highly demanding yet nonetheless a point of academic interest.

Due to IT integration being a critical matter when companies seek to merge, and with the research carried out in this field being somewhat limited, this area of study stands to benefit from an increased academic focus. Therefore, we acknowledge a need to conduct further research on this matter, seeing as this would facilitate a more wholesome body of knowledge being provided, and thus companies would be able to obtain better results when performing IT integration in mergers and acquisitions.

The aim of this study was to examine how an organization pursuing a growth-by-acquisition strategy could create a sustainable foundation for successful IT integration strategies. As a means to support and guide our investigation, we made use of three sub questions;

- 1) To what extent does the degree of business-IT alignment have an impact on IT integration decision making and processes?
- 2) How do certain circumstantial conditions (pre- & post-acquisition activities, various contextual factors) act as either enablers or inhibitors to IT integration?
- 3) How is an organization able to further develop its IT integration capabilities?

While these areas have been thoroughly and broadly discussed throughout this thesis, we find it important to provide the reader with clear and concise answers to each question. To begin with, relating to the first question concerning strategic alignment, we have established that the degree of congruence between business and IT strategy does have an impact on IT integration decision making and processes. This was made evident through the analysis of our two case companies, where Dyrup's low level of alignment resulted in poor IT integration processes, as opposed to the case of PPG where IT integration processes were well executed due to strong alignment. Secondly, we have demonstrated how circumstantial conditions can have both positive and negative effects on IT integration. Our findings suggest that well planned pre- and post-acquisition activities such as proactive IT due diligence and adequate IT integration steering contribute towards successful IT integration, while other factors e.g. power relations (between acquirer and target) and cultural/geographical differences between both firms may have opposite effects. Finally, we have discussed the steps an organization must take to further develop its IT capabilities. Here we stress the importance of ex-poste evaluations in such a way that requires organizations to view each acquisition (and IT integration project) as a learning opportunity. In this instance, the lessons learned and best-practices derived from each IT integration experience contribute to the accumulation of knowledge in this area. Altogether, an organization seeking to create a sustainable foundation for IT integration must be aware of

these different factors and should thus carefully manage them as a means to ensure a positive impact on IT integration outcome.

We believe that this thesis provides decision makers in M&A contexts with the necessary theoretical tools to adequately carry out their IT integration endeavors. In this sense, the IT integration model we present in section 3.4. serves as a framework that merging organizations can make use of when conceiving their long-term IT integration strategies. Nevertheless, as argued by numerous authors, this area of research remains relatively meager. Therefore, we urge practitioners and scholars in the field to build upon our findings in their future research, perhaps by looking into other elements that have an influence on IT integration outcome.

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