

Integration of Information Systems in Mergers and Acquisition of companies

Zora Říhová

Department of Applied Informatics, University of South Bohemia, CZECH REPUBLIC, Ceske Budejovice, email: zrihova@prf.jcu.cz

Abstract: The paper focuses on the issues of Mergers and Acquisitions (M&A) in case of integration of information systems (IS). Surveys show that in the area of IS it is extremely difficult to achieve success and it is important to do a very good IS analysis - requirements for the target functionality of the IS.

Keywords: Mergers and Acquisitions (M&A), information system, integration, analysis of IS, migration of data

I. INTRODUCTION

Motto: "The Steering Committee on the issue of mergers usually spends more time choosing a new logo than dealing with the problems of IT and IS." D.Brown [3].

This paper is intended for the section Information and analytical support of economic activities. It deals with a very common issue, which in concrete terms is very difficult and not always successful.

One of the major economic activities that affects many companies throughout their life is the merger and acquisition. This is a one-time activity but it has a major impact on the companies. Therefore, a deep analysis and setting of clear objectives to be achieved by this process is a very essential prerequisite. This paper focuses on one part of this process which is the way of integrating information systems .

The integration involves several different ways of IS integration, based on personal project experience from the years 2002-2015[7].

In practice, we distinguish these basic types of M&A [4]:

Vertical merger is a combination of businesses at different levels of the supply chain. This is a connection to a vendor (extension to sources), or to customers (spreading to the customer). For example, the glass manufacturer will contact the installer.

Horizontal merger is a combination of two or more companies operating in the same industry and the market at the same level of the supply chain. The merger of two competing businesses, where, for example, a smaller company merges with a larger one. An example could be the merger of two district bakeries.

Congeneric merger means a merger of companies from related business unions that do not compete with each other but complement each other. A classic example is the connection of a computer-centric company and a software developer.

Conglomerate merger is the type of merger involving companies from unrelated business sectors. For example, making toys with a construction company.

In Table 1 is the overview of M&A types and their impact on IS by strategy types.

TABLE 1. REQUIREMENTS FOR IS INTEGRATION BY STRATEGY TYPES [8]

| M&A Strategy | Model | Requirements for IS integration |
|----------------|-----------------|---|
| Vertical | Unification | Real-time exchange and sharing of data, highly integrated business processes |
| | Coordination | Exchange and data sharing, |
| Horizontal | Unification | Fully integrated company, data exchange and sharing |
| | Coordination | Exchange and sharing of customer information, centralized management, autonomous operation of business units |
| | Replication | Centralized and standardized business processes, aggregation of information |
| Congeneric | Coordination | Aggregation of information, sharing of customer / market information, autonomous operations of business units |
| | Diversification | Independent transactions, Shared Infrastructure/Service, Autonomous Business Unit Operations |
| Conglomerative | Diversification | Autonomous operations of individual business units, independent transactions |

A somewhat related issue is the efficiency of of integration of information systems which is, however, not dealt with in this paper. Lipaj and Davidaciene[9] discuss how integration of information systems can increase the economic indicators of businesses, together with work productivity and efficiency. The paper by Yuldasheva & Doronina [10] is devoted to the task of developing efficient means to analyze functioning of an

information system of the cyclic type based on determining the integral performance criterion. The criterion is developed based on the analysis of all the processes occurring in the information system (IS) of a university. Also they consider certain qualitative and quantitative parameters affecting the integral index of efficiency.

II. GOALS OF INTEGRATION

The reason for mergers and acquisitions is to achieve financial success and power, savings, higher shareholder value: so it is mainly about getting a positive synergistic effect. From the literature [1] it is known that the issue of ICT is not often seen as crucial in the course of trade talks. On the basis of a survey which was conducted in 80 companies in cooperation with 20 CEOs, 20 CFOs, 20 IT and HR Directors, it was found that Information technology occupies the largest share of time and this is the reason to address this issue.

The goals of the integration of IS in the process of M&A is [7]:

- to support the achievement of the objectives set in combining companies
- to standardize processes
- to standardize the methodology for the calculation of basic indicators
- to consolidate information technology without disruption of companies
- to prepare and implement synergies into the cost of IT
- to create conditions for the effective use of IS.

Therefore, it is necessary to analyze the situation of IS.

The above described points are given as an example which factors are essential to be taken into account in the course of an integration process.

III. APPROACHES TO INTEGRATION

The decision about the final IS has to be taken by the management. Prior to this decision it is necessary to conduct a feasibility study.

During the feasibility study the following tasks have to be performed and documented:

- Detailed analysis of the existing functionalities and processes
- Gap analysis
- Gap classification (relevance)

- Alignment and documentation of the functional specifications
- Performance criteria and requirements
- Proposals of the target IT architecture and processes
- Cost estimation including test efforts
- Implementation and testing plan with special regard of the 'smooth' outphasing of the current solution (e.g. analyze if Big Bang is possible)
- Risk analysis and mitigation actions

Based on the outcome of the feasibility study the IT staff makes proposals and recommendations for implementation possibilities: [7]:

- a) unification - highly integrated business processes
- b) coordination – exchange and sharing of information
- c) replication – aggregation of information on a higher level
- d) diversification – only a few shared data (except financial information).

For the merger of Information Systems following different solutions can be recognized:

- a) leaving existing information systems and creating a basic/critical connection of some selected functions or system specific *tady něco chybí*
- b) moving the main functionality in a common system
- c) migration of one used information system to the other existing information system
- d) migration of all companies in the new joining.

Selection of variants in a) through e) depends on the selected IS investments, but primarily on the relationship to the production and the model of M&A.

Integration always requires financial, human, material and time costs. It is important that consideration should be given to the necessary adjustments.

M&A in the field of IS is the most complex task for IT staff s is a alignment of strategy, gap analysis systems, data analysis, data migration, etc.

Factors (Fig.1) with relevance of 77-50 refer mainly to owners and company management, possibly to several experts. But relevance 48 (this is also a very high figure) is the integration of the IS as a technological activity, which can be attended by up to hundreds of people who analyze, elaborate, search for uniqueness and requirements. This requires not only the involvement of many people, but also time-consuming work.

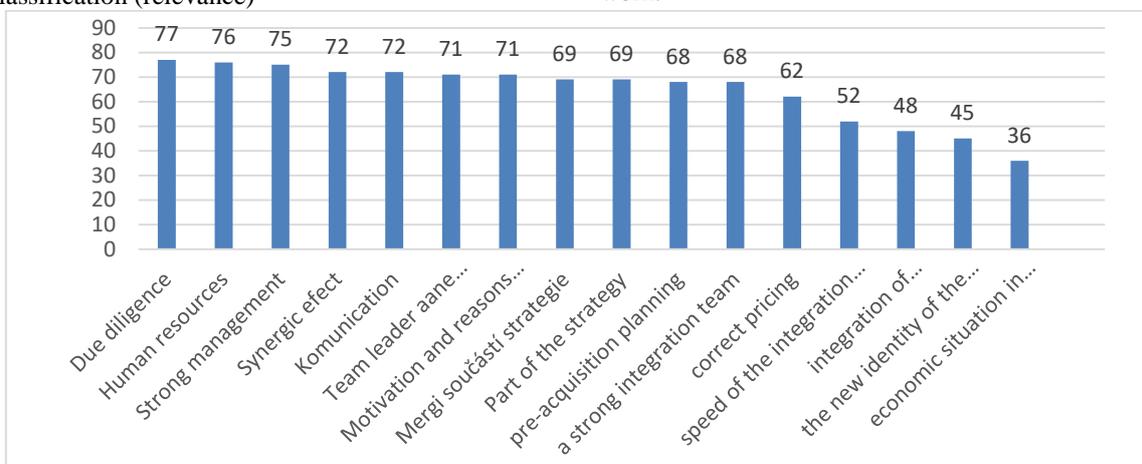


Fig. 1. The relevance of individual factors in relation to the success of M&A [63].

Experience shows that the steering committee often does not realize that this interferes all areas of the company, and thus it differs from integration activities in other area. The same is

true for setting the time for this integration. During the M&A all information systems have to work in parallel.

Similar results are from research Factors of Failure [2].

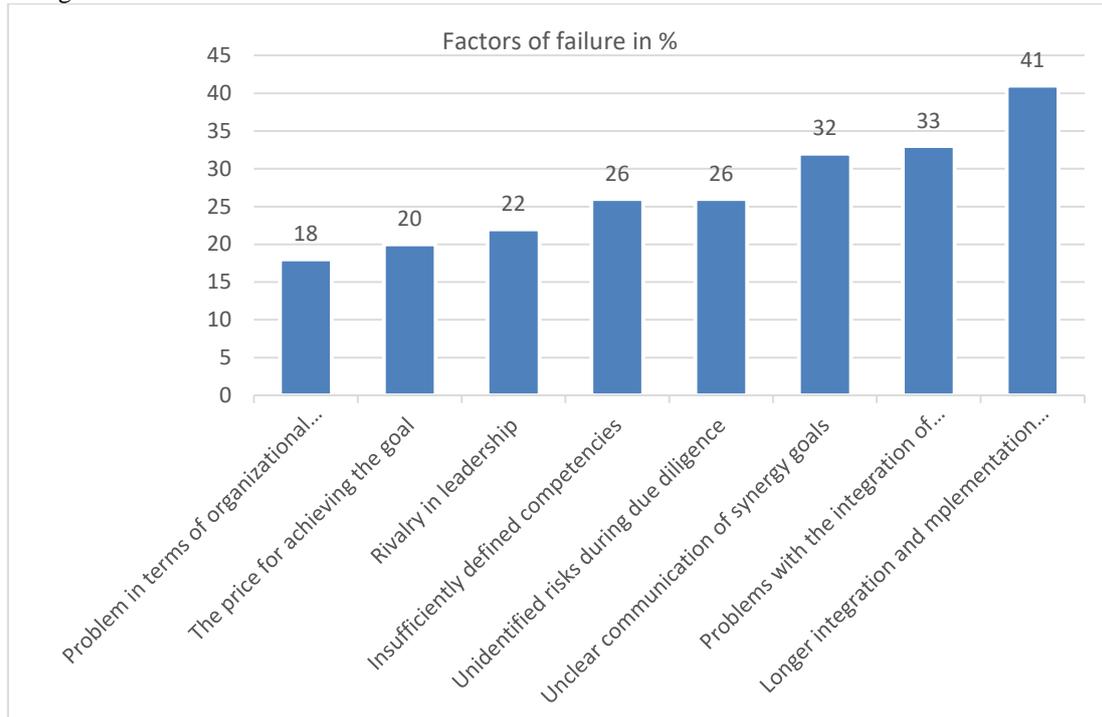


Fig.2. Factors of failure [2].

Problems with IS are very high 41% and it is necessary to solve it. The another text deals with the causes of IS issues.

IV. ROOT CAUSES OF PROBLEMS

From the praxis it is known that questions about IS during trade negotiations in M&A are rarely seen as crucial.

Failure to achieve the expected results is 70% the result of problems in the field of ICT, as shown in the study which was done by Hugh Craig-Halkett, who examined the CEO and IT due diligence in Great Britain and the USA [3].

One study done by Accenture [1] showed that more than 75% of executives are unaware of the critical role of IT in M&A.

The study [6] showed that more than 75% from 125 companies in the survey had problems in the integration of ICT, particularly the incompatibility of information systems.

These problems were in unconnected systems and processes, data redundancy, incompatibility, slow integration and thus lost business opportunities, which are often discovered only after signing the M & A contract.

The root causes of problems in M&A process are:

- a) **Insufficient gap analysis** before signing the contract. - setting of clear objectives, finding specification and uniqueness in all IS and requirements to the target IS functions.
- b) **Analysis of the Integration Process** - this is a unique / individual process for which there is no methodology available and, therefore, has to be preceded by a thorough analysis of the intent and the procedure. It turns out that corporate culture plays a significant role in integration, but unfortunately IT staff is not sufficiently analyzed and perceived.

- c) **Migration and consolidation of data.** This area is often underestimated and solved often after signing the M&A contract. It should be clear whether data for continuous production (joint planning and production, bank customer service, etc.) is being processed and consolidated or information is being processed (data is being evaluated), and in this case a more loose integration schedule. different data structure and different processing methods, inaccessible documentation not only before the integration but also the course of integration, which can not be of a technical nature. It is necessary to define data and their models, link to processes and individual transformation points in the enterprise.

- d) **Non-compliance framework to comply with the data governance.** Compliance can help integrate workflows and accelerate the achievement of integration goals (accessibility, manipulation, accuracy and completeness, consistency, controllability and security). This area is fully responsible and responsible for ICT staff and quality project management of the M&A.

- e) **Project management of the integration process.** Mastering the project is not a matter of course and has to start with the correctly selected team including determining responsibility for this integration. Then, of course, it is necessary to set and follow the project procedures (carefully elaborate a project management plan, project goals, determine risks, think real timetable, etc.). An important role, often decisive, is the personality of the project manager. It also depends on the team building, cooperation, organizational and factual management.

- f) **Underestimation of the time required for the integration** of IS systems. Schedules usually set times for the ideal state of progress and the course of M&A. It is not just

about the speed at which integration takes place depending on the need for data integration - and therefore in terms of meeting the planned ICT integration timetable, but also from the point of view of starting this integration (some M&A starts the integration process even after a few years after signing the contract). In this case, the solution is the decision of the steering committee, based on the recommendations of the ICT staff, when sufficient timetable clearance or appropriate capacity to implement the overall M&A.

Further successful management of the M&A process in area of IS is a complex process of tasks in which there is a potential risk of occurrence of a number of errors and problems. The other related problems can be classified into the following seven categories:

- Inappropriate planning
- Unrealistic expectation of the project
- Bad time distribution
- Inefficient use of resources
- Miscommunication
- The absence of sophisticated business tools
- Difficult access to quality information.

The occurrence of each of these problems can potentially also lead to a failure, even if the most effective opportunity for merger or acquisition is to be seen.

V. CONCLUSION

Problems with IS and its integration together with the insufficient data analysis of associated companies is often the cause of failure in the resulting M&A.

This paper generalized the specific findings of the five mergers IS of large multinational companies.

IS is the nervous system of the company and its interconnection to another nervous system is a complex process.

So it is therefore important for success M&A of IS:

- Accurate and thorough definition of objectives and scope of the project
- Establishing sufficiently realistic plans in relation to resource capacity
- Defining basic competencies (roles and powers),
- Ensuring sufficient expertise in data migration and project management
- Sufficient awareness of the ongoing and ongoing project of all stakeholders
- Collect all available documentation describing source and target systems and data
- Sufficient understanding of functional and other requirements
- Reduction of complex dependencies on related projects
- Identification of potential problems and risks.

Therefore, an analysis of the IS, involving a large number of people (users, consultants, experts, etc.), and individual information is based on data and therefore data analysis and migration are important components of successful M&A

implementation. It is important for this to be known by the steering committee of the participating companies.

Integration of IT often comes up after the M&A contract is signed and then this area is resolved smoothly. It is in the pre-contractual process that possible future problems of integration of IT are usually not solved. This can lead to unforeseen additional costs and time slippages in the schedule.

If the assessment options compatibility of the IT were engaged before signing the contract, then a real plan for the integration along with an assessment of the risks and possibilities for risk prevention could be developed.

One of the most important motives for mergers and acquisitions is to create a more stable and efficient company with significant and competitive market activity. However, even after a successful merger, maintaining the competitiveness of a company can be a difficult matter. One important way is consistent attention to data and information systems.

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