

## MASTER

### Influencing the use and development of electronic reverse auctions a taxonomy of issues and recommendations for Inbev nv/as

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***Influencing the use and development  
of Electronic Reverse Auctions***

*A taxonomy of issues and recommendations for Inbev nv/as*

# ***Influencing the use and development of Electronic Reverse Auctions***

*A taxonomy of issues and recommendations for Inbev nv/as*

**Master Thesis  
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## **Abstract**

This project is a study of issues influencing the use and development of ERAs at buying organizations. The data has been gathered by conducting case studies and analysed using a qualitative data analysis method. The result is a taxonomy of issues that are used in the recommendations for Inbev nv/sa regarding their global roll out of the ERA tool.

## Executive summary

The internet has provided new opportunities for buying organizations to enrich their purchasing process with internet based purchasing tools. The Electronic Reverse Auction (ERA) is one of these tools that are used by a large amount of buying organizations nowadays. In short, an ERA can be described as an online real time auction between a buying organization and multiple suppliers, where suppliers can place bids during a certain time period.

The implementation of the ERA tool at buying organizations needs to be well prepared to achieve the required use and development of the tool. When exploring the academic literature regarding the use and development of ERAs at buying organizations, the conclusion can be drawn that this type of research is still in its infancy (Jap 2002).

The lack of knowledge about the use and development of ERAs at buying organizations leads to the first objective of this project: "Provide insight in the use and development of ERAs at buying organizations". The second objective of this project is related to the environment where this project has been conducted, namely Inbev nv/sa. This second objective can be described as: "Provide recommendations for the global roll out of ERAs at Inbev." From these two project objectives, the following main research questions can be derived: 1) "How do ERAs develop over time?", and 2) "What issues influence the use and development of ERAs at buying organizations?"

In order to provide a good overview of the existing knowledge of the ERA tool, a theoretical exploration of the academic literature regarding ERAs is performed to describe the current areas of interest mentioned in literature. This exploration results into the formation of 4 parameters that are investigated in this project: 1) The type of products or services used in ERAs, 2) The type of ERAs used over time, 3) The number of ERAs conducted per year, and 4) The number of users of the ERA tool per year.

The use and development of ERAs was studied on 12 cases studies, by interviewing experts of industry that have a direct relationship with the development and implementation of ERAs in their buying organization. The participating organizations can all be referred to as multinational or global operating organizations.

The data analysis process that is used to identify the issues that influence the use and development of ERAs can be described as a qualitative data analysis. Qualitative data analysis indicates that the case study data is not analysed using statistical procedures or other means of quantification. The following steps were taken to analyse the case study data:

### 1. Description of issues

*Describing the issues influencing the use and development of ERAs*

## 2. Conceptual ordering of the issues

*Categorization of the issues found in the case studies*

## 3. Theorizing based on findings

*Designing a taxonomy of issues based on the categorization*

The taxonomy of issues is designed from the categories and sub-categories containing issues that influence the use and development of ERAs. Within these (sub-) categories, the issues are classified by the effect they have on the parameter they relate to. The issues can either have a stimulating or inhibiting effect on the specific parameter.

From the designed taxonomy of issues, nine issues can be identified as the ‘most critical issues’ as they are mentioned most frequently across the four parameters. From these issues the “Implementing the new way of buying” is described that has a stimulating effect on the number of ERAs when a buying organization clearly communicates that the ERA tool will be the standard tool to use at certain points within the purchasing process. The “Using a decision model to check if a product or service is suited for an ERA” issue is mentioned and has a stimulating effect on the type of products or services used in ERAs. It describes the creation of a model that buyers can use to check if a certain product or service is suited to be used in an ERA.

The “Use easy to specify products or services for ERAs” issue is described as an inhibiting effect on the type of products or services used in ERAs. However, this does not indicate that this issue has an inhibiting effect on the use of the ERA tool in general. Only the products or services used in ERAs are limited.

The “Having support from higher management” issue generates a general stimulating effect on the ERA tool. The issue indicated that support from higher management is necessary to have a successful implementation of the ERA tool.

The “Having a centre led support organization that provide internal consultancy” issue provides a general stimulating effect on the ERA tool. It states that centre led internal support in terms of training and support in setting up ERA events, stimulates the use of ERAs in the purchasing process.

The “Communicating the results achieved with the ERA tool” issue is described as a general stimulating effect on the ERA tool. By sharing the achieved results, users are stimulated to find opportunities for the ERA tool in their own business.

The “Capturing ERA event strategies and objectives” issue mentions the general stimulating effect of having well described information of ERAs, so future ERAs can be dealt with more easily.

The “Creating a dedicated centre led ERA department” provides the general stimulating effect by creating an internal department that is responsible for the use of the ERAs tool within the organization, in terms of maintenance and upgrades of the ERA tool and the rules and guidelines.

The “Creating new purchasing processes to integrate the ERA tool” issue also has a general stimulating effect on the use and development of the ERA tool. With the creation of new purchasing processes, the use of the ERA tool can for example be made mandatory in certain situations.

Based on these nine critical issues recommendations for Inbev are provided for the global roll out of the ERA tool. The recommendations for Inbev are:

- Inbev could use newsletters and bulletin boards to make everyone aware of the new way of buying and how this new way of buying will actually be designed.
- The creation of a product and service decision model by Inbev can be used by buyers to find out if a product or service is suited to be used in an ERA. This model can be designed on a general or product category level.
- Inbev should make sure that they start with easy to specify products or services as a starting point of the global roll out of the ERA tool. All types of products have been used by Inbev already, but when expanding the number of users and ERAs in a global roll out, a start with easy to specify products or services is recommended.
- Having higher management support is essential for a global approach/implementation of the ERA tool. This support is present at Inbev, as the approach for the global roll out is initiated by the higher management itself.
- Inbev should create a centre led support organization when rolling out the use of ERAs globally. This is essential because the number of users and ERAs is expected to grow.
- Inbev should provide communications of the achieved results to buyers to encourage the use of the ERA tool. Several communication tools can be used; a shared ERA website, distribute presentations of ERA events that have been conducted, newsletters and showing ERA event by using a beamer.
- Inbev should make sure that the ERA event data is stored in a central database using standard templates. This way, strategic decisions made for ERA events are captured and can be re-used by other buyers.
- In relation with a centre led support organization, Inbev should create a dedicated centre led ERA department that coordinates the development of the ERA tool. When having a global roll out the maintenance and upgrade of the ERA tool and the rules and guidelines is essential.
- When integrating the ERA tool, Inbev should design and implement new purchasing processes, to ensure the use of the ERA tool in specific situations, which are determined by higher management.

As a general conclusion, the designed taxonomy of issues in this project might help buying organizations that are just starting to use the ERA tool, or are thinking of using the ERA tool. The most critical issues described might help buying organizations in their approach of using ERAs. The results provided by this project might also present interesting leads for future research regarding issues influencing the use and development of ERAs.

## Preface

This project represents the Master Thesis for the Industrial Engineering and Management Science program at the department of Technology Management from the Eindhoven University of Technology. The project is a study for issues influencing the use and development of Electronic Reverse Auctions (ERAs) at buying organizations, and has been carried out during a 9 month period at Inbev nv/sa in the Netherlands and Belgium.

This project has provided me with the unique opportunity of being directly involved in the use and development of the ERA tool at Inbev. The past 9 months have been a combination of both theoretical and practical experiences with the ERA tool. At Inbev nv/sa, I have been working as the ERA specialist for all ERAs conducted on a global level. In this role I had the opportunity of setting up and conducting 70 ERAs and providing ERA training to Inbev buyers. At the end of my project at Inbev, I have been given a contract proposal which I accepted with a lot of enthusiasm as my time at Inbev nv/sa has always been a great experience to me and I would like to continue that for the near future.

During my project at Inbev there have been a number of people who supported or guided me in completing this project. First, I would like to thank my company supervisor Tom Timmerman for giving me the opportunity to conduct this project at Inbev nv/sa and giving me the possibility to actually work with the ERA tool. Next to my company supervisor I would like to thank my direct colleagues at Inbev for the social part of my project time.

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## List of abbreviations

ASP	Application Service Provider
B2B	Business to Business
B2C	Business to Consumer
CAPS	Center for Strategic Supply Research
COE	Center Of Excellence
EP	Electronic Procurement
ERA	Electronic Reverse Auction
e-RFI	Electronic Request For Information
e-RFP	Electronic Request For Price
e-RFQ	Electronic Request For Quotation
MRO	Maintenance, Repair, and Operations
POCM	Point Of Connection Material

## Introduction

When the Internet initially appeared on the horizon, few realized that this new medium was on its way to change the way consumers and business buy and sell products. During the Business-to-Business (B2B) internet hype from 1998 to 2000, electronic auctions were a hot topic and vendors like Ariba ([www.ariba.com](http://www.ariba.com)) and Commerce One ([www.commerceone.com](http://www.commerceone.com)) were at the top of the heap (Mitchel and Davis 2003).

However, the initial widespread belief that electronic auctions would revolutionize and even replace the traditional procurement process, has given way to the more realistic view that they are sometimes useful to complement established modes of buying and selling (Moser 2002).

While the Business-to-Consumer (B2C) electronic auction has been the most popular category with leading web auction site eBay ([www.ebay.com](http://www.ebay.com)), Business-to-Business (B2B) electronic auctions are emerging as a prominent business model because many organizations have recognised the opportunity to focus on cost reduction opportunities and process efficiencies.

In this report, a special case of electronic auction, the Electronic Reverse Auction (ERA) is discussed. A definition of an ERA is provided by Carter *et al.* (2004):

"An Electronic Reverse Auction is an online, real-time auction between a buying organization and two or more invited suppliers, where suppliers can submit multiple bids during the time period of the auction, and where some degree of visibility exists among suppliers regarding the actions of their competitors"

In short, the suppliers are bidding for business of the buying organizations. The area where ERAs are used in the purchasing process is in the negotiation phase. Buyers must frequently carry out negotiations with suppliers. Superior negotiation processes are key for efficient resource allocation. ERAs are used to make negotiations more effective and/or efficient (Wagner and Schwab 2004).

When looking at the headlines found in popular press such as 'Online trial savings inspire mmO2; Telecoms firm mmO2 will conducts more e-auctions after pilot runs saved £4.5 million' (SupplyManagement.com, August 2004) and 'Courts to cut reporter bill by £3.2 million using e-auction' (SupplyManagement.com, November 2004) the potential benefits of the ERA tool are shown. However, the use and development of ERAs at buying organizations is not just a case of buying ERA software and conducting ERA events. It is a process of overcoming resistance and conducting change management within the buying organization. The implementation of the ERA tool therefore needs to be well prepared in order to have the required use and development within the organization. While an established stream of theoretical and experimental research that examines ERAs exists, the academic literature that investigates ERAs is still in its infancy (Jap 2002).

The purpose of this project is to explore which issues influence the use and development of the ERA tool at buying organizations, with the goal of generating reliable and valid grounded theory in the form of a taxonomy of issues related to four parameters. A taxonomy of issues is the science of classification according to a pre-determined system, with the resulting catalogue used to provide a conceptual framework for discussion, analysis, or information retrieval. This research examines the perspective of buying organizations by using 12 case studies that were conducted at global operating companies in multiple types of industries.

Chapter 1 will describes the history of ERAs and the project environment. In chapter 2 an exploratory study of the academic literature regarding ERAs is conducted. Chapter 3 will describe the research method of this project and chapter 4 provides the analysis of the research questions. In chapter 5 the qualitative analysis of the case study data is described and chapter 6 provides the recommendations for Inbev nv/sa. Finally, chapter 7 will discuss the limitations, future research and conclusions of this project.

## Chapter 1                      Orientation

*This chapter will provide information about the background of this project. First the history and the rising use of ERAs in buying organizations will be provided. Second, the company at which this project has taken place will be described and the context of this research for this company will be mentioned.*

### 1.2                      History of ERAs in buying organizations

In the late 1990s, manufacturing companies like Boeing, United Technologies and branches of the United States military, utilized ERAs. Since then, consumer product companies have followed, and even high tech firms have increased their usage of ERAs in their sourcing activities (Jap 2002). Smart and Harrison (2003) describe the evolution of ERAs stating that within practitioner circles, the Internet is being recognized as the mechanism which will have the greatest impact on how companies operate in the next decade. Within the Business to Business (B2B) sector, many firms have recognized the opportunity of cost reductions, in particular through the use of electronic procurement mechanisms that were being developed in the 1990s. The electronic procurement model that would have the greatest impact on the way of doing business has been the electronic exchange or marketplace. A mechanism which has grown from these electronic marketplaces has been the ERA tool.

According to Smeltzer and Carr (2002), today the electronic auction differs from the old-fashioned auction. ERAs have received as much as or more attention than any other electronic tool. Why? Because many companies report millions of dollars of savings with ERAs compared to traditional industrial buying methods.

In the beginning electronic auctions were a great way for companies, both buying organizations and suppliers, to get rid of excess inventory. They still are, but that is only the tip of the iceberg. Nowadays the companies that use ERAs are active on more and other product categories and supply markets. Mitchell and Davis (2003) state that even though this young technology market experienced a boom-and-bust cycle, electronic markets are generally efficient, and the high return on investments of procurement and sourcing projects will continue to fuel the market.

Beall *et al.* (2003) gives several direct and indirect forces that have facilitated the growth of ERAs. The following points provide several reasons why buying organizations use ERAs in their purchasing process:

- Reduce costs of externally sourced goods and services to become or remain competitive
- Rationalize (usually reduce) the supply base and give more business to fewer suppliers
- To be able to communicate to suppliers in real time, worldwide, via the internet
- Development of user-friendly ERA software to support worldwide ERA events
- Companies are confronted with excess supplier capacity in their supplier markets
- Increased margins of suppliers due to their total cost reductions that have not been passed on to the buyer

- Emergence of sophisticated and disciplined strategic sourcing processes that enable buyers to systematically use various electronic tools (including ERAs)
- Increased emphasis on global sourcing

Ba *et al.* (2003) also add that feeding on people’s enchantment with the idea of a friction-free economy, ERAs are considered quick and efficient platforms to erase geographical boundaries, and for establishing accurate prices based purely on supply and demand.

From the study that Fein (2004) has conducted regarding the growing use of ERAs at buying organizations, figure 1 provides the growing percentage of large and small buying organizations using the ERA tool.

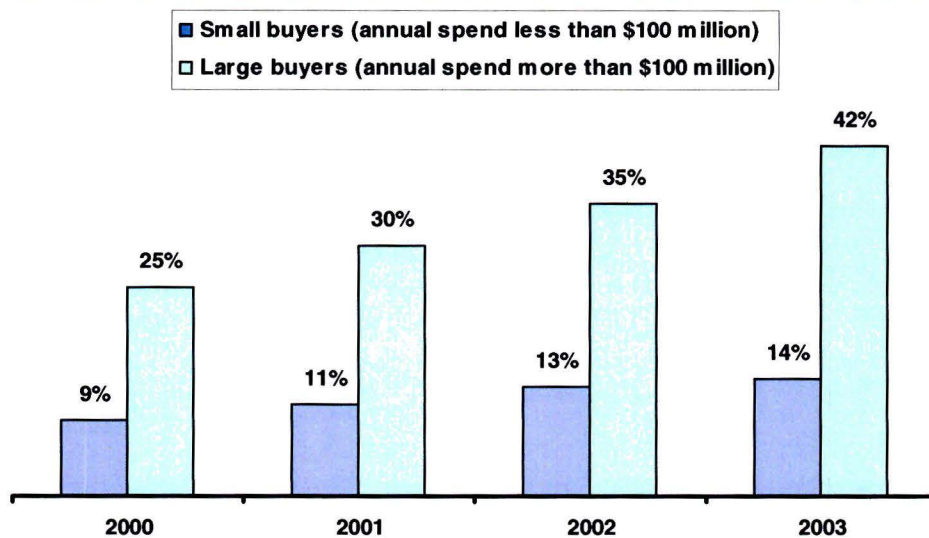


Figure 1, Percentage of buyers using an online auction, Fein (2004)

As can be seen in figure 1, more buying organizations have discovered the opportunities that ERAs can offer and the purchasing tool has become a standard tool that buyers use.

### 1.3 Project Environment

This project has been conducted at Inbev nv/sa. InBev nv/sa is a global brewer, with leading positions in the Americas, Europe and Asia, and is ranked No. 1 or No. 2 in over 20 key beer markets around the world. InBev is a publicly traded company headquartered in Belgium, and its origins date back to 1366. The strategy of InBev is to continue to strengthen its significant positions in the world’s major beer markets through organic growth, world-class efficiency, targeted acquisitions, and by putting its consumers first.

### 1.3.1 History of Inbev nv/sa

InBev was formed in 2004 when Interbrew and Companhia de Bebidas das Américas (AmBev) combined to create what is now the world's premier brewer. InBev has an unparalleled global platform and a global market share of close to 14%, in a balanced mix of developed and growth markets. The company is the No. 1 brewer in the world by volume, selling 205 million hectolitres (hl) of beer and 30 million hl of soft drinks annually (pro forma figure for InBev plus AmBev). A more detailed history is described in Appendix I.

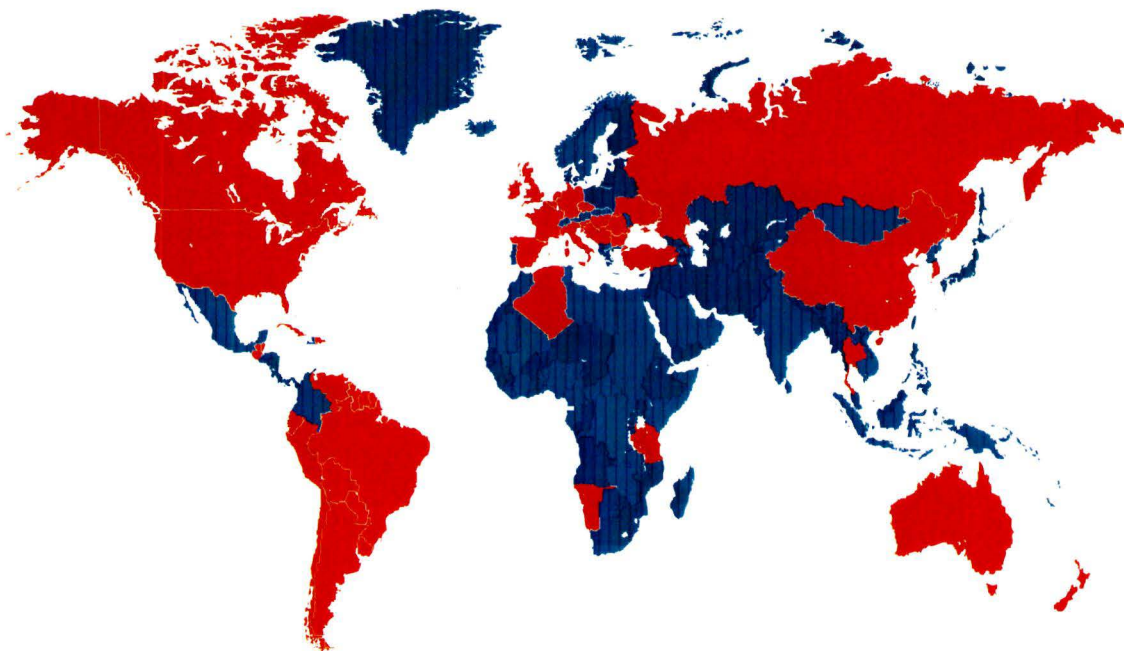


Figure 2, Global presence of Inbev nv/sa in 2005

With operations and license agreements around the globe, InBev nv/sa is a true global brewer (figure 2). InBev nv/sa has a portfolio of more than 200 brands, including Stella Artois®, Brahma® and Beck's®, its three global flagship brands. It employs some 77,000 people and runs operations in 32 countries across the Americas, Europe and Asia Pacific. In 2004, InBev nv/sa realized a net turnover of more than € 8.57 billion.

### 1.3.2 ERAs at Inbev nv/sa

Inbev nv/sa started to use the ERA tool in the beginning of 2003 when two ERAs were conducted. The results were very convincing and the decision was made to stimulate future use of the tool. The implementation of the ERA tool became part of a broader approach to implement e-sourcing<sup>1</sup> within the purchasing process. The objective is to integrate e-sourcing in the global procurement department of Inbev. At this moment there is no specific department for the use of ERAs. One global category manager for e-sourcing is assigned to train key users per country and support local initiatives. Next to the global category manager, one ERA specialist is active

<sup>1</sup> The definition of e-sourcing is provided in paragraph 2.5.



in a supportive role for all e-sourcing projects to help setup the projects. This support role has been conducted by the author of this thesis from September 2004 to present.

At this moment, Inbev is at the stage of implementing the use of ERAs and other e-sourcing applications on a global level in its procurement organization. In order to make this global implementation a success, Inbev is interested in the issues that stimulate the use and development of the ERA tool. Therefore one of the objectives of this project is to provide recommendations for the global roll out of the ERA tool within the Inbev organization (see paragraph 3.2)

## Chapter 2 Exploratory study of the academic literature regarding ERAs

*In the previous chapter the project environment was described and the history of ERAs was provided. In this chapter an exploratory study of the academic literature regarding ERAs is conducted. To provide a good overview, the first paragraph describes the areas of interest that have been identified in the academic literature so far. The next paragraphs discuss each area of interest in more detail and provide a summary of the existing literature.*

### 2.1 Areas of interest regarding ERAs

The recent academic literature has been focussed on several areas of interest regarding ERAs. As the ERA tool is becoming a standard tool and experience with the tool grows, more articles have been published. Looking at the recent literature, the following areas of interest can be defined:

- I. The benefits and disadvantages for buyers and suppliers regarding ERAs
- II. The type of products and services suited for ERAs
- III. The conditions and steps needed to make an ERA event successful
- IV. The adoption of e-sourcing tools in organizations
- V. The different formats of ERAs that exist

In the following paragraphs a summary will be given of the existing academic literature regarding the five areas of interest.

### 2.2 The benefits and disadvantages for buyers and suppliers regarding ERAs

When looking at the potential benefits for both buyers and suppliers, numerous articles have been published. Smeltzer and Carr (2002) sum up the potential benefits and potential disadvantages for using ERAs for buyers and suppliers. The potential benefits for buyer and suppliers will be mentioned in table 1, the potential disadvantages for buyers and suppliers are mentioned in table 2.

Benefits for Suppliers using ERAs	Description
Promise of increased business	With ERA dynamic pricing, the supplier can immediately observe the competition's price level. Hypothetically, the supplier should be able to bid a price that allows for an acceptable profit but easily see when it is no longer feasible to remain in the competition for the order.
Possibility to penetrate new markets	Market penetration may be easier when a supplier can readily observe the pricing required for an order within a new market.
Less paperwork and a low corresponding cycle time between bidding and awarding business	The supplier should be better able to plan production scheduling and reduce excess inventory levels because less time is lost between the bid and the actual order.
Benefits for Buyers using ERAs	Description
Reduced purchasing price, reduced administrative costs, reduced inventory levels.	The benefits like the reduction of costs and the ability to better schedule production are the same as for the suppliers as mentioned above. Regarding the inventory, inventories can be replenished quickly and less buffer stock is needed.

Table 1, Supplier and Buyer benefits for using ERAs, Smeltzer and Carr (2002)

Disadvantages for Suppliers using ERAs	Description
The purchasing decision is based entirely on the lowest price	In certain cases the buyer develops no loyalty to the supplier and any investments made to obtain the order will not be recovered from the buyer.
The possibility exists that the buyer is only using the ERA as a negotiation ploy	The buyer may have identified a preferred supplier before the ERA and has no intention of awarding the business to the lowest bidder.
The supplier may get caught up in the "dog race"	Suppliers may get so caught up in the emotion of the race or competition that they offer unreasonable low prices
Disadvantages for Buyers using ERAs	Description
Buyers may destroy suppliers' trust	When announcing an ERA, the buyer is essentially indicating that the seller is no longer meeting expectations, so the purchase will be looked for at other suppliers.
The fear of committing any resources to the order	When using an ERA the buyer is actually saying: "We will stay with you as long as your price is the lowest, another ERA will be conducted as soon as the contract needs to be renewed.
Too few suppliers will respond to the ERA announcement and a competitive environment will not develop	In theory two suppliers are needed to conduct an ERA. But in general four or five competitive suppliers are required to begin an ERA.

Table 2, Disadvantages for suppliers and buyers using ERAs, Smeltzer and Carr (2002)

Other authors, like Sashi and O’Leary (2002), discuss the opportunities of going from traditional relationships with suppliers to new and even stronger relationships. The authors state that “ERAs may make some relational exchanges unnecessary and others to become highly relational without the negative consequences of such a relationship” (p.108). In summary, ERAs make it feasible to reduce the number of relationships needed. But the major challenge for organizations is to choose which relationships are worth retaining and which relationships are not as important. Because of the use of ERAs, supply markets have opened up that were previously too difficult to access. In their research of the impact of ERAs on buyer-supplier relationships, Smart and Harrison (2003) grouped multiple benefits and disadvantages for suppliers. Their research is based on six case studies analysing primarily the supplier perspective. This perspective is used because the four case studies have been conducted at only four buying organizations. From the six case studies, a total of 24 suppliers were interviewed. The case study analysis resulted in the benefits and disadvantages mentioned in table 3.

<b>Benefits for Suppliers</b>	<b>Disadvantages for Suppliers</b>
<b>Information</b>	<b>Price</b>
Knowledge of competing suppliers Overview of market activity Learning opportunity for suppliers invited to tender, can apply to won purchasing	Market prices likely to decrease Reduced profit margin Price becomes the only differentiator Some business may become unprofitable or non-viable Contract periods may be shortened Come products become commodities
<b>Administration</b>	<b>Risk</b>
Compresses time for dealing with Request For Quotation Reduces manual/paper handling tenders Creates new low cost sales channel Potential reduction in existing sales costs Lower overall transaction costs with buyers	Exposure to new competition Non-participation may mean exclusion from future tenders Pressure on time, no second chance Uncertainty of demand creates instability in business plans Payment issues for unknown buyers Trust and reliability of new, unknown buyers
<b>Information</b>	<b>Relationships</b>
Knowledge of competing suppliers Overview of market activity Learning opportunity for suppliers invited to tender, can apply to won purchasing	Potential new relationships with buyers based only on price Sidelines personal interface with customers Sales personnel may become redundant or need to acquire new skill sets Difficult to maintain partnership commitment if price likely to lead to regular supply changes
<b>Decision Making</b>	
Sales order cycle time is compressed Faster knowledge of contract awards	
<b>New opportunities</b>	
Potential access to new buyers More open tender process	
<b>Price</b>	
Visibility of competitor pricing	

Table 3, Benefits and Disadvantages of ERAs for suppliers, Smart and Harrison (2003)

Emiliani and Stec (2005) describe their view of the impact that ERAs have on the buyer-supplier relationship as damaging and creating distrust among incumbent suppliers. They describe ERAs as being “A technologically assisted form of power bargaining as such it is subject to abuse principally among buyers and market makers (ERA providers)” (p.2). Emiliani and Stec (2005) have grouped the different forms of abuse as shown in table 4.

Different forms of abuse by buyers
Ambiguous or shifting auction rules
Threatening incumbent suppliers to bid or risk losing the work
Changing contract terms and conditions between RFQ and award
Phantom bidding (buyer or market maker pretends to be a supplier)
Drive down unit prices with no intention of switching sources
Allowing unqualified suppliers to bid
Showing the identities of the bidders and their bids
Post-auction renegotiation
Awarding only portions of the items in a bid package
Forcing supplier to honour unreasonably low prices
Providing incomplete or inaccurate specifications
Allowing specification relief to winning bidders
Including internal departments as bidders
Repetitive re-bidding to drive down prices
Not informing bidders of outcomes

Table 4, Different forms of abuse by buyers, Emiliani and Stec (2005)

Emiliani and Stec (2005) however also mention the kind of abuse that suppliers can use when participating in an ERA. These forms of abuse are grouped in table 5 below.

Different forms of abuse by suppliers
Not abiding by auction rules
Not adhering to request for quote parameters
Placing bids with no intention of honouring them
Bidding when the supplier is in fact unwilling or unable to assume the business if it were awarded to them
Known inability to meet contract terms and conditions
Collusion (legal or illegal, depending upon country laws)
Win new business and charge high prices for “extras”

Table 5, Different forms of abuse by suppliers, Emiliani and Stec (2005)

According to Emiliani and Stec (2005), “These different types of abuse have resulted in the creation of voluntary guidelines of conduct for buyers, suppliers and ERA providers in several industries” (p.2).

The various benefits and disadvantages mentioned in this paragraph have been taken into consideration for the design of the interview protocol (Appendix II) that is part of the case studies described in paragraph 3.5.

### 2.3 The type of products and services suited for ERAs

Many procurement professionals used to believe that ERAs were limited to indirect/non product related materials or MRO (Maintenance, Repair and Operating) purchases. Smeltzer and Ruzicka (2000) concluded that ERAs can also be successful for direct materials, when integrating ERAs in the correct way in the sourcing process. Parente *et al.* (2001) state that previously, ERAs were identified with commodities, now the paradigm is opened to many other product and service types. Mabert and Skeels (2002) define favourable attributes for products or services that should be taken into account to improve the odds for a successful ERA. The product or service should be strategic, easy to group into attractive lots, and it should be easy to define the specifications. Jap (2002) notices that ERAs are mostly used on price-based products but in the near future we will likely see more non-price based products going through ERAs.

Beall *et al.* (2003) summarize the major attributes for the product or service that can be auctioned as follows:

1. The product or service must be clearly defined and translated into prices that a supplier will commit to charge the buyer;
2. There is a strong likelihood that the current price is sufficiently higher than the market price, making the ERA cost effective;
3. Switching costs are acceptable;
4. A sufficient number of qualified, competitive suppliers exist in the supply market;
5. Qualified suppliers of the product or service are willing to participate in an ERA.

When products or services meet the five points mentioned, they're most likely suitable for an ERA. One note that has to be added to the five points: At number 2, an ERA for cost avoidance can be very efficient when market prices are expected to increase, even though no savings will occur.

In order to get a good overview of the different categories that are bought using ERAs over the past years, Orlov (2004), Vice-President of Forrester Research, gives an overview of the leaders and laggards from different product categories and their percentages of purchase spend via ERAs in table 6.

Leaders	%	Laggards	%
Electronics	7.68%	Food & Beverage	1.25%
Chemicals	6.21%	Telecom Services	1.15%
Utilities	4.09%	Aerospace/Defence	0.97%
Semiconductor	3.53%	Engineering	0.92%

Table 6, Industry Leaders and Laggards in using ERAs, Cross-Industry Benchmarks CAPS Research (2004)

In table 7, Ericson (2003), Vice President of A.T. Kearney Procurement Solutions, provides an overview of the indirect (i.e. hotels, office supplies) and direct (i.e. chemicals, freight) categories that clients, using eBreviate<sup>2</sup> Internet negotiation technology, have recently sourced through ERAs.

<sup>2</sup> eBreviate is part of A.T. Kearney Procurement solutions ([www.ebreviate.com](http://www.ebreviate.com))

Year >>	2000 – 2002		2002	
Category	Rank	Avg. Total Savings	Rank	Avg. Total Savings
Building Construction	1	6%	4	7%
Motor Vehicle Parts	2	9%		
Printed Materials	3	24%	2	23%
Trucking	4	14%	3	15%
Hotels	5	25%	1	18%
Personal Computers & Peripherals	6	21%	10	21%
Corrugated Packaging	6	9%	7	9%
Plastic Bags Film & Sheet	7	17%	5	17%
Plastic Injected Products	8	23%		
Office Supplies	9	19%	10	19%
Industrial Organic Chemicals	9	9%	9	8%
Printed Circuit Board	10	12%	6	11%
Electronic Components			7	16%
Air Freight			8	34%

Table 7. Frequently sourced categories and their average savings (Ericson 2003)

Nowadays, it may be easier to list the products or services that cannot be bought via an ERA than to try summarizing all those that can. You could say that almost every product or service that doesn't have a fixed price can be auctioned because ERAs are fundamentally about competition, driving prices up or down. So when there is price elasticity in the product or service and you're willing to switch supplier, ERAs are an option.

In order to structure the different product and service categories, the purchasing product portfolio from Van Weele (2005) will be used. The purchasing product portfolio is based on the Kraljic (1983) portfolio and provides a classification between leverage, routine, strategic and bottleneck items (figure 3). When using a product in an ERA, a buying organization develops an ERA strategy. An ERA strategy determines how the buying organization will approach the specific supply market. The ERA strategy therefore can be seen as similar to a normal supplier strategy. When developing an ERA strategy, or supplier strategy, the Kraljic (1983) portfolio is very helpful, as it identifies the four different types of products that all require different supplier strategies. As described above, almost all product and service categories can be bought using ERAs. The Kraljic (1983) portfolio therefore is very suited to use as a product and service classification for ERAs as the type of product or service also determines the ERA strategy. For the purchasing product portfolio Van Weele (2005) has altered Kraljic's portfolio by changing the axes with the following two variables:

1. The purchasing's impact on financial results
2. The supply risk.

The purchasing product portfolio of van Weele (2005) will be used in chapter 3 as part of the information gathering and data analysis of the case studies.

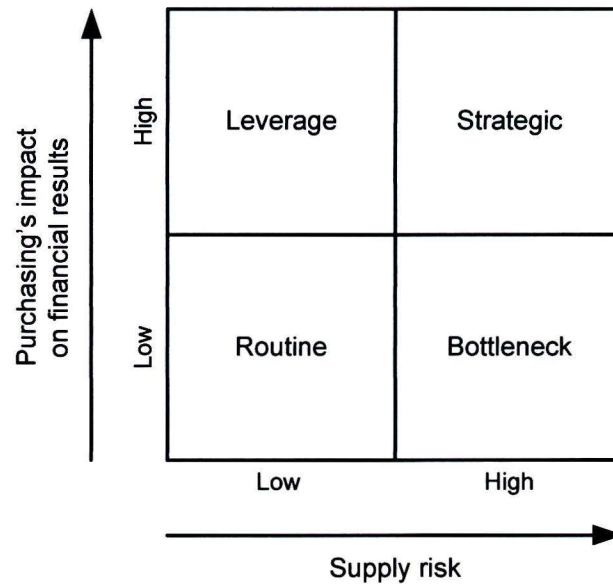


Figure 3, Purchasing Product Portfolio (Van Weele 2005)

## 2.4 The conditions and steps needed to create a successful ERA event

When looking at the conditions and steps needed to make an ERA event successful, multiple authors have provided their views based on own research at organizations or literature reviews. In this paragraph an overview of the conditions and steps mentioned by various authors are described. Mabert and Skeels (2002) provide a list of suggested steps to setup an ERA event. The findings of Mabert and Skeels (2002) are mainly based on visits the authors conducted at an anonymous company referred to as GlobalCo and the US Navy. The steps mentioned by Mabert and Skeels (2002) are listed below:

1. Establish management commitment
2. Select someone to lead and coordinate the initiative
3. Evaluate and select a market-maker partner
4. Conduct pilot ERAs
5. Build internal staff knowledge and capability for all process steps
6. Identify internal team to lead in-house ERA initiative
7. Evaluate and select appropriate ERA software
8. Select items with high potential
9. Track your results



Another list of conditions is provided by Smeltzer and Carr (2002). Their list is based on current literature and in-depth interviews with 41 managers who have used ERAs. Their list of appropriate conditions that need to be present to setup an ERA event is listed below:

1. Clearly state the commodity specifications
2. Purchase lots must be large enough to justify the seller's involvement
3. The appropriate supply market conditions must exist
4. The organizational infrastructure must be appropriate

Wagner and Schwab (2004) have identified eight conditions that need to be present to ensure success of an ERA event based on their literature review. Wagner and Schwab (2004) based their findings on recent publications of the past few years focused on ERAs. These publications include academic conferences and articles published in academic journals. The eight conditions the authors mention are listed below:

1. Ease of specifying demand
2. Auction volume
3. Expense of switching suppliers
4. Number of suppliers participating
5. Competition among suppliers participating
6. Power of the buyer
7. Complexity of the negotiation package
8. Time to auction

In his research about the development of purchasing departments strategies used to reduce costs through ERAs, Meier *et al.* (2002) indicates 6 steps for setting up an ERA event. These steps are based on the best practice of a large anonymous corporation with a global supply network and a global market for its products. His list is mentioned below:

1. Identification , classification and selection of parts
2. Selection and notification of potential supplier participants
3. Documentation
4. Training and pilot run
5. Actual ERA
6. Award determination and contract certification

Looking at the research which Smeltzer and Ruzicka (2000) have conducted at a large anonymous organization, they identified 8 steps that guide the setting up of an ERA event in the procurement process. Their steps can be listed as followed:

1. Spend analysis
2. Profiling the categories
3. Identifying opportunities for leverage
4. Develop specifications
5. Identify the supply base

6. Select ERA provider
7. Communicating with suppliers
8. Conducting the ERA

A broad research has been conducted by Beall *et al.* (2003) at the so called “power users” of ERAs, suppliers that have participated in ERAs, third-party providers of ERAs and non-users of ERAs. From this research Beall *et al.* (2003) describes five conditions that need to be considered when setting up an ERA event:

1. Items can be clearly specified
2. There is a strong likelihood that the current price is sufficiently higher than the market price
3. Switching costs are acceptable
4. A sufficient number of qualified, competitive suppliers exist in the marketplace
5. Qualified suppliers of the item(s) are willing to participate in an ERA

The various conditions and steps mentioned in this paragraph all have influence on the setting up of individual ERA events and not on the use and development of the ERA tool in a buying organization. However, the conditions and steps mentioned have been taken into account in the design of the interview protocol (Appendix II) for the case studies mentioned in paragraph 3.5.

## 2.5 The adoption of e-sourcing tools in organizations

When looking at the adoption of e-sourcing tools in organizations, multiple authors have provided their view based on own research at organizations or literature reviews. Besides the ERA tool, other e-sourcing tools are used in the strategic sourcing process. Flynn (2004) categorizes e-sourcing tools in three basic categories.

1. Transactional e-sourcing tools (e.g. e-Request For Information, e-Request For Proposal, e-Request For Quotation, ERA)
2. Communication e-sourcing tools (e.g. exchanging forecast, inventory management, production scheduling)
3. Collaboration e-sourcing tools (e.g. sourcing analysis, sourcing planning, supplier management programs)

For this academic literature overview of the adoption of e-sourcing tools, all e-sourcing tool categories are taken into account. Davila *et al.* (2003) discuss the challenges that organizations face when implementing e-sourcing tools in the purchasing organization. The data for their research has been gathered by sending out 168 questionnaires to United States based organizations to map their current state of e-sourcing technologies. As a result of their research Davila *et al.* (2003) state that “the challenge for the e-sourcing technology adoption is to provide evidence to non-users that these technologies (1) do not undermine control, security, or privacy requirements; (2) they are not so technically complex that organizations without a sufficient technology skill set cannot use them, and (3) the new business model provides the right incentives to supply chain constituencies to effectively use these technologies” (p.19).

Min and Galle (2003) used a closed-end five page questionnaire that was sent to approximately 3000 randomly selected National Associations of Purchasing Managements members in the United States. A total of 656 responses returned that were usable for their research. Three noteworthy findings of their study provide information regarding the adoption of e-sourcing tools in buying organizations:

1. The sheer size of an organizations supply base has no bearings on its likelihood of e-sourcing adoption
2. Organizations in certain industries such as healthcare and transportation/warehousing have a greater tendency to adopt e-sourcing than other sectors such as government and manufacturing.
3. No single form of e-sourcing is considered a panacea<sup>3</sup> for different application areas.

Flynn (2004) described seven challenges that organizations need to overcome in order to have a good transition to e-sourcing enabled purchasing processes. His findings are based on four case studies that were conducted in a workshop for CAPS research. The major transition challenges are:

1. Lack of robust processes
2. Limited resources allocated to process improvements
3. Inadequate metrics
4. lack of internal and external system integration
5. Affordability of technology
6. Limited ability to influence employee and supplier participation
7. Time pressure

Reunis *et al.* (2004) have investigated the intra-organizational spread of adoption of Electronic Procurement (EP)<sup>4</sup> tools from one actor to another, based on 42 exploratory interviews with experts and representatives of large Dutch purchasing organizations. Reunis *et al.* (2004) focus on one particular aspect of EP adoption, namely the situation where one individual actor A has adopted the EP tool and individual actor B has not. As a result of their research Reunis *et al.* (2004) have identified nine categories of influences on actor-to-actor dissemination<sup>5</sup>:

1. Perceived advantage
2. Communication
3. Demonstration
4. Enforcement
5. Training
6. Involvement
7. Risk reduction
8. Reward
9. Disposition

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<sup>3</sup> The definition of a panacea is: "medicine, cure, drug, remedy, medicament"

<sup>4</sup> Reunis *et al.* (2004) have used a broad definition of Electronic Procurement that includes the different types of e-sourcing tools mentioned in the beginning of this paragraph.

<sup>5</sup> The definition of dissemination is: "spread, diffusion, dispersal, dispersion, distribution"

The various adoption steps and conditions mentioned in this paragraph have influence on the implementation and integration of e-sourcing tools in general within buying organizations. For this project the issues influencing the use and development of a specific e-sourcing tool will be investigated, namely the ERA tool. As a link between the general conditions/steps for the adoption of e-sourcing and the use and development of the ERA tool exists, the points described have been taken into account in the design of the interview protocol that is part of the case studies mentioned in paragraph 3.5. The interview protocol can be found in Appendix II.

## 2.6 The different formats of ERAs that exist

Various types of ERAs are used to achieve the best competitive environment for the product or service being auctioned. All types can be either be open or closed/sealed auctions, depending if an invitation is needed to participate (closed/sealed) or not (open). The following types all refer to the Electronic variant of the normal auction.

### **Standard Reverse Auction / Reverse English Auction**

The Reverse type of an English Auction is an auction with one buyer and many suppliers and descending prices. Usually lowest bid wins, but this depends on the rules that have been set by the auction manager. According to Smeltzer and Carr (2003, 2002) the buyer 'controls' the market because the desired item is being offered by a number of suppliers. The price that suppliers offer continues to decrease until a theoretical rational market price is achieved. De Boer *et al.* (2002) view Electronic Reverse Auctions as an enabler for the buyer to buy goods and services needed from a number of known or unknown suppliers.

### **Dutch Auction**

According to Teich *et al.* (2004) the Dutch Auction has a descending price format, the first bidder that indicates willingness to buy at the announced price wins. De Boer *et al.* (2002) state that the Dutch Auction operates with a downward price mechanism with one bid only. Sashi and O'Leary (2002) add that at Dutch Auctions, the buyer starts the bidding at a price deemed to be a fair starting point.

### **Reverse Dutch Auction**

The Reverse format of a Dutch Auction is an auction with one buyer and many suppliers. Prices will rise until the first supplier offers to supply at that price (Teich *et al.* 2004). This type of auction is the least common of the types mentioned in this list. For example, it can be used for auctioning different volumes of the same product to multiple suppliers. The supplier that gives the first bid can choose the volume it will deliver, the second bidder can take part of the remaining volume for a higher price (if any volume is left).

### **Closed Sealed Bid Auction / Vickrey Auction**

This type of auction is a Second-price sealed bid auction, where the highest bidder wins, but pays the second highest price (Teich *et al.* 2004). This type of auction is named after William Vickrey, the Nobel-laureate in economics. The variation over the normal bidding procedure is supposed to encourage bidders to bid the largest amount they are willing to pay. The term sealed refers to the fact that only the supplier that places a bid and the buyer can see the details of this bid. In an open bid auction all suppliers can see the best bid that has been placed and their own bids.

**Double Auction**

In a Double Auction, multiple buyers and sellers are participating in the event (Teich *et al.* 1999). Xia *et al.* (2005) state that in a market of non-rare items, such as stocks, bonds or commodities, multiple buyers and sellers exist. In these markets, double auctions in which both sides submit demand or supply bids are much more efficient than several one-sided auctions combined.

**Combinatorial Auction**

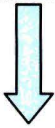
Bidders are allowed to bid simultaneously on a combination of goods. The bid price is a bundle price and contains bids for complementary goods (Teich *et al.* 2004). According to Rothkopf *et al.* (1998), this type of auction is used when bidders desire to buy or sell bundles of goods rather than one single good.

**Multi Unit Auction / Multi Attribute Auction/Multi-Issue Auction**

According to Teich *et al.* (2004) this auction type covers multiple units/attributes in terms of quality, warranty, delivery terms, etc. of a homogenous good or service that is auctioned. When quantity is also added as an attribute this type is referred to as a *Multi Issue Auction*. Bichler and Segev (2001) conclude that these types of auctions are for the more experienced buyer because of the complexity involved in setting up this type of auction. Also the suppliers involved in this kind of auction must be well prepared in order to understand the scoring of the different units/attributes. For example, you might want to auction cost components of a product and set different weightings per component in order to get a total weighted average that will decide who wins the auction.

Several other variations are mentioned in recent literature. For example, Rumpe (2003) describes the *multi-round bidding auctions*. In a multi-round bidding, each bidder is forced to submit exactly one bid per round. Only after the round has ended, all bidders are informed about their competitors' bids and the next round begins. Rumpe (2003) also mentions *the multi-phase auctions*, where after each phase only a subset of the earlier bidders is admitted to proceed to the next phase. As one can imagine, a lot of variations are possible with ERAs. These variations however are all derived from one of the types mentioned above and slightly adapted. This is usually done as part of the auction strategy. A buyer has to decide which type of ERA he will use for his product or service, and then the developed strategy might lead to variations of that specific type. The multi-round bidding auction or the multi-phase auctions are examples of such variations.

Now that the different types of ERAs have been described, a classification can be made. For this classification the ERA typology of Gupta and Bapna (2002) will be used. Gupta and Bapna have a different approach for classifying the different types of Electronic auctions. They state that there are 4 types of ERA:

<ol style="list-style-type: none"> <li>1) Single item ERA (English and Dutch auction)</li> <li>2) Multi-Unit ERA (units in terms of quality, warranty, delivery terms, etc)</li> <li>3) Combinatorial ERA (combination of goods, dynamic bundling)</li> <li>4) Multi-Dimensional ERA (units in terms of quality, warranty, delivery terms, etc and quantity)</li> </ol>	<p>Complexity increases</p> 
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As can be seen in the references per type, all of the ERA type descriptions mentioned above relate to one of the categories that Gupta and Bapna (2002) mention. The categorization of types of ERAs will be used in chapter 3 as part of the information gathering and data analysis.

## Chapter 3 Research method

In the previous chapter an exploration of the existing academic literature regarding ERAs has been conducted. This exploration provides information about the current areas that have been investigated so far. The existing academic literature does not provide insight in the issues influencing the use and development of ERAs at buying organizations. Therefore, chapter three will describe the research method that is used to investigate these issues. First, the research problem that is the initiative for this project will be described. In the second paragraph, the two objectives of this project and the research questions will be described. Third, the parameters will be identified that will be used for the information gathering. In the fourth paragraph, the research model that will be used to structure this project will be provided. In the fifth paragraph, the case studies that are the basis for the data gathering process will be mentioned. In the sixth paragraph the qualitative data analysis process is described. And finally, the design process is described that will lead to the creation of a taxonomy of issues influencing the use and development of ERAs at buying organizations.

### 3.1 Research problem

In order to gain insight in how and where ERAs are used in buying organizations, the position of the ERA tool is displayed in figure 4. ERAs are part of the strategic sourcing process that organizations use. Figure 4 shows the major components in an organization’s typical e-oriented strategic sourcing process for a specific product or service (Beall *et al.* 2003). To describe the e-sourcing process we will use the definition provided by Flynn (2004):

“E-sourcing is the application of technology tools to the strategic sourcing process to enable faster cycle times, improved cost performance, and increased competitive advantage by reducing supply redundancies, increasing speed and flexibility, and maximizing the combined organizational benefits of centralization and decentralization”

A further elaboration on the various e-sourcing tools is described in paragraph 2.5. For this project the technology tool that will be investigated in the strategic sourcing process is the ERA tool.

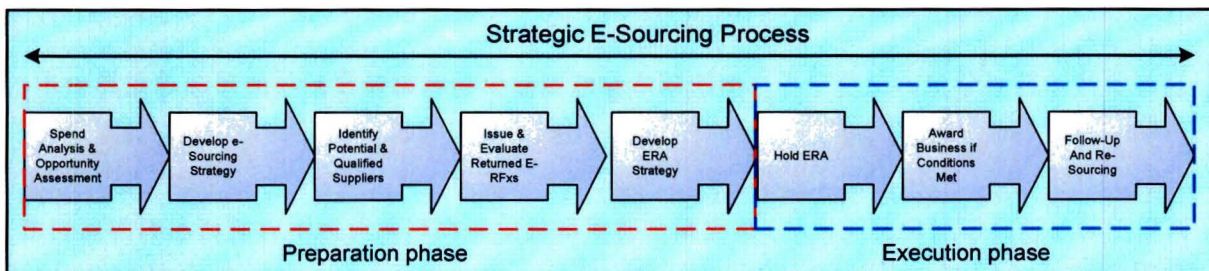


Figure 4, Components of a typical E-Oriented Strategic Process, mapped with Pre-work and Execution-work, Beall *et al.* (2003)

In the process of setting up an ERA, 90% of the success is determined during the preparation phase (Beall *et al.* 2003). Buyers must decide on a multitude of details before entering an ERA. A great deal of up-front planning and preparatory work must be accomplished (Moser 2002). When looking at figure 4, one could say that the first 5 blocks reflect the preparation phase of the e-sourcing project and the last 3 blocks reflect the execution phase on the e-oriented strategic sourcing process.

As with most new techniques and processes in organizations, it takes time to get comfortable and experienced with the tool. Buying organizations that are just starting to use ERAs in their sourcing process, experience the large amount of time and effort it takes to successfully integrate the ERA tool in their existing purchasing process and getting buyers trained and familiar with the ERA tool. As mentioned in the introduction, an established stream of theoretical and experimental research that examines ERAs exists in the academic literature. The new electronic auction model is explained and the great successes that have been achieved by companies are described. But the academic literature that investigates the use and development of ERA in buying organizations is still in its infancy (Jap 2002). This lack of knowledge about how buying organizations use and develop the ERA tool and what issues influence this use and development generates the research problem for this project.

Research problem

We do not know which issues have a stimulating or inhibiting effect on the use and development of Electronic Reverse Auctions within buying organizations.

**3.2 Research questions**

In order to provide a solution for the research problem mentioned in the previous paragraph, the purpose of this project can be described in two project objectives. The first objective of this project can be described as:

Provide insight in the use and development of ERAs at buying organizations.

The second objective of this project can be described as:

Provide recommendations for the global roll out of ERAs at Inbev.

From these two project objectives, the following main research questions can be derived:

- I. How do ERAs develop over time?
- II. What issues influence the use and development of ERAs at buying organizations?

In order to answer the first main research question, five sub-questions are formulated which will be answered in chapter 4 in this report. The research questions are listed in table 8.

I. What is the average starting situation for the first use of ERAs in buying organizations?
II. Does the number of ERAs increase over time as the buying organization's experience with ERAs grows?
III. Does the number of people using ERAs increase over time as the buying organization's experience with ERAs grows?
IV. Does the type of product or service for which ERAs are used change as the buying organization's experience with ERAs grows?
V. Does the complexity of ERA types increase as the buying organization's experience with ERAs grows?

Table 8, Sub-questions

In order to answer the second main research question, a taxonomy of issues influencing the use and development of ERAs at buying organizations will be designed.

### 3.3 Parameters

For this project, parameters need to be identified that provide information about the use and development of the ERA tool within buying organizations. This spreading use of the ERA tool will be investigated over time based on four dimensions. The choice for the parameters is based on the fact that information is needed about the issues that play an essential part in the practical day-to-day use of the ERA tool by buyers. Therefore the decision was made to select the following parameters that play an essential role in the daily use and development of ERAs within buying organizations:

- 1) The type of products and services used in ERAs
- 2) The different formats of ERAs that are used over time

These two parameters have been described in full detail in paragraphs 2.3 and 2.6. To make sure that information regarding the actual use of the ERA tool will also be gathered and investigated, the following parameters are added:

- 3) The number of ERAs per year
- 4) The number of users per year

The number of ERAs per year is an important parameter as it displays the active or non-active use of ERAs within a buying organization. The number of users per year will display what happens to the number of users when the experience with ERAs grows.

In order to investigate how the use of ERAs grows over time, the following parameters are defined:

- The type of products and services used in ERAs
- The types of ERAs used over time.
- The number of ERAs per year
- The number of users per year



### 3.4 Research model

To provide structure for this project, a research model is created to visualize the research process. First, an exploratory study of the academic literature on ERAs has been conducted in chapter 2. Next, the parameters have been defined to gather information about the use and development of the ERA tool in buying organizations. The information about the parameters is gathered by conducting case studies (see paragraph 3.5). Finally, the research data is used for answering the research questions and is analyzed using the qualitative data analysis approach to design a taxonomy of issues influencing the use and development of ERAs at buying organizations (see paragraph 3.6). Figure 5 shows the research model when the steps are grouped.

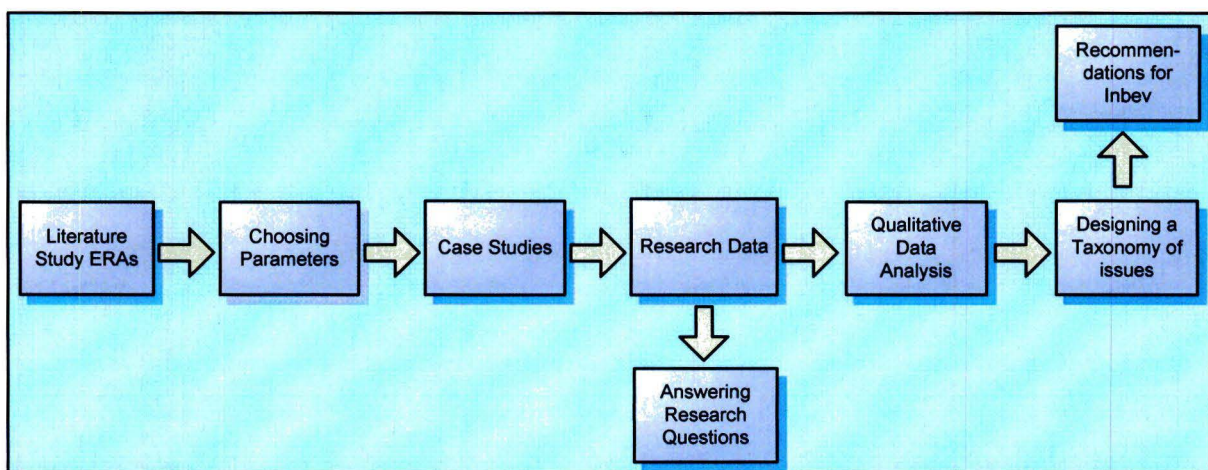


Figure 5, Research Model

### 3.5 Case studies

The data gathering method that is used in this project is conducting case studies with experts of industry. The objective of the case studies is to gain insight in the issues that influence the use and development of ERAs at buying organizations, based on the four parameters described in paragraph 3.3. The data that is gathered from these case studies will be based on the expertise of the participants, by his/her knowledge and opinion, and their experiences in actual ERA events.

The selection of case studies is aimed at covering the expert types that have a direct relation with the development and implementation of ERAs in their buying organization. Preferably their experience will cover the use of ERAs from the start till the current situation. The case study participants will be searched for at organizations that are well known for using ERAs. This resulted into a sample group of 12 buying organizations located in the Netherlands, Belgium, Germany, France and Sweden that operate on a global level. All organizations can be referred to as multinational or global companies. A company is a multinational competitor when it competes in a select few foreign markets. It is a global competitor when it has or is pursuing a market presence on most continents and in virtually all of the world's major countries.

The 12 case studies are studied through interviews, which are structured according to Emans (2002) in a semi structured way with open questions. In structured interviews the questions have a prescribed order. In non-structured interviews the order of questions is randomly chosen and dependent of the person taking the interview. The open questions imply that the interviewees are free in the answers they can give. The interview protocol that is used is provided in Appendix II.

Two test case studies were conducted to check if the structure of the interview generated the data that is needed. The approach for the remaining case studies was slightly changed to retrieve more theoretical data about the issues that initiate change instead of numerical data. During the test case studies the emphasis was more on specific numbers and not the underlying issues that caused the change in the use of the ERA tool.

To ensure the reliability and validity of the case studies, all interviews have been recorded and written out in a detailed case study report. The case studies have been conducted on a face to face level except when the travel distance was too big. In the two case studies where this situation occurred, a conference call was conducted that was recorded. When the case study report was finished it was sent to the case study participant to check for consistency and provide feedback. Once the case study report was returned and corrected it was finalized and approved to be used for the data analysis. Three participants decided to participate anonymously and they've been given surrogate names. The list of participants, their functions and their office locations are listed in table 9. As can be seen, the functions of the participants differ from a buyer level, management level and higher management level so information of all levels has been gathered. The graphics regarding the number of ERAs per year and the number of users per year can be found in Appendix III.

For this project the number of case studies conducted increased until a point of redundancy was reached for the data that was gathered. As Carter *et al.* (2004) explain in their qualitative research: "There are no absolute guidelines regarding the number of informants needed to reach 'saturation', past research has revealed that 6-8 sampling units are commonly sufficient for a homogeneous sample (Lincoln and Guba, 1995; Marshall and Rossman, 1995, McCracken, 1988; Patton, 1990)" (p.235). The homogeneous sample that is used in this project can be described as 'buying organizations operating on a global level that have experience with ERAs'.

Company	Function of the participant	Location
Inbev nv/sa	Global Category Manager E-Sourcing	Belgium
Global Food Manufacturer	Raw Materials Buyer	Germany
Global Electronics Manufacturer	Global E-Sourcing Manager	The Netherlands
Henkel KGaA	Vice President Global E-Business upstream	Germany
Nederlandse Spoorwegen	Purchasing Manager	The Netherlands
Global Technical Service Provider	Purchasing Manager	The Netherlands
ABN AMRO	Senior Vice President Global Procurement Development	The Netherlands
Johnson & Johnson	Director Strategic Sourcing Europe	Belgium
JCG Dordtse Engineering B.V. (Part of JCG Corporation Japan)	Purchaser	The Netherlands/Japan
Unilever	Implementation Manager E-Sourcing	The Netherlands
Akzo Nobel	E-Sourcing Manager (from 2001-2004)	Sweden
SUEZ	Program Director SUEZ Procurement Operational Tools	France

Table 9, Case study participants

### 3.6 Qualitative data analysis

When conducting a project to identify issues influencing the use and development of ERAs at buying organizations, an analysis method is needed to interpret the research data. In this project the data will be gathered by conducting case studies at international organizations (see paragraph 3.5). The type of research that will be conducted can be defined as “qualitative research” as we’re looking for issues influencing use and development for each parameter. Qualitative research means that the data is not analyzed using statistical procedures or other means of quantification. Some of the data may be quantified as background information for the company that is studied, but most of the analysis is interpretative. To describe the use of qualitative analysis Strauss and Corbin (1998) wrote, “In speaking about qualitative analysis, we are referring not to the quantification of qualitative data, but rather to a nonmathematical process of interpretation, carried out for the purpose of discovering concepts and relationships in raw data and then organize these into a theoretical scheme” (p.11). Strauss and Corbin (1998) provide a methodology and a set of methods for building theory from qualitative data.

When using qualitative analysis for the interpretation of case studies, certain steps need to be followed. These steps are taken from Strauss and Corbin (1998) who describe techniques and procedures for developing grounded theory. With grounded theory they mean, “Theory that was derived from data, systematically gathered

and analyzed through the research process. As grounded theories are drawn from data, they are likely to offer insight, enhance understanding, and provide a meaningful guide to action” (p.12).

The first steps towards understanding the research data is to be able to differentiate among:

1. Description of issues
2. Conceptual ordering of the issues
3. Theorizing based on findings

The definition that Strauss and Corbin (1998) give for these steps are as followed (p.15):

### **1) Description of issues:**

“The use of words to convey a mental image of an event, a piece of scenery, a scene, an experience, an emotion, or a sensation; the account related from the perspective of the person doing the depicting”.

According to Strauss and Corbin (1998) “the descriptive details chosen by the author usually are consciously selective, based on what he or she saw or heard or thought to be important” (p.18). In this project, the description of issues that can be taken out of the case studies is performed by the author and will form the basis for a more abstract interpretation of the data and theory development. The issues that can be drawn out of the data will be grouped around the parameters that they influence.

### **2) Conceptual ordering of issues:**

“Organizing (and sometimes rating) of data according to a selective and specified set of properties and their dimensions”.

The description step will form the basis for the conceptual ordering. In the conceptual ordering step the description is used to clarify the categories and sub-categories that can be made. During this phase we will group similar items and give the items a name that stands for that common link. During this step it’s important that the concepts and the design of categories emerge from the data and no external issues. The goal is to reduce the large amount of data to smaller, more manageable pieces of data. This conceptualizing process will provide the foundation and the beginning structure for the theory building.

### **3) Theorizing based on findings:**

“A set of well-developed concepts related through statements of relationship, which together constitute an integrated framework that can be used to explain or predict phenomena”.

In this step we will construct an exploratory scheme (the taxonomy of issues) from the research data that integrates various concepts through relationships found in the case studies. This process of developing theory takes place by asking questions and making comparisons between case studies. The goal of the theorizing step is that we come up with a taxonomy of issues that enables us to explain and predict the use and development of ERAs based on certain issues. From this taxonomy we will be able to answer the five research questions mentioned in paragraph 4.2 and provide a recommendation for the global roll out of the ERA tool at Inbev. The entire data analysis process from the case studies until the recommendations for Inbev and the general conclusions are displayed in figure 6.

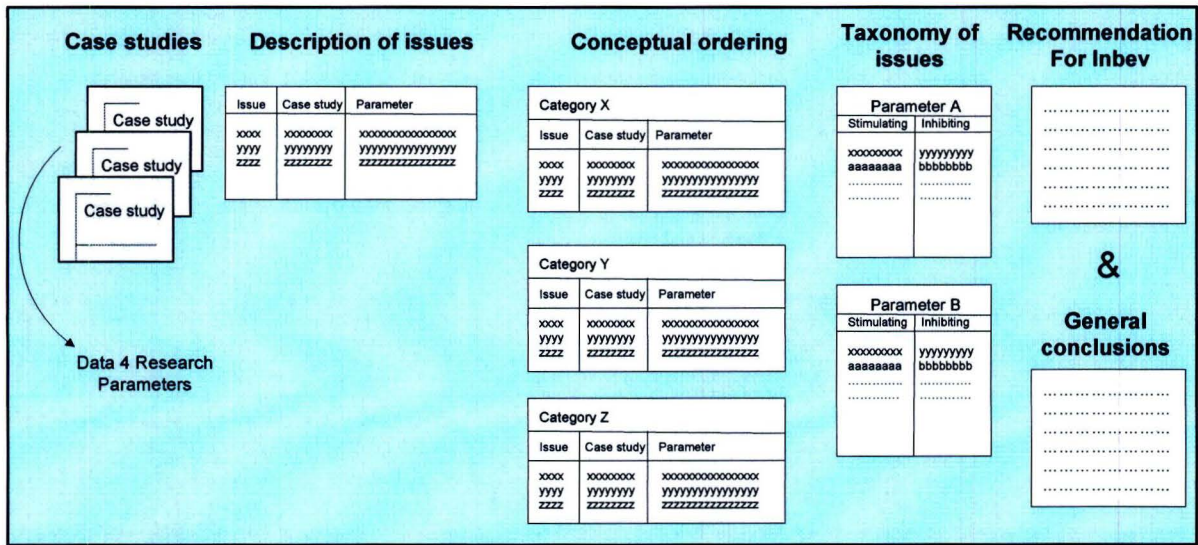


Figure 6. Data analysis process

Data analysis will take place using the qualitative data analysis method from Strauss and Corbin (1998) to discover concepts and relationships in the raw case study data, and then organize these into a taxonomy of issues influencing in the use and development of ERAs at buying organizations.

### 3.7 Designing the taxonomy of issues

The taxonomy of issues consists of all the issues that have a stimulating or inhibiting effect on the use and development of the ERA tool based on the 12 case studies that have been conducted. In order to design the taxonomy of issues, (1) all issues that can be taken out of the case studies will be described, (2) the described issues will be grouped into categories according to their similarities and relationship with each other, (3) from these categories a taxonomy is designed containing issues that have a stimulating or inhibiting effect on a specific category and parameter, and finally (4) from the designed taxonomy, a recommendation for the global roll out of the ERA tool at Inbev will be made.

In order to illustrate how this process works, please consider the following example that is taken out of a recorded case study. The quoted text below is has been taken out of the case study report.

*“To ensure success, in my view, the ERAs should be very straightforward and simple. Suppliers who are participating are under certain stress factors. We want to take out all factors that we can and agree on them upfront. So before the auction, the suppliers know everything and they can only compete on price”*

In step 1, the following part is taken out of the quoted text to describe an issue:

*“the ERAs should be very straightforward and simple”*

In step 2, the first phase is to group the described issue into a category according to its similarity and relationship with other issues. In this case the issue is grouped in the category of: “*Target / Objective setting*”

The second phase of step 2 is to divide the category in sub-categories. The issue mentioned above is grouped into the following sub-category: “*Managing event complexity*”

In step 3, the taxonomy is designed from these categories and sub-categories containing issues that have a stimulating or inhibiting effect on a specific parameter. In this case, this issue has an inhibiting effect on the type of ERA used in the buying organization. A total of 6 issues mentioning ‘keeping events simple’ were found in the case studies and resulted in the following general issue: “*Keeping the ERA events simple*” as an issue (see Appendix VII).

Step 4 of the design of the taxonomy, is described in detail in paragraph 5.2. The approach described above has been applied to all case studies.

The type of effect that an issue has on a parameter emerges from the case study data that is interpreted by the researcher. Looking at the type of effect that the issues have on the parameters described in paragraph 3.3, the following effects can be listed:

I. The type of product and service used in ERAs:

The described issue has a stimulating or inhibiting effect on the diversity of products and services used in ERAs within the buying organization. The types of products and services have been categorized according to the purchasing portfolio described in paragraph 2.3.

II. The types of ERAs used over time:

The described issue has a stimulating or inhibiting effect on the complexity of types of ERAs used in the buying organization. The types of ERAs have been grouped according to their complexity in paragraph 2.6.

III. The number of ERAs per year:

The described issue has a stimulating or inhibiting effect on the number of ERAs conducted at the buying organization.

IV. The number of users per year:

The described issue has a stimulating or inhibiting effect on the number of users that work the ERA tool within the buying organization.

An important note has been placed at these four steps. The designing and structuring the (sub) categories should emerge from the data and not from external issues. As Strauss and Corbin (1998) write “Remaining objectivity is necessary to arrive at an impartial and accurate interpretation of events. Sensitivity is required to perceive the subtle nuances and meanings in the data and to recognize the connections between concepts. Both objectivity and sensitivity are necessary for making discoveries” (p.42+43). In order to ensure the objectivity and sensitivity of the conceptual ordering of issues, the process of creating the categories and subcategories has been reviewed by reviewers with different academic backgrounds. The reviewers and their academic background can be found in table 10. The communication that was sent to the four reviewers can be found in Appendix VIII.

Name of reviewer	Academic background
Toon Segers	Industrial and Applied Mathematics (TU/e)
Tina Tijmsma	Chemical Engineering (HTS), Technology and Policy (TU/e)
Martijn Kampinga	Industrial Engineering and Management Science (TU/e)

Table 10, Reviewers of the categorization process.

The categorization process described in the four steps above was approved and validated by the reviewers (Appendix IX).

## Chapter 4 Analysis of research questions

*In the previous chapter the sub-questions are described that will be used to provide an answer for the first main research question: How do ERAs develop over time? This chapter provides the answers to these sub-questions by looking at the data retrieved from the cases studies (figure 6). From the answers of the sub-questions, an overall answer for the main research question will be provided.*

### 4.1 Answers to the sub-questions

The answers in this paragraph are generated from the case studies that have been conducted. The sub-questions will first be described followed by the answers.

I. What is the average starting situation for the first use of ERAs in buying organizations?

The answer for this question has been found by looking at starting year 1 of all the case studies. The results for each parameter in that year have been analysed to generate an average number or percentage for all parameters (see Appendix IV). The result is the typical starting situation of a buying organization that uses the ERA tool in the first year of use. The results from this analysis are provided in table 11.

	Average number of ERAs conducted in the first year	Average number of users in the first year	The most used type of product / service in the first year	The most used type of ERA in the first year
Typical starting situation for the first use of ERAs in buying organizations	11 ERAs	9 users	55% Routine 37% Leverage 4% Strategic 4% Bottleneck	57% Single item 43% Multi item

Table 11, Typical starting situation for the first use of ERAs in buying organizations

The following answer is found for the first sub question: “What is the average starting situation for the first use of ERAs in buying organizations?”

Buying organizations on average start using ERAs by conducting around 11 ERAs in their first year with around 9 users. The types of products or services used in those ERAs can be identified mostly Routine and Leverage items as well as a very small part Strategic and Bottleneck products and services. The types of ERAs used in the first phase of conducting ERAs can be classified as mostly Single item and Multi item ERAs.



II. Does the number of ERAs increase over time as the buying organization's experience with ERAs grows?

When looking at the data from the first year of using of the ERA tool till the seventh year, only the first 2 years provide data of all case study participants (see table 12). From year 3 to year 7, less case studies data is available.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Information of number of case studies	12	12	10	8	4	2	1

Table 12, Number of case studies with data from year 1 to year 7.

In order to provide solid and well based answers to the sub-questions, the data of the first three years of using the ERA tool will be taken into account due to the limited data from year 4 to year 7. When looking at the average number of ERAs conducted for the first three years for all case studies, table 13 is the result (see Appendix IV).

	Year 1	Year 2	Year 3
Average number of ERAs conducted	11 ERAs	28 ERAs	36 ERAs

Table 13, Development of the number of ERAs for the first three years of use.

As can be seen in Appendix III however, a decrease in the number of ERAs occurred at four of the case studies. This decrease in the number of ERAs has been the result of several case study specific reasons. The various reasons for this decrease will be explained by using anonymous quotes of the case participants.

In the first case study, the number of ERAs dropped from 1 ERA in year one, to 0 ERAs in year two and going up again to 2 ERAs in year three. The reason for this occurrence was explained by the participant as follows:

*“During the period of year one to year two, the organization was in the middle of change processes in the global procurement organization. About 60 global projects were running at the same time. In this period the emphasis was not on conducting ERAs as you can imagine, but on changing the procurement organization as quick and good as possible. From year two to year three, no decision was made regarding the amount or use of ERAs in the procurement organization. The two ERAs that we conducted were spontaneous auctions and were fully operated by an Application Service Provider and their consultants”*

In the second case study, the number of ERAs dropped from 22 in year one, to 12 in year two and going up again to 90 in year three. The reason for this occurrence was explained by the participant as follows:

*“I think people initially saw the novelty. We had 1 or 2 people running events and of course you cannot run the same event over and over again. I think that for year two we thought that this was just going to carry on, in year two we realized it wasn't. We had in fact a major re-assessment for the reasons behind this drop and what was required to stimulate the use for year three”*

In the third case study where a drop in the number of ERAs occurred, the organization went from 110 ERAs in year two to 60 ERAs in year three and eventually 22 ERAs in year four. This continues drop in the number of ERAs was explained by the participant as follows:

*“We did a lot of trial ERAs in year two and for some we decided that they did not work and we did not use them anymore in year three. In year four, the prices started to rise, the Chinese economy was booming. China was getting a lot of supplies that used to be sold in Europe and the US. The result was a shortage on the European market and when there is a shortage, ERAs are not a good tool to use. I think that is the main reason behind the drop from year three to year four”*

In the fourth case study a drop occurred from 20 ERAs in year three to 3 ERAs in year four and going up again to 100 ERAs in year five. The case participant explained this drop as follows:

*“In year four all buyers got personal targets for the number of ERAs they had to conduct in year four. The outcome of this personal target resulted into almost no activity on ERAs at all. Personal target setting doesn’t fit in the company culture that exists within the organization. Also the targets were unrealistic. If the targets would have been in the single numbers per buyer, the target would have easily been met, and the organization could have made a big leap forward, but the targets were set on double digits”.*

The following answer is found for the second sub-question: “Does the number of ERAs increase over time as the buying organization’s experience with ERAs grows?”

The number of ERAs increase as the buying organization’s experience with ERAs grows. Buying organizations on average start with 11 ERAs in their first year of use. For the second year an average of 28 ERAs are conducted and in year three an average of 36 ERAs are conducted. So the number of ERAs conducted per year have a big increase for the first 2 years and a slight increase for the third year.

III. Does the number of people using ERAs increase over time as the buying organization’s experience with ERAs grows?

When looking at the data from the case studies regarding the number of people using the ERA tool, the same remark applies as with the number of ERAs in the previous research question. So in order to provide an answer to the third research question, only the data from year one to year three will be taken into account (see table 12). When analysing the number of people using ERAs covering the first three years of use in the case study data, the answer to the research can be summed up in table 14<sup>6</sup> (see Appendix IV). The number of people using ERAs indeed increases over time as the buying organization’s experience with ERAs grows.

	Year 1	Year 2	Year 3
Average number people using ERAs in the organization	9 People	18 People	19 People

Table 14, The number of people using ERAs for the first three years of use.

<sup>6</sup> In one specific case study, no information was available of the people who actually use the ERA tool on a yearly basis. The numbers of users from this case study have therefore not been taken into account in the calculation for table 14.

The increase of the average number of people using the ERA tool in the organization shows the same trend as with the number of ERAs conducted over the years. First a big increase going from year one to year two followed by a smaller increase going to year three. As can be seen in Appendix III however, a decrease occurred at two of the case studies. This decrease in the number of people using ERAs has been the result of several case study specific reasons. The various reasons for this decrease will be explained by using anonymous quotes of the case participants.

In the first case study, the number of people using ERAs dropped from 4 users in year one, to 0 users in year two and going up again to 2 users in year three. The reason for this occurrence was explained by the participant as follows:

*“In year one, we conducted 1 global ERA. The four buyers involved were the buyers that were responsible for that category. Due to organizational change processes, no ERAs were conducted in the year two. Coming from zero ERAs in year two, we conducted 2 spontaneous ERAs in year three. These ERAs were conducted by an Application Service Provider and we used their consultants to setup the ERA. The 2 buyers involved were responsible for the category being auctioned”*

In the second case study, the number of people using ERAs dropped from 2 users in year four, to 1 user in year five. The reason for this occurrence was explained by the participant as follows:

*“For the time being we do not have that many ERA events, so it's enough for this moment. The decision determined whether we should have an active or passive mode. Based on the trend we've seen in year four and especially now with the incredible prices for raw materials we feel that there is no real opportunity for ERAs for the moment. But we do not want to kill it, we want to keep it, but we've put it in a passive mode. So that is how we come to this number of 1 person for the whole organization”*

In the third case study, the number of people using ERAs dropped from 100 users in year two to 90 users in year three. The reason for this occurrence was explained by the participant as follows:

*“We weeded out the people who did not use the tool and concentrated more on those that showed to be really using it and not just people who've had licences in the past”*

The number of people using the ERA tool is highly linked with the number of ERAs that are conducted. As can be seen in Appendix III, one case participant has a large number of users, but not a big number of ERAs are conducted. The reason for this difference is the fact that all users can indeed conduct ERAs, but most of them use other e-sourcing tools, like e-RFI's, e-RFP's and e-RFQ's (see paragraph 3.4). In this specific case study, no information was available of the people only use the ERA tool on a yearly basis. The number of users from this case study therefore has not been taken into account in the calculation for table 14.

The following answer is found for the third sub-question: “Does the number of people using ERAs increase over time as the buying organization’s experience with ERAs grows?”

The number of people using ERAs increase as buying organization’s experience with ERAs grows. Buying organizations typically start with an average of 9 users in their first year of use. For the second year an average of 18 users are conducting ERAs and in year three an average of 19 users are using the ERA tool.

IV. Does the type of product or service for which ERAs are used change as the buying organization’s experience with ERAs grows?

When looking for information regarding the type of product or service, the same remark applies as with the number of ERAs in the first sub question. So in order to provide an answer to the fourth sub question, only the data from year one to year three will be taken into account (see table 12). When analysing the case study data on how the type of product or service that is used changed over the first three years, figure 7 is designed to show how the type of product or service has evolved (see Appendix V).

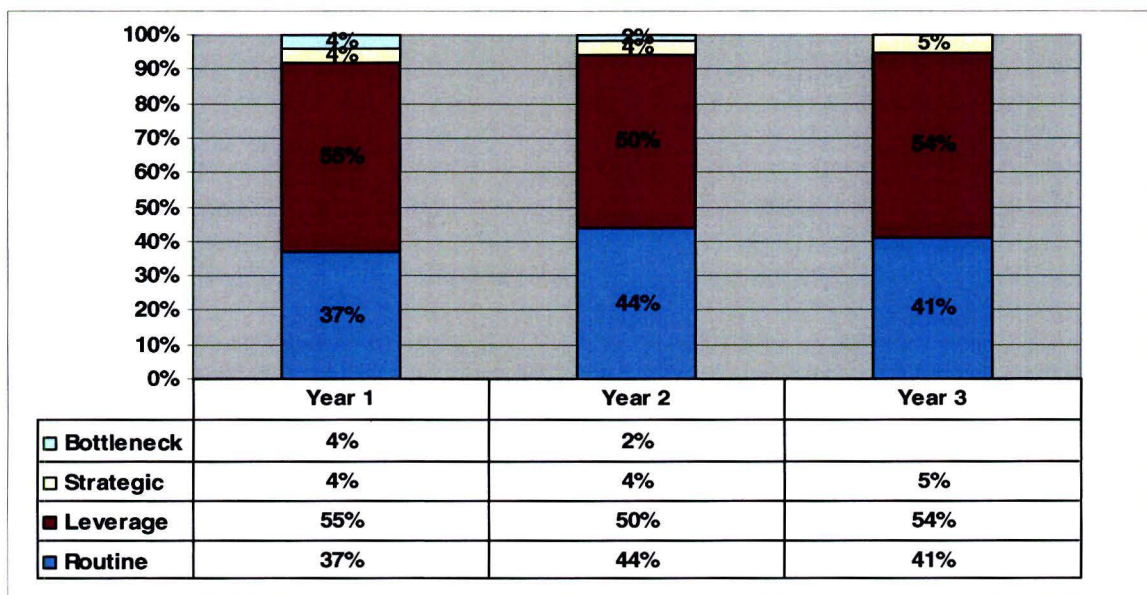


Figure 7. Types of products or services used over the first three years of using the ERA tool

The following answer is found for the fourth sub-question: “Does the type of product or service for which ERAs are used change as the buying organization’s experience with ERAs grows?”

Looking at the types of product or service that are used in ERAs at buying organizations, the conclusion can be drawn that the types of products and services are used in the first three years are the Leverage and Routine type of products and services. The use of both types is almost equal and remains that way over the years.

V. Does the complexity of ERA types increase as the buying organization's experience with ERAs grows?

When looking for information regarding the complexity of the ERA types that are used by the case participants, the same remark applies as with the number of ERAs in the first research question. So in order to provide an answer to the fifth sub question, only the data from year one to year three will be taken into account (see table 12). When analysing the case study data on how the complexity of the ERA types that are used changed over the first three years, figure 8 is designed to show how the type of product or service has evolved (see Appendix VI).

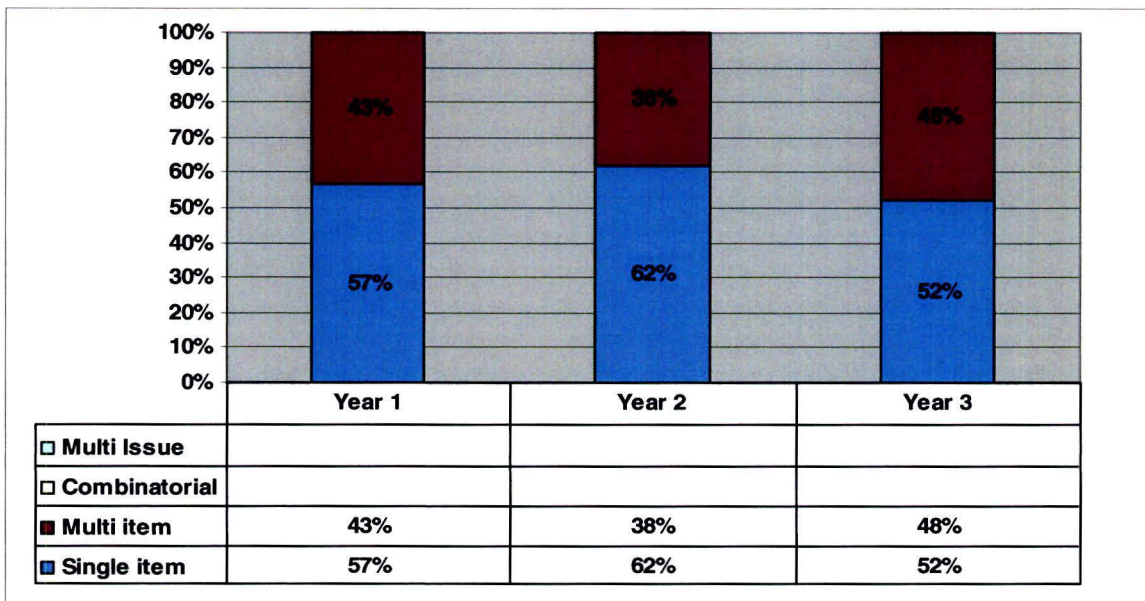


Figure 8, Type of ERAs used over the first three years of using the ERA tool.

The following answer is found for the fifth sub-question: “Does the complexity of ERA types increase as the buying organization’s experience with ERAs grows?”

The types of ERAs that are used by buying organizations do not evolve much over the first three years of using the ERA tool. The two most used types of ERAs in the first three years of using the ERA tool are the single item ERA and the multi item ERA.

## 4.2 Conclusion

Now that the answers to the sub questions have been provided, the first main research question can be answered:

How do ERAs develop over time?

How ERAs develop over time can be discussed by looking at the use and development of ERAs at buying organizations based on the answers provided for the sub questions. Knowing that the first three years of using the ERA tool has been taken into account, the following answer can be given:

The use and development of ERAs over time within buying organizations on average starts with a relatively low number of ERAs and users, focussed on easy to manage products and services in simple types of ERAs. In the following years the use and development of ERAs does not change regarding the types of products and services and the type of ERAs used. The only aspect that is specific for each buying organization is the number of events that are conducted and related to that the number of users. The number of ERAs and users is based on the approach that buying organizations have for implementing the ERA tool in their organization.

## Chapter 5 Analysis

*The previous chapter has provided the answers to the sub questions and first main research question, that are defined in paragraph 3.2. In this chapter the result of the qualitative data analysis of the case study is described. This result will provide the answer to the second main research question: What issues influence the development and change in the use of ERAs at buying organizations? First, the qualitative data analysis approach is discussed. Second, the design of the taxonomy of issues is described. Finally the answer to the second main research question is provided.*

### 5.1 Data analysis case studies

For the data analysis process, the steps mentioned in paragraph 3.6 will be used to approach the case study data. The steps that need to be taken are:

- 1) Description of issues
- 2) Conceptual ordering of issues
- 3) Construct a taxonomy of issues

These three steps will each be described in more detail to provide insight in the qualitative data analysis that is used in this project.

#### 5.1.1 Description of issues

In the description of issues step, all issues that initiate change in the use and development of the ERA tool have been identified and described by the author. The description of the change issues has been kept as close to the raw data as possible in order to ensure the authenticity of the retrieved issues. The various descriptions of issues have been grouped on a case study level and structured by the following variables:

- The case study were the issue relates to
- The parameter were the issue relates to
- And if the described issue has a stimulating or inhibiting effect on the specific parameter

A total of 478 descriptions were identified from the case study data. If a described issue did not apply for one of the parameters, it was marked as a 'general issue'. The result of the description of issues can be found in Appendix VII.

### 5.1.2 Conceptual ordering of issues

The previous step forms the basis for the next step, the conceptual ordering. In the conceptual ordering of issues the goal is to organize the described issues according to specific properties and similarities between the various descriptions that have been found in the previous step. In other words, we want to group similar items and give the items a name that stands for that common link. This results in reducing the 478 descriptions into manageable pieces of data, grouped into categories.

#### 5.1.2.1 Categorization of issues

The ordering of issues is based on similarities and relationships between issues generated in the previous step. Looking for those similarities and relationships resulted in the grouping of all issues in 9 major categories that can be found in Appendix VII. The descriptions of the 9 categories are displayed in table 15.

Major categories	Number of issues found per category	After removing case specific issues
Target / Objective setting	64	59
Providing support	66	66
Communicating	37	34
Training	28	25
Managing ERA knowledge	39	36
Adapting the organization	92	78
Selecting specific products / services	85	25
Selecting specific suppliers / supply markets	47	25
Using / Selecting ERA provider	20	18
<b>Total</b>	<b>478</b>	<b>366</b>

Table 15, Major categories found from described issues

After the first ordering of issues into 9 major categories, the next phase is to follow the same approach to search for any sub-categories. As can be seen in Appendix VII, the description of issues is still kept as close to the raw data as possible in order to ensure the authenticity of the retrieved issue.

An important approach that has been followed while searching for sub-categories within the 9 major categories is the break up between issues that actually initiate change in the use of the ERA tool and issues that only apply to the specific buying organization or their market position/situation. For instance, one of the case study participants mentions that their suppliers only supply one type of product/service and therefore they can only use single item ERAs. The decision of this buying organization to only use single item ERAs does not apply to other buying organization that have suppliers supplying multiple types of products/services. Therefore, such an issue will not have any influence on the sub-categorization process. Reason for this is that any buying organizations should be able to use the resulting issues that influence the use and development of ERAs. The result of this approach can be seen in table 15, which displays the before and after situation regarding the case specific issues. In total 112 out of the 478 issues were identified as specific case study issues (see Appendix VII).



5.1.2.2 Sub-categories and grouped issues

When looking at the issues per category, after filtering out the case specific issues, several sub-categories can be identified for each major category. When the sub-categories have been identified, the next step is to group the issues in each sub-category according to their stimulating or inhibiting effect within the sub-category. This results in grouped issues that represent multiple issues from multiple case studies that have a similar effect and relationship with each other. Figure 9 provides an overview of this process for the major category ‘Providing support’ with sub-category ‘Involving higher management’.

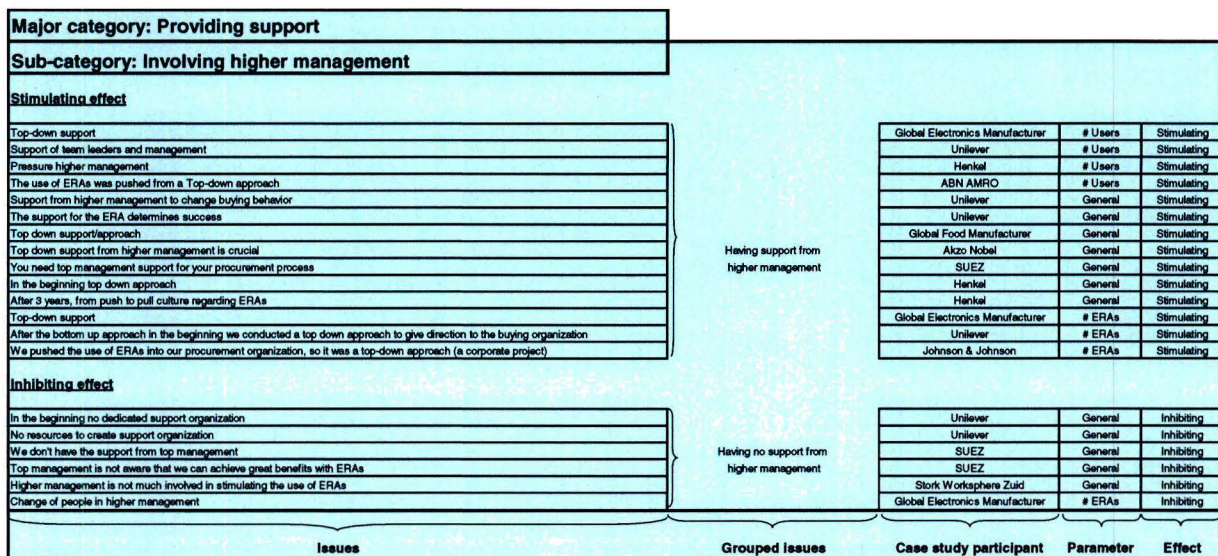


Figure 9, Categorization process; from category ‘Providing support’ to sub-category ‘Involving higher management’ to grouped issues.

For the Providing support category the final categorization result can be displayed as followed:

Major category: Providing support	Type of effect	Number of issues
<b>Sub-category: Encouraging use of the ERA tool</b>		<b>16</b>
Grouped issue: Making sure buyers are encouraged and helped using ERAs	Stimulating	10
Grouped issue: Having buyers who are reluctant to use the ERA tool	Inhibiting	6
<b>Sub-category: Starting with early adopters</b>		<b>5</b>
Grouped issue: Starting with the early adopters of the ERA tool	Stimulating	5
<b>Sub-category: Involving higher management</b>		<b>20</b>
Grouped issue: Having support of higher management	Stimulating	14
Grouped issue: Having no support of higher management	inhibiting	6
<b>Sub-category: Organizing support</b>		<b>25</b>
Grouped issue: Having a centre led support organization who provide internal consultancy	Stimulating	16
Grouped issue: Hiring external consultants	Stimulating	9
<b>Total (sum of issues per sub-category)</b>		<b>66</b>

Table 16, Full categorisation process for the ‘Providing support’ category.

The categorization approach described for the ‘Providing support’ category is applied to all 9 major categories. As a result, a total of 26 sub-categories are found together with 63 grouped issues. The entire categorization result can be found in Appendix VII. In the following paragraph the actual taxonomy of issues will be designed based on the final categorization.

## 5.2 Design of the taxonomy of issues

In the previous paragraph, the major categories, sub-categories, and issues that have effect on the use and development of ERAs at buying organizations, have been identified. In this paragraph these findings are used to design a taxonomy of issues, based on the four parameters described in paragraph 3.3 and classified according to their effect.

The design of the taxonomy of issues is based on the four parameters. As a result, all general issues generated from the categorization process will be classified according to the parameter that they influence. The result of this classification is the detailed taxonomy of issues per parameter provided in Appendix X.

As can be seen in figure 9, a grouped issue can consist of more than one issue per case study participant. This is due to the fact that some organizations have taken multiple actions or decisions that have the same goal and therefore are in the same sub-category. In an attempt to reduce the possibility that a grouped issue consists of issues from one case study participant, a filter has been used for the detailed taxonomy. This filter excludes all general issues that consist of 3 or fewer issues. The resulting ‘filtered’ taxonomy of issues consists of general issues mentioned 4 times or more in the final categorization. Based on the categorization process described in paragraph 5.1.2 and the filter that excludes 3 or fewer issues per grouped issue, the taxonomy of issues based on the four parameters can be designed.

The issues influencing the number of ERAs in buying organizations are listed in table 17:

Parameter: Number of ERAs	Effect	# issues related to parameter	Total # issues in grouped issue
<b>Target / Objective setting</b>			
<b>Target setting</b>			
Realistic target setting for the use of ERAs	Stimulating	5	12
<b>Achieving results</b>			
Achieving good and quick results	Stimulating	4	9
<b>Conducting change management</b>			
Accepting the ERA tool by buyers	Stimulating	4	9
Implementing the ‘new way of buying’	Stimulating	6	12
<b>Providing support</b>			
<b>Encouraging use of the ERA tool</b>			
Having buyers who are reluctant to use the ERA tool	Inhibiting	4	6

<b>Starting with early adopters</b>			
Starting with the early adopters of the ERA tool	Stimulating	4	5
<b>Communicating</b>			
<b>Sharing results</b>			
Communicating the results achieved with the ERA tool	Stimulating	5	16
<b>Adapting the organization</b>			
<b>Position of the purchasing function</b>			
Having a weak position of the purchasing organization	Inhibiting	5	6
<b>Creating a separate ERA department</b>			
Creating a dedicated centre led ERA department	Stimulating	4	19
<b>Selecting specific suppliers / supply markets</b>			
<b>Suppliers having experience with the ERA tool</b>			
Suppliers not participating due to past experiences with the ERA tool	Inhibiting	5	10

Table 17, Issues influencing the number of ERAs in buying organizations

The issues influencing the number of users of the ERA tool in buying organizations are listed in table 18:

Parameter: Number of users	Effect	# issues related to parameter	Total # issues in grouped issue
<b>Providing support</b>			
<b>Involving higher management</b>			
Having support of higher management	Stimulating	4	14
<b>Organizing support</b>			
Hiring external consultants	Stimulating	4	9
<b>Training</b>			
<b>Training of buyers</b>			
Providing of training for buyers	Stimulating	5	12
<b>Selecting key users</b>			
Making a selection of key users for the ERA tool	Stimulating	4	8
<b>Adapting the organization</b>			
<b>Creating a separate ERA department</b>			
Creating a dedicated centre led ERA department	Stimulating	5	19
<b>Developing new purchasing procedures</b>			
Creating new purchasing processes to integrate the ERA tool	Stimulating	5	16

Table 18, Issues influencing the number of users of the ERA tool in buying organizations

The issues influencing the diversity of the type of products or services used in ERAs are listed in table 19:

Parameter: Type of product or service	Effect	# issues related to parameter	Total # issues in grouped issue
<b>Providing support</b>			
<b>Organizing support</b>			
Having a centre led support organization who provide internal consultancy	Stimulating	4	16
<b>Selecting specific products / services</b>			
<b>Using a product / service decision model</b>			
Using a decision model to check if a product/service is suited for an ERA	Stimulating	10	13
<b>Specifying the product / service</b>			
Use easy to specify products / services for ERAs	Inhibiting	6	6

Table 19, Issues influencing the type of product/service that is used in ERAs at buying organizations

The issues influencing the complexity of the type of ERAs used in buying organizations are listed in table 20:

Parameter: Type of ERA	Effect	# issues related to parameter	Total # issues in grouped issue
<b>Target / Objective setting</b>			
<b>Managing event complexity</b>			
Keeping the ERA events simple	Inhibiting	5	6

Table 20, Issues influencing the type of ERA that is used in buying organizations

General issues influencing the use and development of ERAs at buying organizations are listed in table 21:

Parameter: General	Effect	# issues related to parameter	Total # issues in grouped issue
<b>Target / Objective setting</b>			
<b>Target setting</b>			
Realistic target setting for the use of ERAs	Stimulating	4	12
<b>Achieving results</b>			
Achieving good and quick results	Stimulating	5	9
<b>Providing support</b>			
<b>Encouraging use of the ERA tool</b>			
Making sure buyers are encouraged and helped using ERAs	Stimulating	5	10
<b>Involving higher management</b>			

Having support of higher management	Stimulating	7	14
Having no support of higher management	Inhibiting	5	6
<b>Organizing support</b>			
Having a centre led support organization who provide internal consultancy	Stimulating	7	16
Hiring external consultants	Stimulating	4	9
<b>Communicating</b>			
<b>Sharing results</b>			
Communicating the results achieved with the ERA tool	Stimulating	9	16
<b>Showing functionality of ERA tool</b>			
Making sure everybody knows the possibilities of the ERA tool	Stimulating	4	9
<b>Creating awareness</b>			
Making sure everyone knows about the existence of the ERA tool	Stimulating	5	9
<b>Training</b>			
<b>Training of buyers</b>			
Providing of training for buyers	Stimulating	5	12
<b>Managing ERA knowledge</b>			
<b>Capturing ERA event knowledge</b>			
Capturing ERA event strategies and objectives	Stimulating	13	14
Creating ERA policies and guidelines	Stimulating	5	8
<b>Adapting the organization</b>			
<b>Creating a separate ERA department</b>			
Creating a dedicated centre led ERA department	Stimulating	9	19
<b>Developing new purchasing procedures</b>			
Creating new purchasing processes to integrate the ERA tool	Stimulating	7	16
<b>Selecting specific suppliers / supply markets</b>			
<b>Suppliers having experience with the ERA tool</b>			
Having experienced suppliers	Stimulating	5	6
<b>Using / Selecting ERA provider</b>			
<b>Selecting an ERA provider</b>			
Having a simple and functional ERA tool	Stimulating	5	5

Table 21, General issues influencing the use and development in buying organizations

### 5.3 Conclusion

Now that the taxonomy of issues influencing the use and development is designed, the second main research question can be answered:

What issues influence the development and change in the use of ERAs at buying organizations?

To provide an answer to the second main research question, a second filter will be applied to generate the 'most critical issues' that have the biggest influence on the use and development of ERAs. The general issues that consist of 6 or more issues are classified as 'most critical issues'. When applying the second filter, the following 'critical' issues can be generated that provide the answer to the second main research question:

		Related parameter
<b>Target / Objective setting</b>		
<b>Conducting change management</b>		
Implementing the 'new way of buying'	Stimulating	Number of ERAs
<b>Selecting specific products / services</b>		
<b>Using a product / service decision model</b>		
Using a decision model to check if a product/service is suited for an ERA	Stimulating	Type of product / service
<b>Specifying the product / service</b>		
Use easy to specify products / services for ERAs	Inhibiting	Type of product / service
<b>Providing support</b>		
<b>Involving higher management</b>		
Having support of higher management	Stimulating	General
<b>Organizing support</b>		
Having a centre led support organization who provide internal consultancy	Stimulating	General
<b>Communicating</b>		
<b>Sharing results</b>		
Communicating the results achieved with the ERA tool	Stimulating	General
<b>Managing ERA knowledge</b>		
<b>Capturing ERA event knowledge</b>		
Capturing ERA event strategies and objectives	Stimulating	General
<b>Adapting the organization</b>		
<b>Creating a separate ERA department</b>		
Creating a dedicated centre led ERA department	Stimulating	General
<b>Developing new purchasing procedures</b>		
Creating new purchasing processes to integrate the ERA tool	Stimulating	General

Table 22, Most critical issues influencing the use and development of ERAs at buying organizations.

## Chapter 6 Recommendations for Inbev nv/sa

The previous two chapters have provided insight in the use and development of ERAs at buying organizations. This chapter will provide recommendations for Inbev for the global roll out of the ERA tool as mentioned in the second research objective. First, the current situation at Inbev will be provided. Second, the recommendations for the global roll out of the ERA tool are described. In parallel with the recommendations, the implementations that have been conducted at Inbev until now will also be provided.

### 6.1 Current situation at Inbev

The use and development of ERAs at Inbev according to the four parameters can be visualized according to figures 10, 11 and 12. The figures show that Inbev has already gained experience regarding all parameters, except the type of ERA that has been used so far. Figure 10 shows that both the number of ERAs conducted as well as the number of users has increased significantly over the past three years. This is due to the training of the key users, and the support of the ERA specialist as mentioned in paragraph 1.3.2.

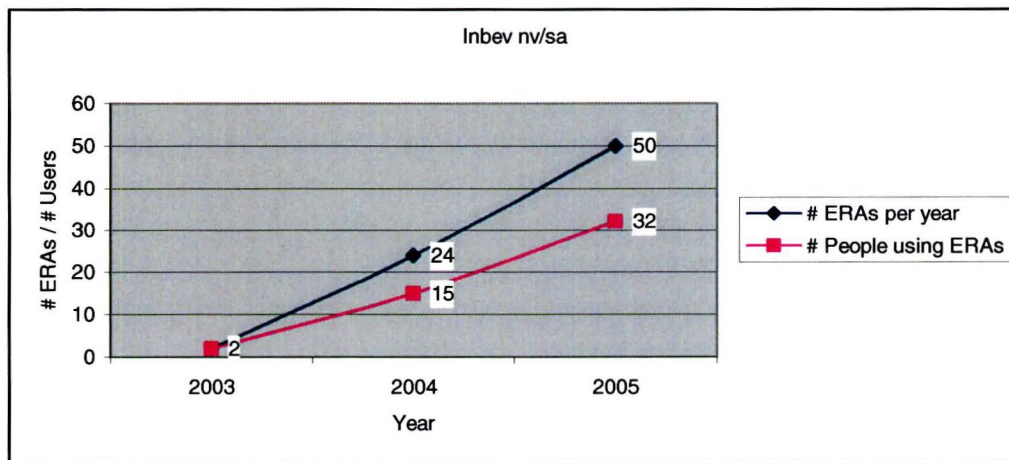


Figure 10, The number of ERAs and people using ERAs per year.

Figure 11 shows that the type of products and services that have been used in ERAs so far differ from the products and services that buying organizations use on average, which are mainly leverage and routine products or services (see paragraph 4.1). Inbev has started using ERAs in the beginning of 2003, when two ERAs have been conducted. The products used for these ERAs can be identified as strategic and bottleneck products. The use of these two 'hard to auction' categories was possible due to previous experience with ERAs of the responsible global category manager. When looking at the present situation, the use of more routine and leverage product or services is growing.

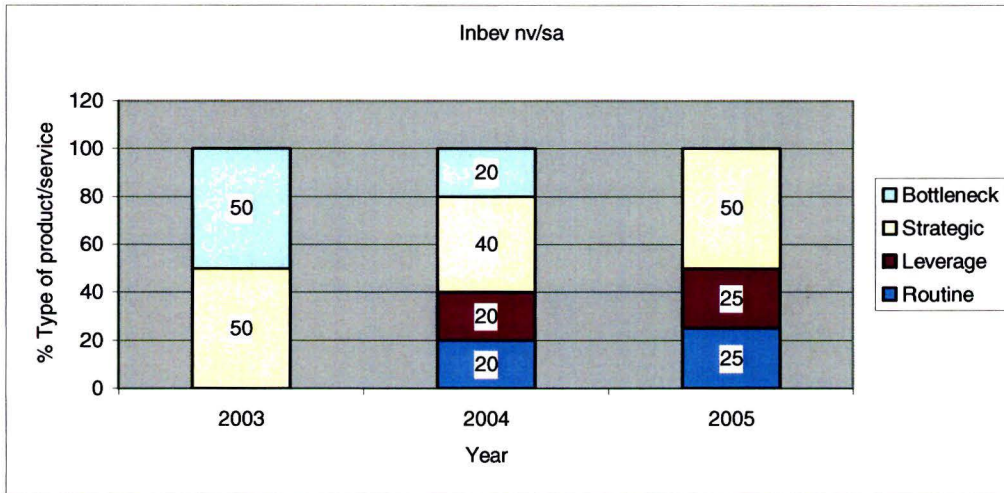


Figure 11, The type of products and services used in ERAs at Inbev.

Looking at the types of ERAs used at Inbev, the Inbev organization uses the same types of ERAs that other buying organizations use on average, namely the single and multi item ERA.

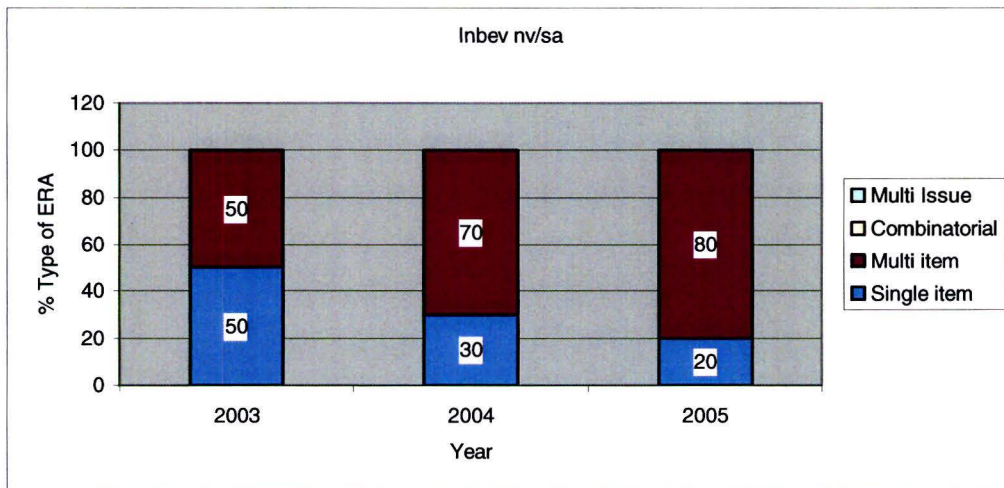


Figure 12, The type of ERAs used by Inbev.

From 2003 till the present, Inbev did not have a specific department that coordinated the use of the ERA tool. As described in paragraph 1.3.2, there is one global category manager that is responsible for the ERA tool, with one person supporting all ERA projects, the ERA specialist. Next to these two persons, ten global key users have been trained that are capable of conducting their own ERA events. After three years of using the ERA tool, the global management of Inbev decided that the objective for the next three years will be to integrate the ERA tool as a standard tool within the purchasing process.



## 6.2 Recommendations for Inbev

To provide Inbev with recommendations for the global roll out of the ERA tool, the most critical issues mentioned in paragraph 5.3 will be used as the basis from which the recommendations will be generated.

### **Recommendation #1:**

A stimulating effect on the number of ERAs is:

*“Implementing the new way of buying”*

The implementation of the new way of buying means the use of the ERA tool as a standard tool within the purchasing process. Inbev should clearly communicate the new way of buying and how the ERA tool is integrated in the new purchasing process. In order to achieve communication newsletters and bulletin boards can be used to make everyone aware of the new way of purchasing and how this new way of buying will actually be designed.

### **Implementations done so far:**

This recommendation has partially been integrated in the current Inbev organization on the European POCM (Point Of Connection Materials) items. A standard menu has been created of which all items have been negotiated in ERAs. The result of this ‘new way of buying’ has been that 35 ERAs were conducted in one week and all items have a fixed price for the whole of Western Europe region. The role of the ERA specialist has been the setting up of all 35 ERA strategies in corporation with the specific European Buyers and the actual setting up, execution and support of al 35 events. Within the Inbev organization, this process of standardizing certain items, i.e. in a menu, and using ERAs and negotiating the price using ERAs has been set as an example for the near future.

### **Recommendation #2:**

A stimulating effect on the diversity of products and services used in ERAs is:

*“Using a decision model to check if a product / service is suited for an ERA”*

The creation of a product and service decision model by Inbev can be used by buyers to find out if a product or service is suited to be used in an ERA. This model can be designed on a general or product category level.

### **Implementations done so far:**

At this moment, Inbev is in the process of setting up the implementation plan of the global roll out of the ERA tool. Within this process the role of the ERA specialist is to provide information regarding which spend areas in the product categories are best suited to be used in the global roll out to ensure quick successes. This information is based on the 70 ERAs that have conducted by the ERA specialist so far on a multitude of product and service categories.

**Recommendation #3:**

An inhibiting effect on the diversity of products and services used in ERAs is:

*“Use easy to specify products / services for ERAs”*

The use of easy to specify products or services has an inhibiting effect on the diversity of items used in ERAs. However, the use of the ERA tool can be further stimulated by conducting events on easy to specify products or services. Inbev should make sure that they start with easy to specify products or services as a starting point of the global roll out of the ERA tool. All types of products have been used by Inbev already, but when expanding the number of users and ERAs in a global roll out, a start with easy to specify products or services is recommended.

**Implementations done so far:**

For this recommendation the current process at Inbev is the same as described for recommendation #2. Inbev is currently in the process of identifying the spend areas for all product categories to identify which categories are best suited to be used in the ERA tool. As all types of products or services have been used in ERAs before, the inhibiting effect of this issue does not apply for Inbev.

**Recommendation #4:**

An issue that has a general stimulating effect on the use and development of ERAs is:

*“Having support of higher management”*

Having support of higher management is essential for a global approach for the implementation of the ERA tool. At Inbev, the support of higher management is present as the push for the implementation of the ERA tool on a global level is initiated by Global management itself.

**Implementations done so far:**

As mentioned in the recommendation description, the support of higher management is currently present at Inbev.

**Recommendation #5:**

An issue that has a general stimulating effect on the use and development of ERAs is:

*“Having a centre led support organization who provide internal consultancy”*

Inbev should create a centre led support organization when rolling out the use of ERAs globally. At this moment the use and support of ERAs is coordinated by the global category manager e-sourcing and one person who support the buyers in the setting up of the ERA events. With the objective of having a global approach, where buyers from all categories will be using the ERA tool, a centre led organization who provides internal consultancy is essential when the number of users increases over time. The current organization structure regarding the ERA tool is suited for the number of ERAs conducted so far (see figure 10), but integrating the ERA tool in the purchasing process on a global level will cause a big increase in the number of events. This global roll out will demand support for all the buyers using the ERA tool.

**Implementations done so far:**

From September 2004 until now all support regarding ERAs has been done by the ERA specialist. From November 2005, Inbev has decided that a structured global approach will be taken that has resulted in the setting

up of an eSourcing Center Of Excellence (COE). Until now, this new COE consists of 2 people, the global category manager and the ERA specialist. In the near future the COE will be expanded with super users, to ensure a global coverage of knowledge of the ERA tool.

**Recommendation #6:**

An issue that has a general stimulating effect on the use and development of ERAs is:

*“Communicating the results achieved with the ERA tool”*

Inbev should communicate the achieved results generated with ERAs to encourage buyers to start using the ERA tool. For the global roll out of the ERA tool, the current communication tools (newsletters) could be complemented with a shared ERA website, share presentations of successful ERA events, or letting other buyer view ERAs by using a beamer.

**Implementations done so far:**

At this moment, Inbev uses monthly newsletters to communicate which type of ERAs have been conducted for a specific product or service category. The newsletters contain up to date information on the latest activities on ERAs within an outside of Inbev. Also, popular links to new developments and discussion are added. These communications have been created by the ERA specialist and resulted in some very useful remarks and ideas from buyers that led to new ERA opportunities for their own product or service category.

**Recommendation #7:**

An issue that has a general stimulating effect on the use and development of ERAs is:

*“Capturing ERA event strategies and objectives”*

Inbev should capture the ERA strategies and objectives using a template that will store the decision making process for each ERA event. The design of this template can be done by the ERA specialist. When having a template, the knowledge can be shared using several options, i.e. a database, an internal website, newsletters. The important aspect with capturing the ERA knowledge is that the knowledge is stored and reusable, instead of only being in the head of the specific buyer.

**Implementations done so far:**

The current situation at Inbev regarding the storage of the ERA event data like ERA strategies and objectives is only stored in the ERA tool itself and simple spreadsheets. This type of storage is limited as the actual ERA is a result from the strategy and objectives. So the capturing of ERA event information is already happening at Inbev on a low level of detail using the data from the ERA tool and spreadsheets. At this moment Inbev is looking for a way to store ERA event data in detail in the ERA tool itself. Within this process, the ERA specialist has been highly involved in determining the desired structure for this ERA event data storage.

**Recommendation #8:**

An issue that has a general stimulating effect on the use and development of ERAs is:

*“Creating a dedicated and centre led ERA department”*

In relation with a centre led support organization, Inbev should to create a dedicated centre led ERA department that coordinates the development of the ERA tool. When having a global roll out the maintenance and upgrade of the ERA tool and the rules and guidelines is essential.

**Implementations done so far:**

At this moment, the global category manager and the ten key users all have other functions within the Inbev organization. As mentioned in recommendation #5, the eSourcing COE is active from November 2005. This ensures the dedicated and centre led ERA department within the Inbev organization.

**Recommendation #9:**

An issue that has a general stimulating effect on the use and development of ERAs is:

*“Creating new purchasing processes to integrate the ERA tool”*

When integrating the ERA tool, Inbev should design and implement new purchasing processes, to ensure the use of the ERA tool in specific situations, which are determined by higher management. When having a global roll out of the ERA tool, ERA guidelines and policies are necessary to ensure a consistent approach to suppliers, minimizing errors and prevention of abuse of the ERA tool. This recommendation is in correlation with having the support of higher management (#4) and the implementation of the new way of buying (#1).

**Implementations done so far:**

At this moment, no specific rules and guidelines have been communicated for the use of ERAs, as all ERA events have been conducted and setup by the global category manager and the ERA specialist. As mentioned at recommendation #2, at this moment, Inbev is in the process of setting up the implementation plan of the global roll out of the ERA tool. Within this process, the creation of new purchasing processes has been marked as a key issue to ensure the successful integration of the ERA tool.

## Chapter 7                      Limitations, future research and conclusion

*In the previous chapters, the research method has been described, resulting in a taxonomy of issues per parameter in chapter five. In this chapter the research method and the results will be discussed. First the limitations of this project will be discussed. Then, the opportunities for future research regarding the use and development of ERAs will be provided.*

### 7.1      Limitations

This project is an exploratory study of issues influencing the use and development of ERAs at buying organizations, where the data has been gathered by conducting case studies and analysed using a qualitative data analysis method. When looking at the data gathering process some limitations can be addressed.

The homogeneous sample that is used in this project is described as ‘buying organizations operating on a global level that have experience with ERAs’. This might exclude national operating companies with experience on the use and development of ERAs. In addition, it might suggest that national operating companies do not use the ERA tool, which is not the case. Besides the exclusion of national operating companies, the sample description is very general, and not related to any type of industry, i.e. Fast Moving Consumer Goods Industry, Automotive industry etc. For this project the emphasis has been on experienced multinationals regardless of the type of industry they work in.

The number of case studies conducted for this project could be discussed. As it is up to the opinion of the researcher to determine whether a point redundancy is reached for the data gathered. One might disagree or gather different data and reach a different point of redundancy when the data gathering process is repeated.

The same limitation can be given for the qualitative analysis method that has been used. In this project the qualitative data analysis method has been reviewed to increase the objectivity and sensitivity of the categorization of issues. But some might argue that the description of issues, conceptual ordering of issues and the categorization of the issues is influenced by external factors i.e. experience of the researcher.

A large amount of issues have been found in the qualitative data analysis of the case studies, a total of 366 after removing the case study specific issues. This process is also subject to the researcher’s view on the total case study data. When this process should be repeated a different outcome might be possible.

## **7.2 Future research**

This project provides the basis for future refinement studies. A replication project can be performed that refines the taxonomy of issues using other and more detailed parameters. The large amount of undefined 'general issues' in paragraph 5.3.2 provides opportunities for future research.

More opportunities for future research on the issues influencing use and development can be identified. One might perform a replication study with e.g. 1) a sample of case studies containing specific types of industry or organization, 2) a more detailed study regarding one of the 'major categories', or 3) a different kind of data gathering and data analysis.

Besides a new analysis of the issues influencing the use and development of ERAs, future research can also focus on the type of change management needed to ensure that the most critical issues found in this project are captured in the roll out approach of ERAs at buying organizations.

## **7.3 Conclusion**

This project is merely a starting point for research regarding issues influencing the use and development of ERAs at buying organizations. As mentioned in paragraph 3.1 there is a lack of knowledge about how organizations can best introduce and integrate the ERA tool in their purchasing department. The taxonomy of issues provided in this project might help buying organizations that are just starting to use the ERA tool, or are thinking of using the ERA tool. The most critical issues described in paragraph 5.3 could help buying organizations in their approach of using ERAs in their purchasing process. The results provided by this project might also present interesting leads for future research regarding issues influencing the use and development of ERAs. The various opportunities have been described in paragraph 7.2.

## Reference list

- Ba, S., Whinston, A.B., Zhang, H. (2003) 'Building trust in online auction markets through an economic incentive mechanism', *Decision Support Systems*, 35, 273-286.
- Beall, S., Carter, C., Carter, P.L., Germer, T., Hendrick, T., Jap, S., Kaufmann, L., Maciejewski, D., Monczka, R., Petersen, K (2003) 'The role of Reverse Auctions in Strategic Sourcing', *CAPS Research*.
- Bichler, M., Segev, A. (2001) 'Methodologies for the design of negotiation protocols on E-markets', *Computer Networks*, 37, 137-152.
- Carter, C.R., Kaufmann, S., Beall, P.L., Carter, T.E., Petersen, K.J. (2004) 'Reverse auctions – grounded theory from the buyer and supplier perspective', *Transportation Research Part E*, 40, 229-254.
- Davila, A., Mahendra, G., Palmer, R. (2003) 'Moving Procurement Systems to the Internet: The adoption and Use of E-Procurement Technology Models', *European Management Journal*, 21, 11-23.
- De Boer, L., Harink, J., Govert, H. (2002) 'A conceptual model for assessing the impact of electronic procurement', *European Journal of Purchasing & Supply Management*, 8, 25-33.
- Emans, B. (2002) 'Interviewen. Theorie, techniek en training', *Stenfert Kroese Groningen*, vierde druk.
- Ericson, C. (2003) 'Realizing Rapid Results using eSourcing Tools', *A.T. Kearney Procurement Solutions*.
- Fein, A.J. (2004) 'Facing the Forces of Change: The Road to Opportunity', *Pembroke Consulting Inc.*
- Flynn, A.E. (2004) 'Developing and Implementing E-Sourcing Strategy', *CAPS Research*, Critical Issues Report, September 2004.
- Gupta, A., Bapna, R. (2002) 'Online Auctions: A Closer Look', *Handbook of Electronic Commerce in Business and Society*, Boca Raton, FL: CRC Press.
- Jap, S.D. (2002) 'Online reverse auctions: issues, themes and prospects for the future', *Invited manuscript forthcoming in the MSI/JAMS Special Issue on Marketing to and Serving Customers Through the Internet: Conceptual Frameworks, Practical Insights and Research Directions*, May.
- Kraljic, P., (1983) 'Purchasing must become supply management', *Harvard Business Review*, 61 (5), 109–117.
- Mabert, V.A., Skeels, J.A. (2002) 'Internet reverse auctions: Valuable tool in experienced hands', *Business Horizons*, July-August.

- Meier, R.L., Williams, M.R., Singley, R.B. (2002) 'The strategic Role of Reverse Auctions in the Quotation and Selection Process', *CAPS Research, Best Practices in Purchasing & Supply Chain Management*, March.
- Min, H., Galle, W.P. (2003) 'E-purchasing: profilers of adopters and nonadopters', *Industrial Marketing Management*, 32, 227-233.
- Mitchel, P., Davis, W. (2003) 'The Procurement and Sourcing Applications Report, 2002-2007', *AMR Research*, June 30.
- Moser, E.P. (2002) 'E-Procurement – Successfully Using and Managing Reverse Auctions', *Pharmaceutical Technology*, April.
- Orlov, L.M. (2004) 'Trends in Procurement and SRM: Sustainable Supply Management', *Forrester Research*.
- Parente, D.H., Venkataraman, R., Fizel, J., Millet, I. (2001) 'B2B Online Reverse Auctions: What's New?', *Decision Line*, Pennsylvania State University.
- Reunis, M.R.B., van Raaij, E.M., Santema, S.C. (2004) 'Actor-to-actor dissemination of electronic procurement (EP) adoption: an exploration of influencing factors', *Journal of Purchasing and Supply Management*, 10, 201-210.
- Rothkopf, M.H., Pekec, A., Harstad, R.M. (1998) 'Computationally manageable combinational auctions', *Management Science*, 44, 1131-1147.
- Rumpe, B. (2003) 'E-Business Experiences with Online Auctions', *Munich University of Technology*, Germany.
- Sashi, C.M., O'Leary, B. (2002) 'The role of Internet auctions in the expansion of B2B markets', *Industrial Marketing Management*, 31, 103-110.
- Smeltzer, L.R., Carr, A. (2002) 'Reverse auctions in industrial marketing and buying', *Business Horizons*, 45, 47-52.
- Smeltzer, L.R., Carr, S.C. (2003) 'Electronic reverse auctions: Promises, risks and conditions for succes', *Industrial Marketing management*, 32, 481-488.
- Smeltzer, L.R., Ruzicka, M. (2000) 'Electronic Reverse Auctions: Integrating the Tool with the Strategic-Sourcing Process', *Best Practices in Purchasing & Supply Chain Management*, Center for Advanced Purchasing Research, June.
- Teich, J., Wallenius, H., Wallenius, J. (1999) 'Multiple-issue auction and market algorithms for the world wide web', *Decision Support Systems*, 26, 49-66.
- Teich, J.E., Wallenius, H., Wallenius, J., Koppius, O. (2004) 'Emerging multiple issue e-auctions', *European Journal of Operational Research*, 159, 1-16.



Van Weele, A.J. (2005) 'Purchasing & Supply Chain Management: Analysis, Strategy, Planning and Practice', *Thompson Learning*, London.

Wagner, S.M., Schwab, A.P. (2004) 'Setting the stage for successful electronic reverse auctions', *Journal of Purchasing & Supply Management*, 10, 11-26.

Xia, M., Stallaert, J., Whinston, A.B. (2005) 'Solving the combinatorial double auction problem', *European Journal of Operational Research*, 164, 239-251.

## APPENDIX I HISTORY OF INBEV

InBev was formed in 2004 when Interbrew and Companhia de Bebidas das Américas (AmBev) combined to create what is now the world's No. 1 brewer. InBev has an unparalleled global platform and close to 14% of the world beer market, holding the No. 1 or No. 2 position in over 20 key markets around the world - more than any other brewer - and boasts three global flagship brands: Stella Artois®, Brahma® and Beck's®.

### Interbrew

Interbrew can trace its origins back to 1366 to a brewery called Den Horen, located in Leuven, a city just outside of Brussels. In 1717, Sebastien Artois, master brewer, purchased the brewery and changed its name to Artois.

Interbrew was formed in 1987 from the merger of Brasseries Artois, then the second largest brewer in Belgium, and Brasseries Piedboeuf, then the largest brewer in Belgium and the brewer of Jupiler. Both of these brewers had a history of acquisitions, with Brasseries Artois having acquired the Leffe brand in 1952, the Dommelsch Brewery in The Netherlands in 1968, and the Brasseries Motte Cordonier in France in 1970, while Brasseries Piedboeuf had acquired the Lamot brewery in Belgium from Bass PLC in 1984.

Interbrew soon acquired other Belgian specialty brewers, including Hoegaarden in 1989 and Belle-Vue in 1990. In 1991, Interbrew entered a phase of rapid expansion, completing more than 30 acquisitions and strategic joint ventures, the largest of which were Labatt in Canada, Oriental Breweries in South Korea, SUN Interbrew in Russia and Ukraine, Bass Brewers and Whitbread Beer Company in the United Kingdom, and Diebels and Beck & Co. in Germany.

More recent acquisitions include the Malaysian Lion Group in China, and the Apatin Brewery in Serbia, as well as the transaction with the Spaten brewery (Gabriel Sedlmayr Spaten-Franziskaner Bräu KGaA, expected to close fourth quarter 2004) in Germany.

### AmBev

While its origins date back to 1885, Companhia de Bebidas das Américas (AmBev) was born when the brewers of Brahma and Antarctica beer in Brazil merged in 1999. While Brazil is the world's fourth largest beer market, and the largest in Latin America, AmBev nevertheless sought to grow beyond its borders into Argentina, Venezuela, Uruguay and Paraguay. It also acquired activities in Central America, Peru and the Caribbean.

## APPENDIX II INTERVIEW PROTOCOL EXPERTS OF INDUSTRY

The interview is structured according to Emans (2002) as a *semi-structured* interview with *open* questions. In structured interviews the questions have a prescribed order. In non-structured interviews the order of questions is randomly chosen and dependent of the person taking the interview. The open questions imply that the interviewee is free in the answers he/she can give. The structure of the interview is displayed below.

1. Objective of the interview
2. Position of Interviewee
3. Questions regarding the research parameters
  - a. General questions
  - b. Questions regarding the research parameters:
    - i. Number of ERAs per month
    - ii. Number of people using ERAs in the organization
    - iii. Type of products and services used in ERAs
    - iv. Types of ERAs used

The main objective of this interview is to gather information on the four research parameters to create a typology of growth paths of ERAs at buying organizations. The interviewee is asked for his/her permission if the information from the interview may be used in the report. If preferred, the interview can be made anonymously. All interviews will be recorded, typed and returned to the interviewee for consistency and possible feedback. The feedback information is then used in finalizing the information.

### Interview protocol

#### 1. Objective interview

- Introduction of the researcher
  - o Background interviewer
- Description research assignment
- Type of interview (Open and Closed questions)
- Timeline interview
- Confidentiality of gathered information during and after interview (recorded material etc.)

#### 2. Position of Interviewee

##### General questions

- What is the name of your organization?
- What is your name and function within this organization?
- Could you give a short description of your function (responsibility etc.)?
- How long has your organization been using ERAs in the purchasing process?
- How long have you been working with ERAs in this, and previous organizations?
- Is there a specific department in your organization that is responsible for the ERA tool?
  - o If yes, what is the name of this department?

- o If yes, how many people are involved in this department?
- o If no, who is responsible for the ERA process?
- Does your organization use consultants to setup your ERA events?
  - o If yes, do you use them on all ERA events?
    - a. If yes, are ERA events fully outsourced?
    - b. If no, how would you divide the workload for your organization and the consultants? (in %)

**3. Questions regarding the research parameters**

**Number of ERAs per year**

The following questions follow the timeline from first use of ERAs in your organization to present use regarding the number of ERA conducted per year.

- How would you classify the average number of ERAs per year conducted from first time use to present use?
- What percentage of total RFQs do these numbers represent?

	<b>Average # of ERAs per year</b>	<b>Percentage of total RFQs per year</b>
1 <sup>st</sup> year		
2 <sup>nd</sup> year		
3 <sup>rd</sup> year		
4 <sup>th</sup> year		
5 <sup>th</sup> year		
6 <sup>th</sup> year		
7 <sup>th</sup> year		
8 <sup>th</sup> year		

If needed, you can use an n<sup>th</sup> year with the same answers

- According to you, what do you think explains the increase or decrease in the number of ERAs from year to year?

**Number of people using ERAs in the organization**

The following questions follow the timeline from first use of ERAs in your organization to present use regarding the number of people involved using ERAs in your organization.

- How would you classify the number of people that have been using ERAs within your organization from first use to present use? People using ERAs are defined as the buyers who are applying ERAs in their purchasing activities.
- What percentage of buyers of the total number of employees at the purchasing department do these numbers represent?

	# People using ERAs per year	Percentage of total employees at purchasing department
1 <sup>st</sup> year		
2 <sup>nd</sup> year		
3 <sup>rd</sup> year		
4 <sup>th</sup> year		
5 <sup>th</sup> year		
6 <sup>th</sup> year		
7 <sup>th</sup> year		
8 <sup>th</sup> year		

If needed, you can use an n<sup>th</sup> year with the same answers

- According to you, what do you think explains the increase or decrease in the number of people using ERAs from year to year?

**Type of products and services used in ERAs**

The following questions follow the timeline from first use of ERAs in your organization to present use regarding the types of products and services for which ERAs are used in your organization.

- How would you classify the type of products and services that have been used in ERAs within your organization from first use to present use? The use is expressed in percentages per type of product/service. For instance, if you use all types equally often, all types are used for 25%. Types of products and services are classified according to Kraljic (1983). What percentages of total spend or total number of commodities do these numbers represent?

	The type of products and services used in ERAs				Σ = 100%
	Routine	Leverage	Strategic	Bottleneck	
<i>Example</i>	30%	50%	20%	0%	100%
1 <sup>st</sup> year					
2 <sup>nd</sup> year					
3 <sup>rd</sup> year					
4 <sup>th</sup> year					
5 <sup>th</sup> year					
6 <sup>th</sup> year					
7 <sup>th</sup> year					
8 <sup>th</sup> year					

If needed, you can use an n<sup>th</sup> year with the same answers

- According to you, what do you think explains the changes in the usage of single or multiple types of product/service from year to year

**Type of ERAs used**

The following questions follow the timeline from first use of ERAs in your organization to present use regarding the types of ERA conducted in your organization.

- How would you classify the usage of types of ERAs in your organization from first use to present use? Multiple answers are possible. The use is expressed in percentages per type. The types of ERAs are classified from simple to more complex type of auctions:
  - o Single Item Auctions
  - o Multiple Items Auctions
  - o Combinatorial Auctions
  - o Multiple Issue Auctions

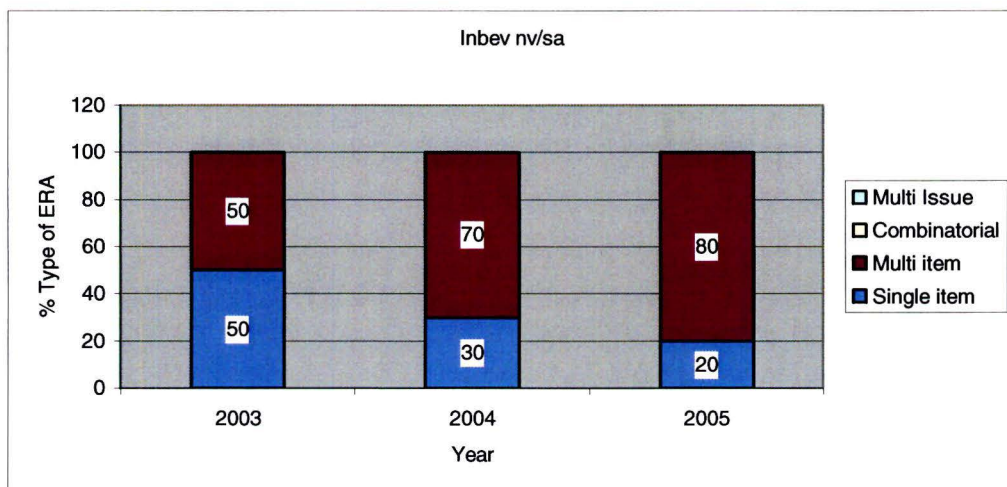
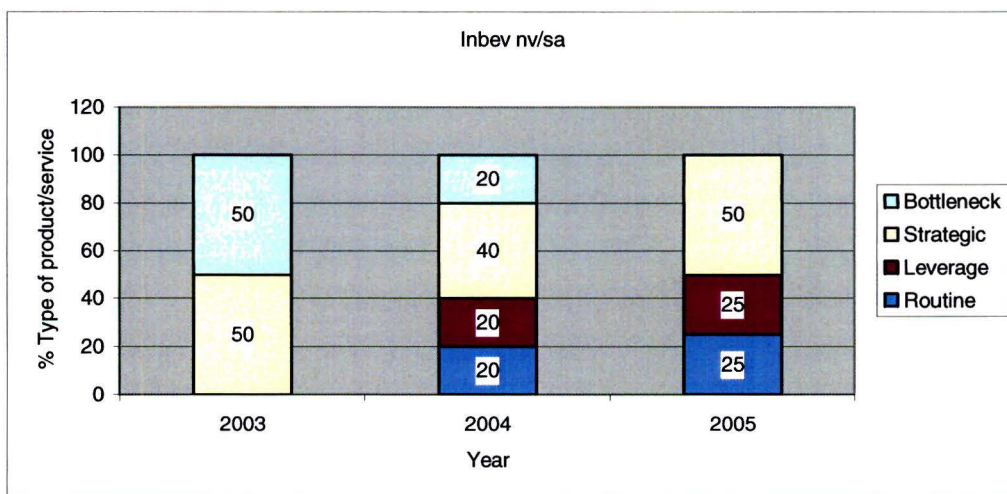
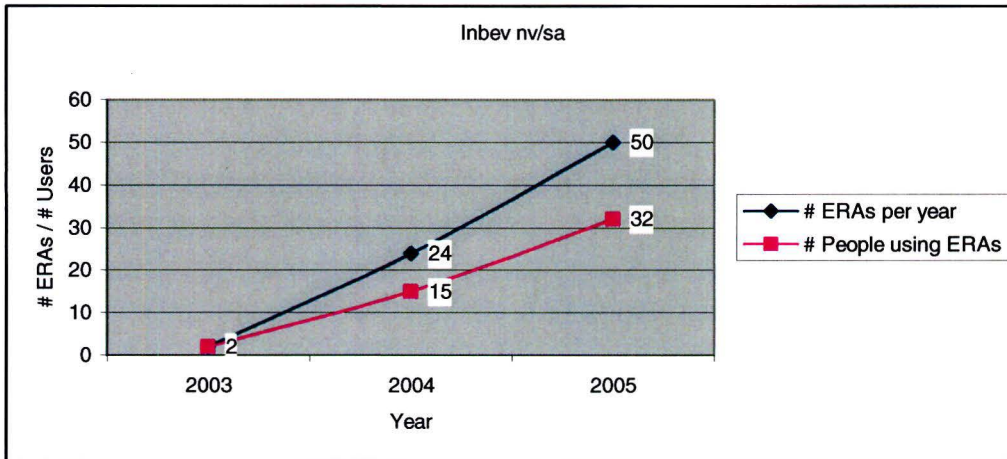
	The type of ERAs used over the years				Σ = 100%
	Single item	Multi-Unit item	Combinatorial	Multi-Dimensional	
<i>Example</i>	50%	25%	20%	5%	100%
1 <sup>st</sup> year					
2 <sup>nd</sup> year					
3 <sup>rd</sup> year					
4 <sup>th</sup> year					
5 <sup>th</sup> year					
6 <sup>th</sup> year					
7 <sup>th</sup> year					
8 <sup>th</sup> year					

If needed, you can use an n<sup>th</sup> year with the same answers

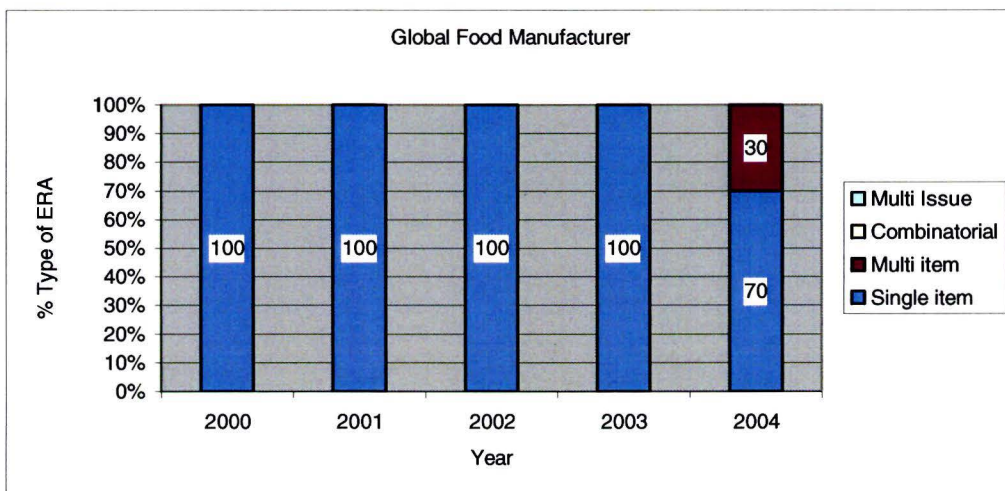
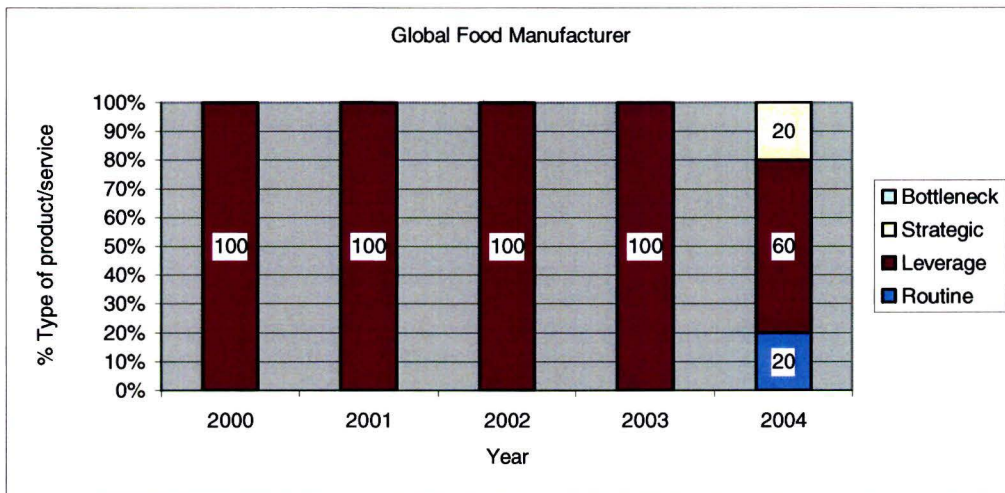
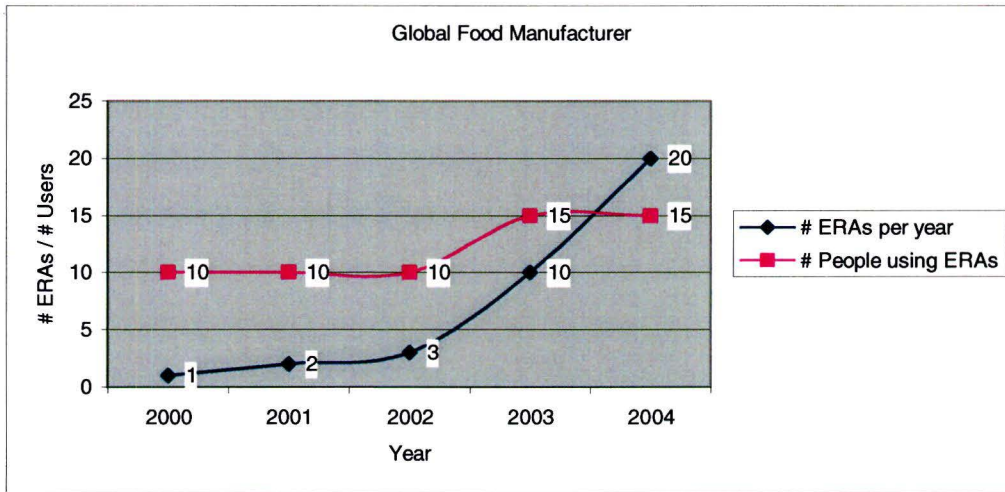
- According to you, what do you think explains the increase or decrease in the usage of different types of ERAs from year to year?

**APPENDIX III GRAPHICAL RESULTS CASE STUDIES**

**Graphical results Inbev**

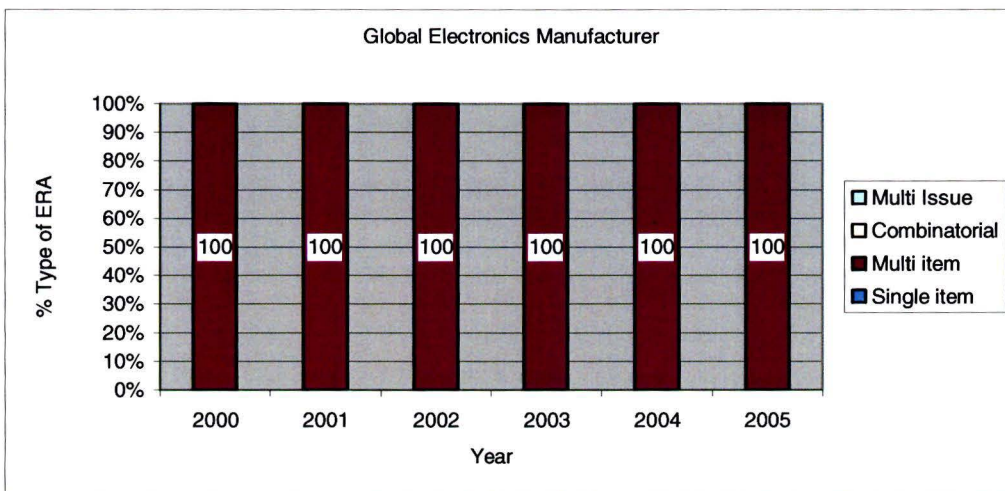
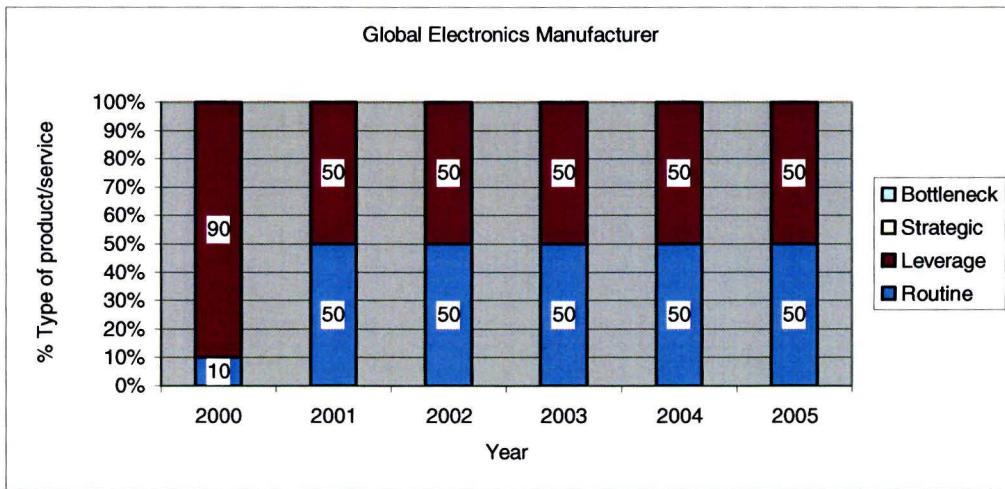
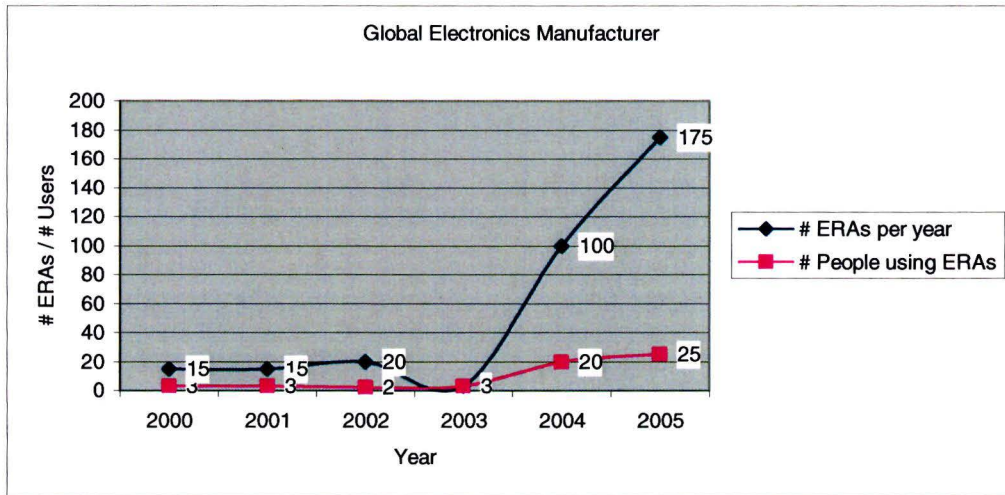


**Graphical results Global Food Manufacturer**

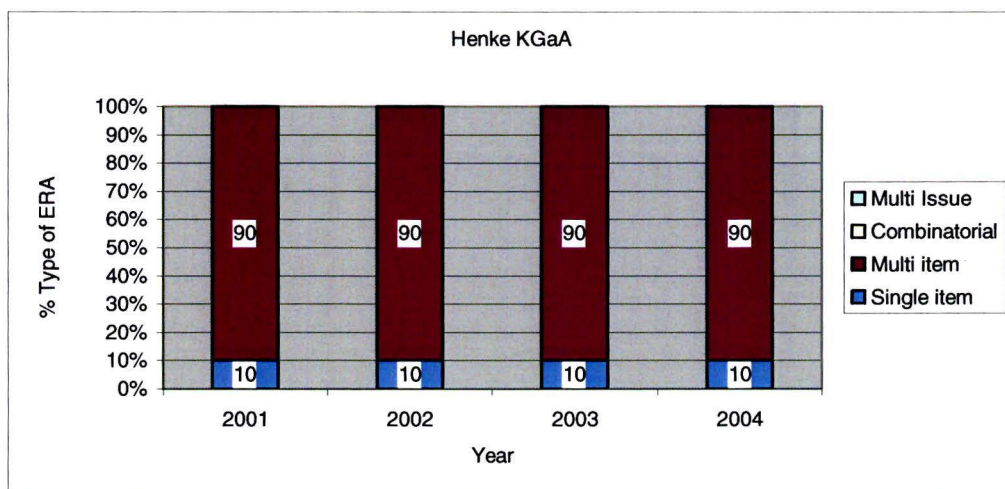
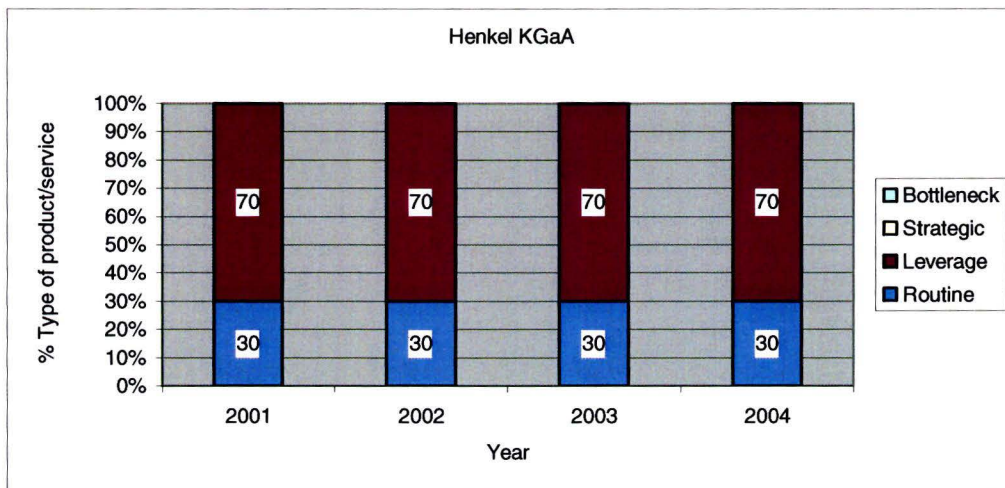
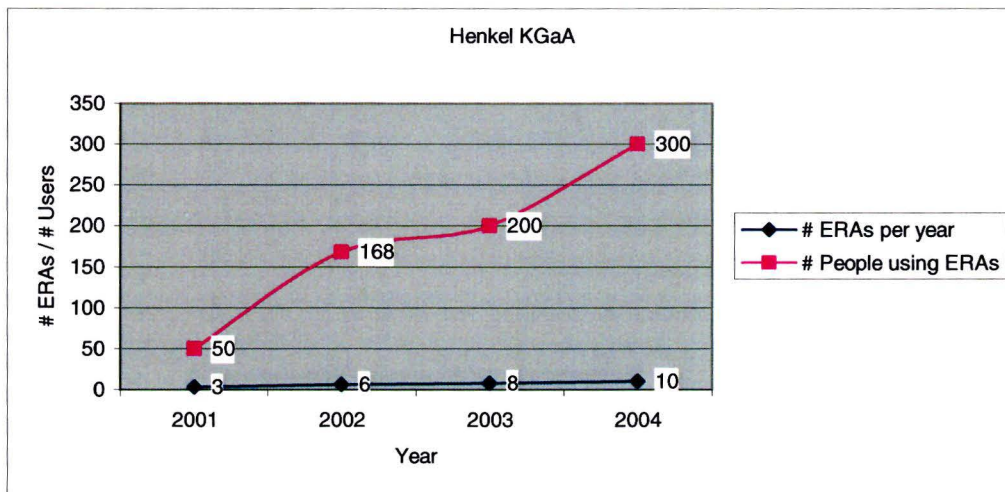




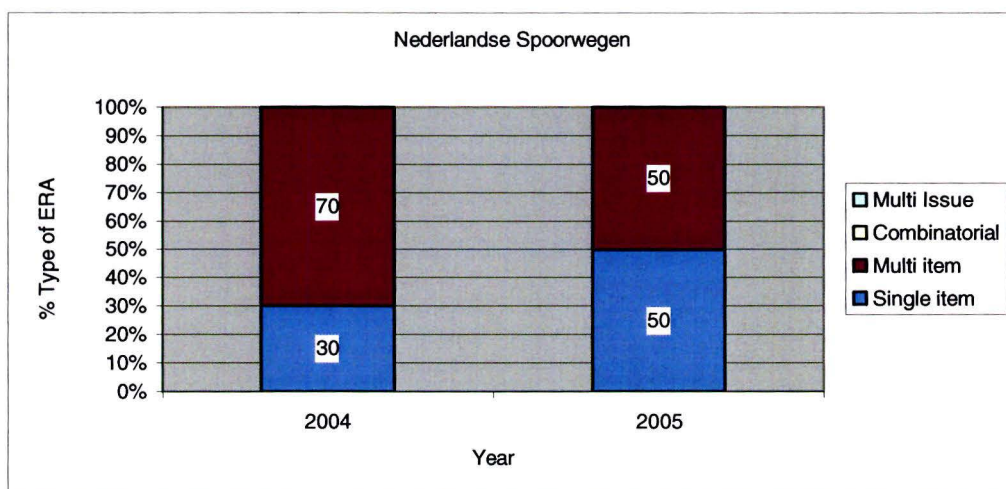
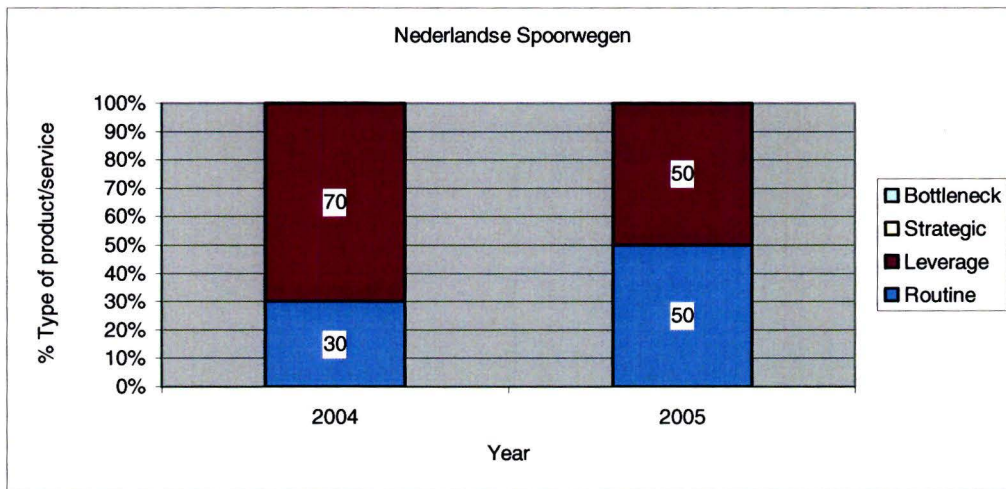
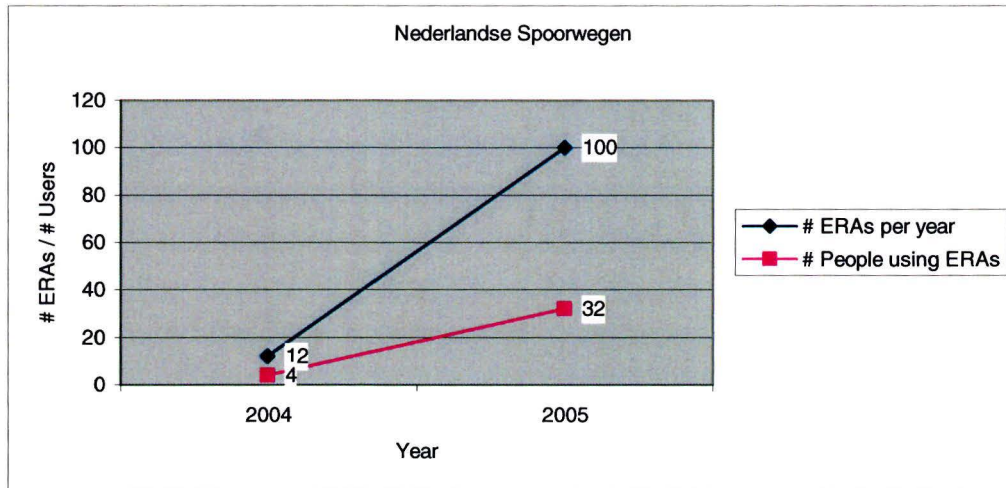
**Graphical results Global Electronics Manufacturer**



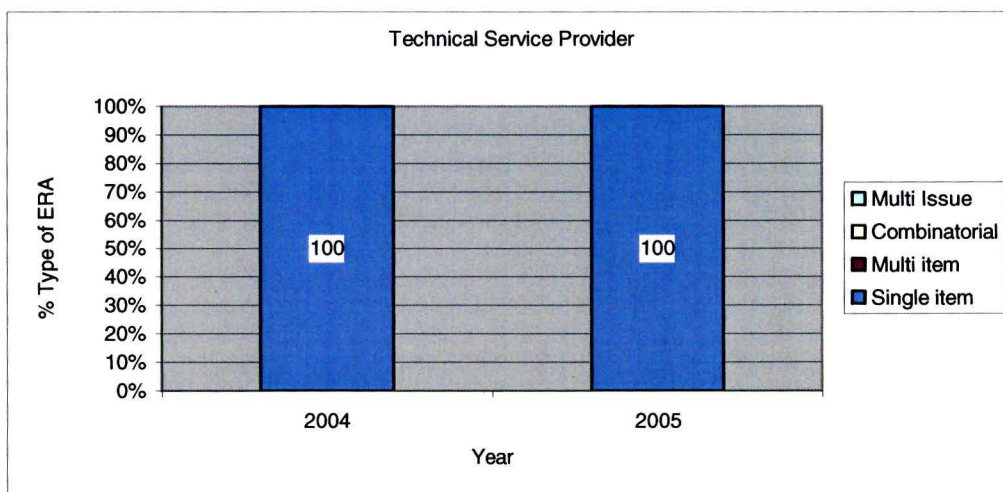
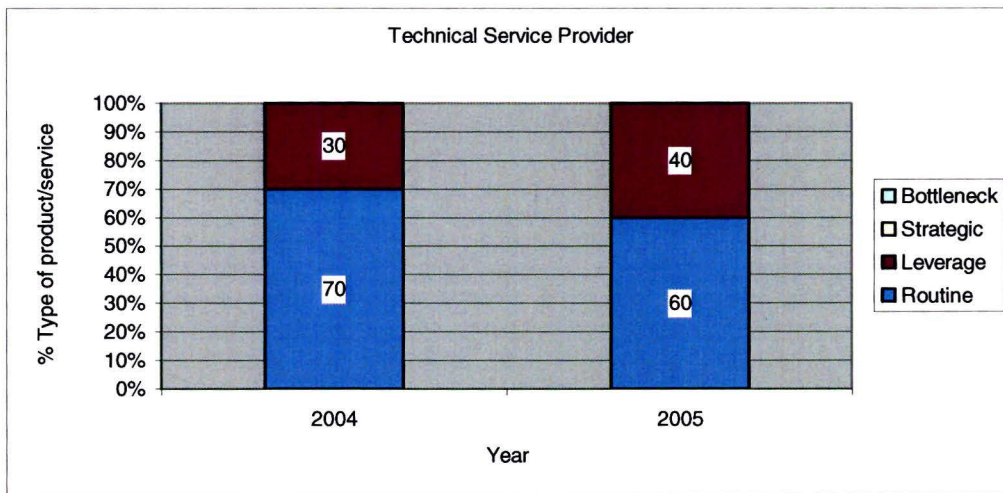
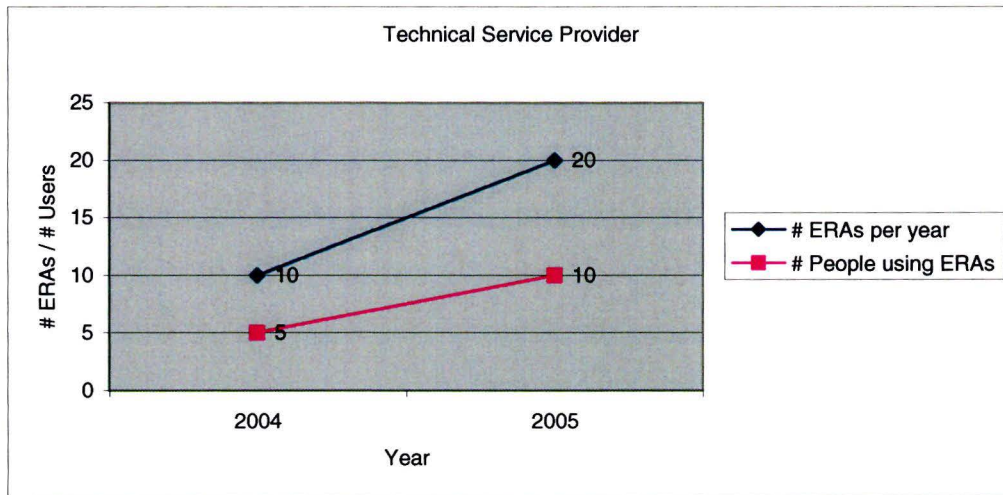
**Graphical results Henkel KGaA**



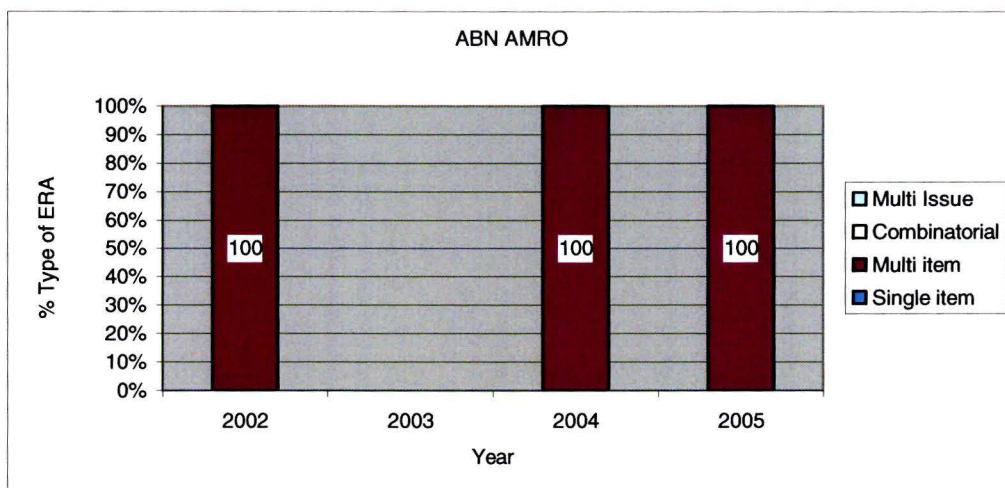
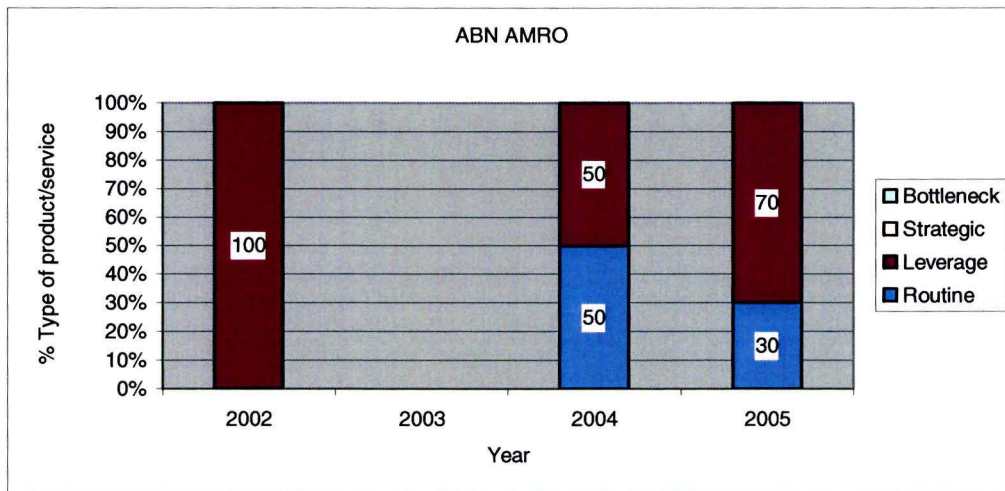
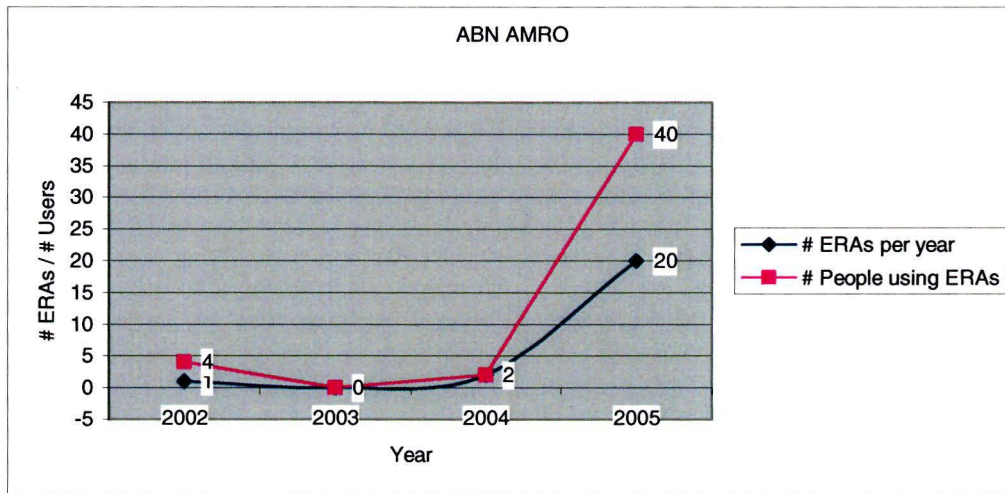
**Graphical results Nederlandse Spoorwegen**



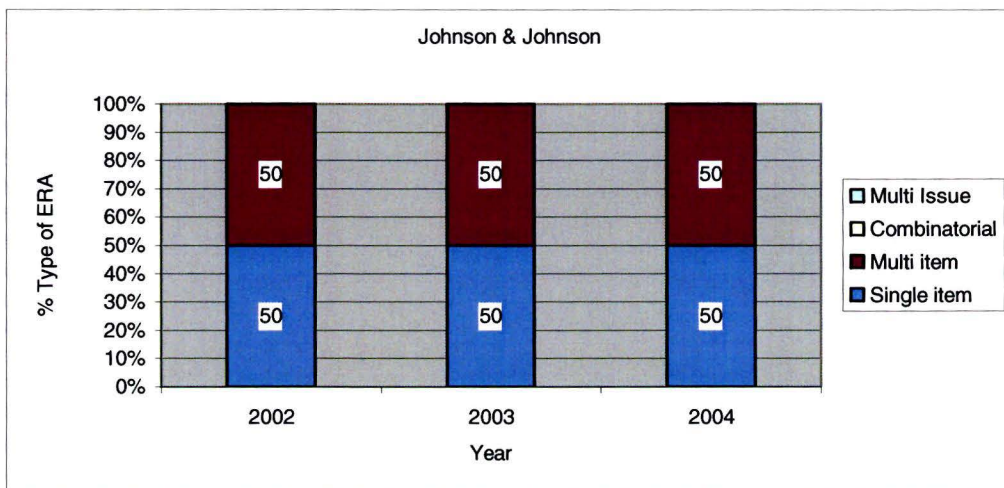
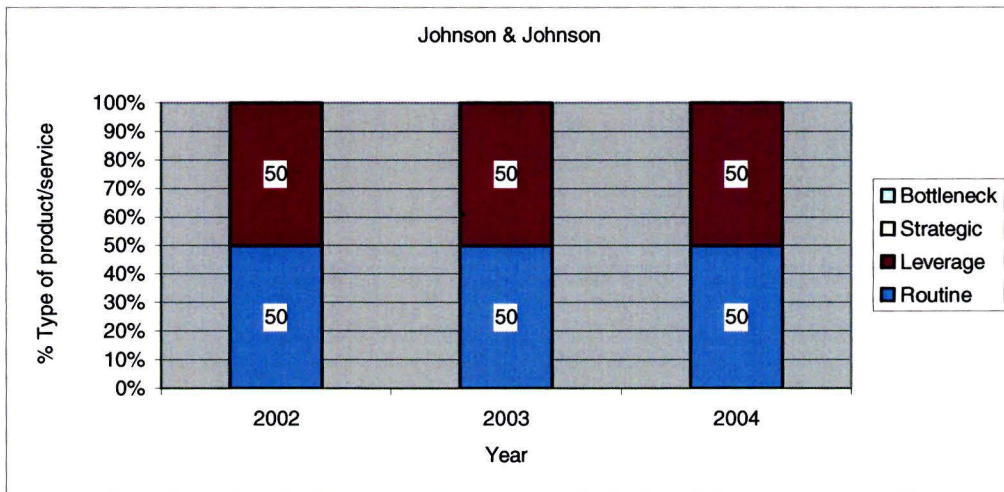
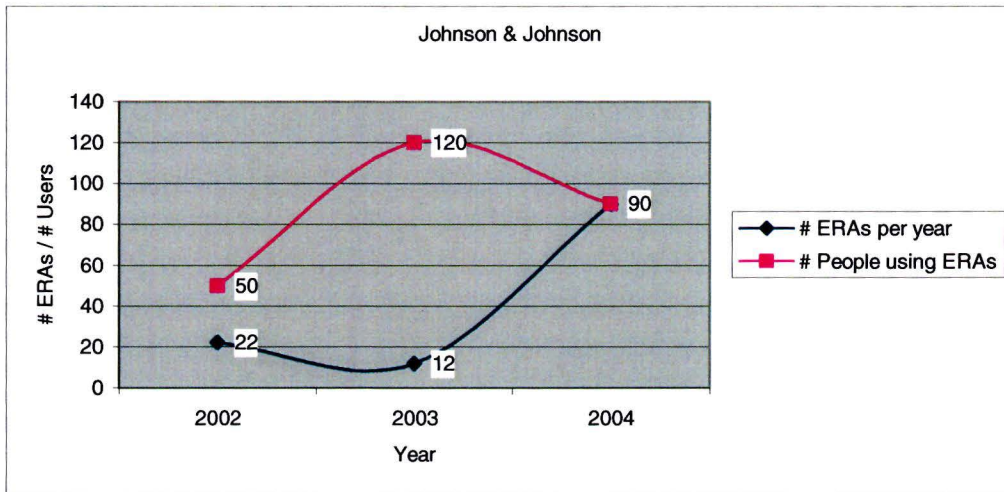
**Graphical results Global Technical Service Provider**



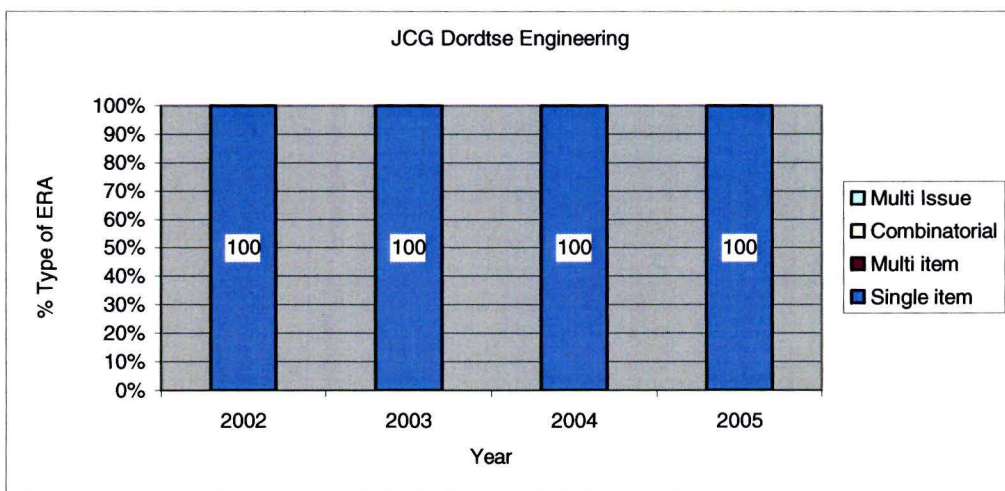
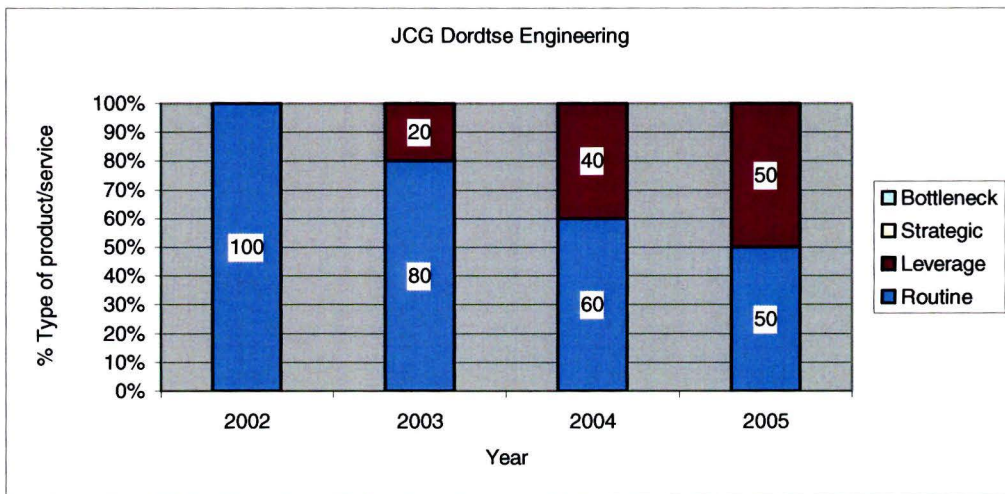
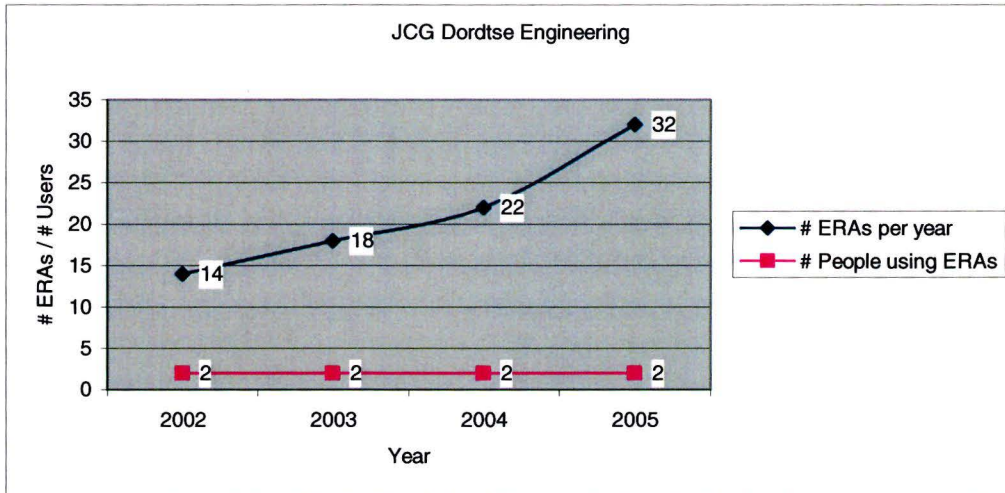
**Graphical results ABN AMRO**



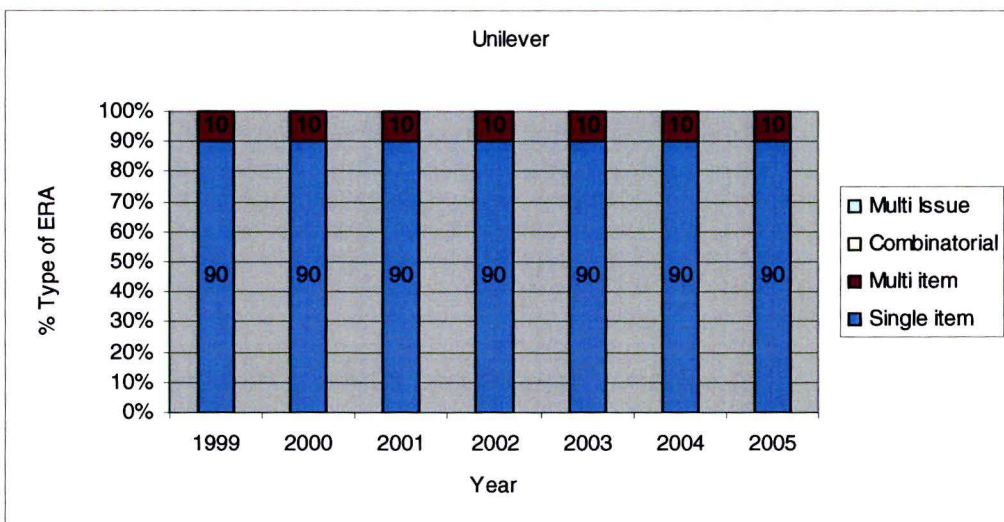
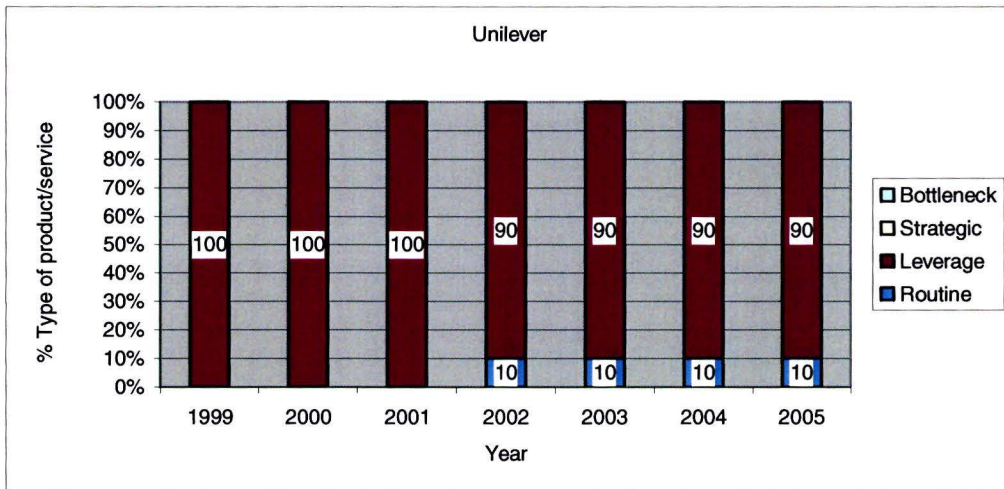
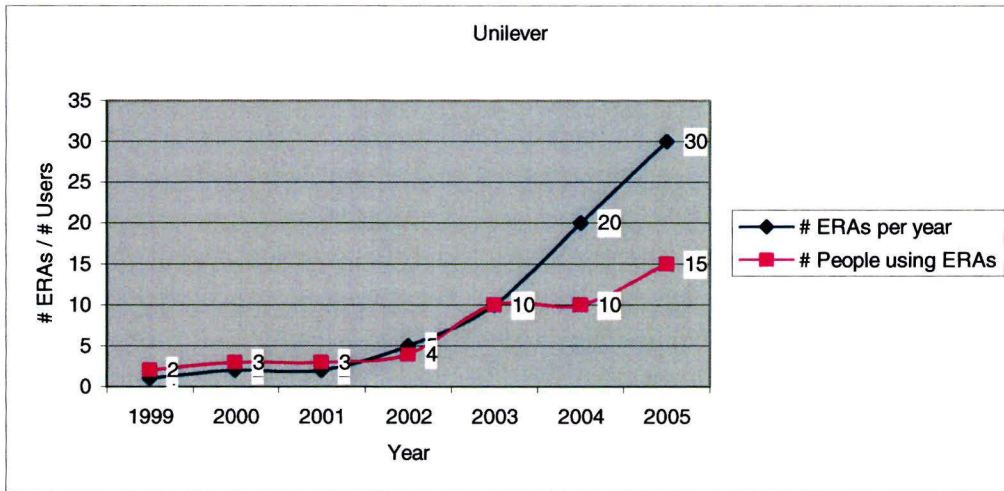
**Graphical results Johnson & Johnson**



**Graphical results JGC Dordtse Engineering**

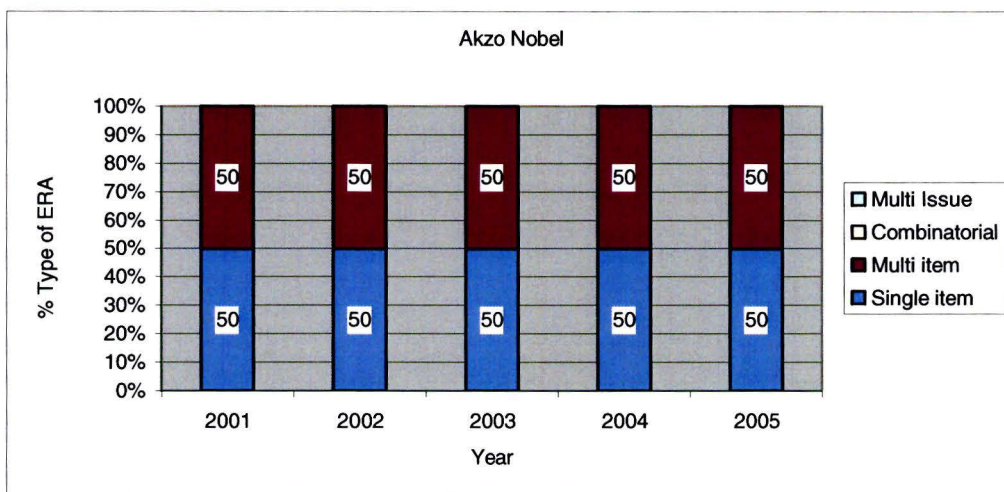
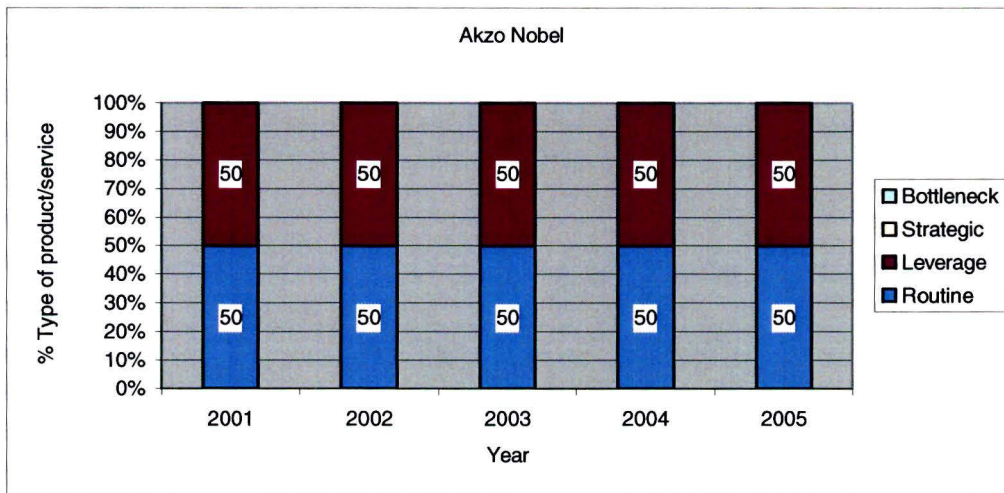
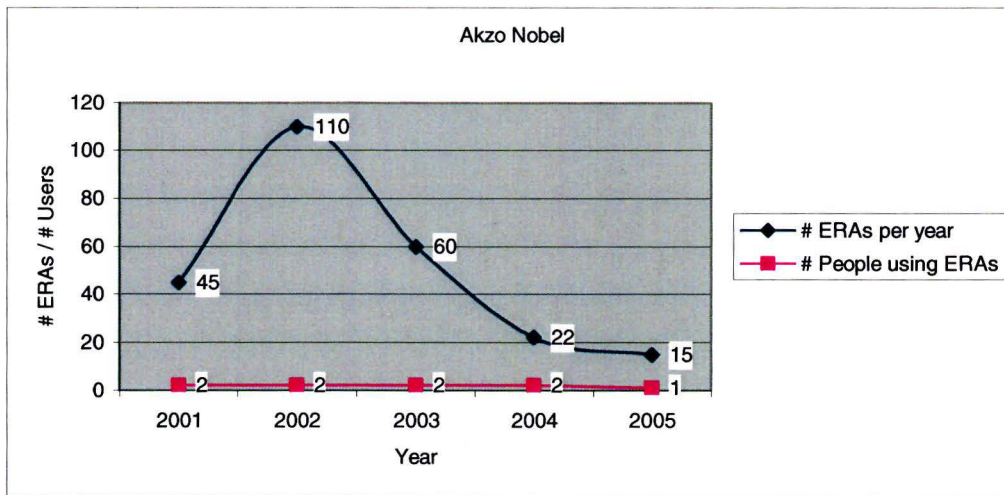


**Graphical results Unilever**

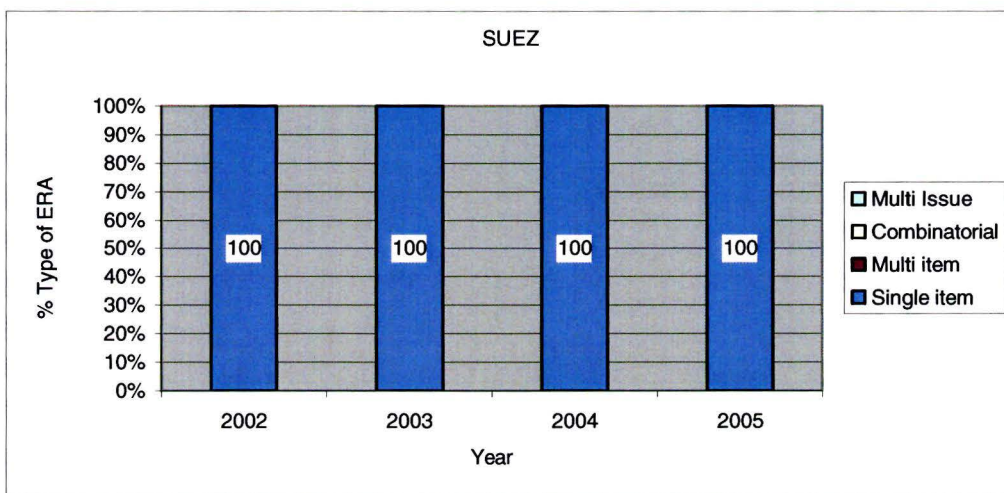
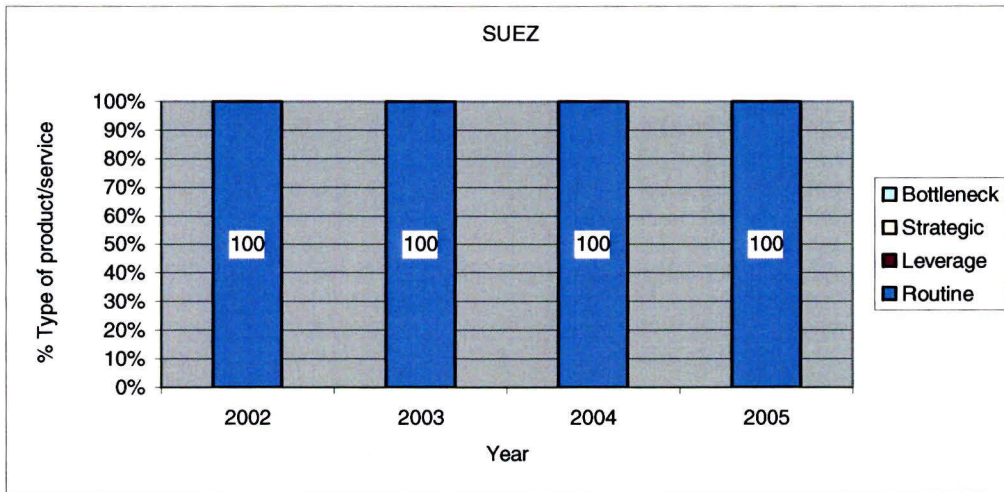
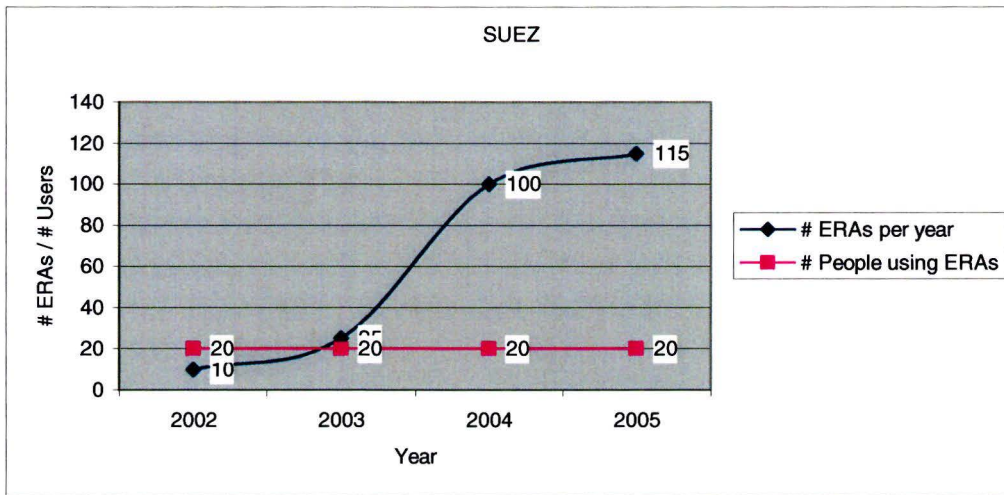




**Graphical results Akzo Nobel**



Graphical results SUEZ



APPENDIX IV

CALCULATION RESEARCH QUESTIONS 1, 2, 3

# ERAs	Year 1	Year 2	Year 3
Inbev	2	24	50
GFM	1	2	3
GEM	15	15	20
Henkel	3	6	8
NS	12	100	
GTS	10	20	
Abn Amro	1	0	2
J&J	22	12	90
JGC	14	18	22
Unilever	1	2	2
Akzo Nobel	45	110	60
SUEZ	10	25	100
<b>Total</b>	<b>136</b>	<b>334</b>	<b>357</b>
<b>Average</b>	<b>11</b>	<b>28</b>	<b>36</b>

# Users	Year 1	Year 2	Year 3
Inbev	2	15	40
GFM	10	10	10
GEM	3	3	2
Henkel	Not included in this calculation		
NS	4	32	
GTS	5	10	
Abn Amro	4	0	2
J&J	50	100	90
JGC	2	2	2
Unilever	2	3	3
Akzo Nobel	2	2	2
SUEZ	20	20	20
<b>Total</b>	<b>104</b>	<b>197</b>	<b>171</b>
<b>Average</b>	<b>9</b>	<b>18</b>	<b>19</b>

Type of product / service YEAR 1				
	Bottleneck	Strategic	Leverage	Routine
Inbev	50%	50%		
GFM			100%	
GEM			90%	10%
Henkel			70%	30%
NS			70%	30%
GTS			30%	70%
Abn Amro			100%	
J&J			50%	50%
JGC				100%
Unilever			100%	
Akzo Nobel			50%	50%
SUEZ				100%
	50,00%	50,00%	660,00%	440,00%
<b>Weighted Average</b>	<b>4%</b>	<b>4%</b>	<b>55%</b>	<b>37%</b>

Type of ERA YEAR 1					
	Single-item	Multi-item	Combinatorial	Multi-issue	
Inbev	50%	50%			
GFM	100%				
GEM		100%			
Henkel	10%	90%			
NS	30%	70%			
GTS	100%				
Abn Amro		100%			
J&J	50%	50%			
JGC	100%				
Unilever	90%	10%			
Akzo Nobel	50%	50%			
SUEZ	100%				
<b>Total</b>	<b>680,00%</b>	<b>520,00%</b>	<b>0,00%</b>	<b>0,00%</b>	
<b>Weighted Average</b>	<b>56,7%</b>	<b>43,3%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>

APPENDIX V

CALCULATION RESEARCH QUESTION 4

Type of product / service YEAR 1					
	Bottleneck	Strategic	Leverage	Routine	
Inbev	50%	50%			
GFM			100%		
GEM			90%	10%	
Henkel			70%	30%	
NS			70%	30%	
GTS			30%	70%	
Abn Amro			100%		
J&J			50%	50%	
JGC				100%	
Unilever			100%		
Akzo Nobel			50%	50%	
SUEZ				100%	
<b>Total</b>	<b>50,00%</b>	<b>50,00%</b>	<b>660,00%</b>	<b>440,00%</b>	
<b>Weighted Average</b>	<b>4,2%</b>	<b>4,2%</b>	<b>55,0%</b>	<b>36,7%</b>	<b>100%</b>

Type of product / service YEAR 2					
	Bottleneck	Strategic	Leverage	Routine	
Inbev	20%	40%	20%	20%	
GFM			100%		
GEM			50%	50%	
Henkel			70%	30%	
NS			50%	50%	
GTS			40%	60%	
Abn Amro	No ERAs conducted				
J&J			50%	50%	
JGC			20%	80%	
Unilever			100%		
Akzo Nobel			50%	50%	
SUEZ				100%	
<b>Total</b>	<b>20,00%</b>	<b>40,00%</b>	<b>550,00%</b>	<b>490,00%</b>	
<b>Weighted Average</b>	<b>1,8%</b>	<b>3,6%</b>	<b>50,0%</b>	<b>44,5%</b>	<b>100%</b>

Type of product / service YEAR 3					
	Bottleneck	Strategic	Leverage	Routine	
Inbev		50%	25%	25%	
GFM			100%		
GEM			50%	50%	
Henkel			70%	30%	
NS	No ERAs conducted				
GTS	No ERAs conducted				
Abn Amro			50%	50%	
J&J			50%	50%	
JGC			40%	60%	
Unilever			100%		
Akzo Nobel			50%	50%	
SUEZ				100%	
<b>Total</b>	0,00%	50,00%	535,00%	415,00%	
<b>Weighted Average</b>	<b>0,0%</b>	<b>5,0%</b>	<b>53,5%</b>	<b>41,5%</b>	<b>100%</b>

APPENDIX VI

CALCULATION RESEARCH QUESTION 5

Type of ERA YEAR 1					
	Single-item	Multi-item	Combinatorial	Multi-issue	
Inbev	50%	50%			
GFM	100%				
GEM		100%			
Henkel	10%	90%			
NS	30%	70%			
GTS	100%				
Abn Amro		100%			
J&J	50%	50%			
JGC	100%				
Unilever	90%	10%			
Akzo Nobel	50%	50%			
SUEZ	100%				
<b>Total</b>	<b>680,00%</b>	<b>520,00%</b>	<b>0,00%</b>	<b>0,00%</b>	
<b>Weighted Average</b>	<b>56,7%</b>	<b>43,3%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>

Type of ERA YEAR 2					
	Single-item	Multi-item	Combinatorial	Multi-issue	
Inbev	30%	70%			
GFM	100%				
GEM		100%			
Henkel	10%	90%			
NS	50%	50%			
GTS	100%				
Abn Amro	<b>No ERAs conducted</b>				
J&J	50%	50%			
JGC	100%				
Unilever	90%	10%			
Akzo Nobel	50%	50%			
SUEZ	100%				
<b>Total</b>	<b>680,00%</b>	<b>420,00%</b>	<b>0,00%</b>	<b>0,00%</b>	
<b>Weighted Average</b>	<b>61,8%</b>	<b>38,2%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>

Type of ERA YEAR 3					
	Single-item	Multi-item	Combinatorial	Multi-issue	
Inbev	20%	80%			
GFM	100%				
GEM		100%			
Henkel	10%	90%			
NS	No ERAs conducted				
GTS	No ERAs conducted				
Abn Amro		100%			
J&J	50%	50%			
JGC	100%				
Unilever	90%	10%			
Akzo Nobel	50%	50%			
SUEZ	100%				
<b>Total</b>	<b>520,00%</b>	<b>480,00%</b>	<b>0,00%</b>	<b>0,00%</b>	
<b>Weighted Average</b>	<b>52,0%</b>	<b>48,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>100%</b>



## **APPENDIX VII**

## **QUALITATIVE DATA ANALYSIS ISSUES**

Please review this information on the attached CD-ROM provided with this report.

## APPENDIX VIII COMMUNICATION TO REVIEWERS

Dear Reviewer,

I hereby send you the categories that I have generated from the case studies that I have conducted for my project. The ordering has been based on similarities and relationship between issues that were gathered from the case studies. Looking for those similarities and relationships resulted in the grouping of all issues in 9 major categories. The descriptions of the 9 categories with the number of descriptions are:

1) Target / Objective setting	64 descriptions
2) Providing support	60 descriptions
3) Communicating	37 descriptions
4) Training	28 descriptions
5) Managing ERA knowledge	39 descriptions
6) Adapting organization	92 descriptions
7) Selecting specific products / services	85 descriptions
8) Selecting specific suppliers / supply markets	47 descriptions
9) Using / Selecting ERA provider	20 descriptions

After the first ordering of issues into the 9 major categories, the next phase is to follow the same approach to search for any sub-categories. The number of descriptions on a sub-category level is higher than the sub-sub-categories. This is due to the fact that some issues have been marked as “case study specific”. The following sub-categories have been identified after this procedure:

I. Target / Objective setting	64 descriptions
a. Target setting	18 descriptions
b. Achieving results	11 descriptions
c. Conducting change management	24 descriptions
d. Managing event complexity	6 descriptions
II. Providing support	60 descriptions
e. Encouraging use of the ERA tool	16 descriptions
f. Starting with early adopters	5 descriptions
g. Involving higher management	20 descriptions
h. Organizing support	23 descriptions
III. Communicating	37 descriptions
i. Sharing results	16 descriptions
j. Showing functionality of ERA tool	9 descriptions
k. Creating awareness	9 descriptions

IV. Training	28 descriptions
l. Training of buyers	17 descriptions
m. Selecting key users	8 descriptions
V. Managing ERA knowledge	39 descriptions
n. Capturing ERA knowledge	29 descriptions
o. Gaining experience	7 descriptions
VI. Adapting organization	92 descriptions
p. Positioning the purchasing organization	8 descriptions
q. Creating a separate ERA department	27 descriptions
r. Developing new purchasing procedures	27 descriptions
s. Collaborating in the use of ERAs	7 descriptions
t. Rolling out of the ERA tool	9 descriptions
VII. Selecting specific products / services	85 descriptions
u. Using a product / service decision model	13 descriptions
v. Specifying the product / service	7 descriptions
w. Specifying the needs	5 descriptions
VIII. Selection specific suppliers / supply markets	47 descriptions
x. Suppliers having experience with the ERA tool	18 descriptions
y. Approaching the supply market	7 descriptions
IX. Using / Selecting ERA provider	20 descriptions
z. Selecting an ERA provider	18 descriptions

What I would like you to do is have a look at the major categories and sub-categories. Would you change the place of the sub-categories or rename them? Maybe group some of the sub-categories or? If yes or no, please let me know. If needed, the excel sheet that forms the basis for this categorization have been attached in this e-mail to provide you with all background information.

**Please note that the information mentioned in the excel sheet should be treated confidential and it is not allowed to distribute the information!**

If you have any questions regarding the task that I ask you, please let me know.

Kind regards,

Jens van de Water

## APPENDIX IX

## FEEDBACK REVIEWERS

### Feedback Toon Segers

Hi Jens,

It's been a hectic week, so excuses for my late response to your questions. I have taken a good look at your categorization structure and I must say that it looks very logical and easy to follow. Having said this, my only comment would be that the structure you provided is suited to generate your taxonomy of issues.

I'll see you on the 22<sup>nd</sup> and good luck with the final steps!

Kind regards,

Toon Segers

### Feedback Martijn Kampinga

Hi Jens,

Regarding your thesis and my input on sub-categorization the following:

#### General comments

All the findings in the sub-sub categories are logically placed in sub categories.

I cannot find items in sub sub-categories that to me are not belonging into that specific sub category.

#### Sub-cat specific

Regarding Target / Objective setting:

"Conducting change management" and "Target Setting"; I understand the way that you have split up these sub-cat. I only want to comment that within "Change Management" I think "Target Setting" is a very important driver. Also in the sub-sub cat I find: "objective", "vision" , ... , so I guess that you have also found some similarities. Therefore:

1. Perhaps change the "Conducting" to "Managing" or "Implementing"
2. I further development of your tool, where you might even suggest statistical data analysis, make sure that you can measure the correlation between these 2 sub-cats.

Regarding "Providing support"

Only a name change comment "Higher management" to "top management" or "senior management".

Regarding "Communication"

No comments

Regarding "Training"

No comments

Regarding "Managing ERA" knowledge

No comments

Regarding "Adapting the organisation"

I think "positioning of purchasing organisation" does not capture what - I think :- ) that - you mean. Positioning to me is "the place of the purchasing department in the organisation". In your sub-sub list I see more findings relating to "maturity" / "phase of development" of the procurement organisation. Inherent to the "maturity" of the purchasing function is often the "positioning" of the purchasing function, so by renaming, you'll capture both (interesting to read on this subject: page 92-96 in the 4th edition of "Purchasing&Supply chain Management by Van Weele).

Regarding "Selecting specific products / services" and "Selection specific suppliers / supply markets"

Just one proposition to stimulate your mind, which I have stolen from a manager you well know: "Everything that can be bought can be auctioned. I challenge you to prove me that this is impossible to auction"

Regarding "Using / Selecting ERA provider"

no comments

If there are any questions regarding my comments, I am available to have a beer at any given time!

Cheers and lots of success!

### **Feedback Tina Tijlma**

Dear Jens,

I hereby send you my comments on your categories that you've generated from the case studies that you've conducted for your final thesis project.

The following comments per category;

- I. Target/Objective setting
  - a. Target setting OK
  - b. Achieving results OK
  - c. Conducting change management  
*- Could also be (V) change management is also about knowledge -*
  - d. Managing event complexity  
*- Could also be (II) this is also dependent on managing support -*

- II. Providing support
  - a. Encouraging use of the ERA tool OK
  - b. Starting with early adopters OK
  - c. Involving higher management OK
  - d. Organizing support OK
  
- III. Communicating
  - a. Sharing results OK
  - b. Showing functionality of ERA tool OK
  - c. Creating awareness OK
  
- IV. Training
  - a. Training of buyers OK
  - b. Selecting key users OK
  
- V. Managing ERA knowledge
  - a. Capturing ERA knowledge OK
  - b. Gaining experience OK
  
- VI. Adapting organization
  - a. Positioning of purchasing organization OK
  - b. Creating separate ERA department OK
  - c. Developing new purchasing procedures OK
  - d. Collaborating in the use of ERA's
  - *Could also be (V) Collaborating is also about knowledge sharing -*
  - e. Rolling out of the ERAs OK
  
- VII. Selecting specific products/services
  - a. Using a product/service decision model OK
  - b. Specifying the product/service OK
  - c. Specifying the needs OK
  
- VIII. Selection specific suppliers/supply market
  - a. Suppliers having experience with the ERA tool OK
  - b. Approaching the supply market OK
  
- IX. Using/Selecting ERA provider
  - a. Selecting an ERA provider OK

**APPENDIX X DETAILED TAXONOMY OF ISSUES**

Parameter: # ERAs	Effect	# issues related to parameter	Total # issues
<b>Target / Objective setting</b>			
<b>Target setting</b>			
Realistic target setting for the use of ERAs	Stimulating	5	12
Involving higher management in target setting	Stimulating	3	3
No target setting	Stimulating	1	1
No target setting or unrealistic target setting	Inhibiting	2	2
<b>Achieving results</b>			
Achieving good and quick results	Stimulating	4	9
Achieving bad results	Inhibiting	1	2
<b>Conducting change management</b>			
Accepting the ERA tool by buyers	Stimulating	4	9
Implementing the 'new way of buying'	Stimulating	6	12
No clear setting of purchasing strategy and objectives	Inhibiting	2	3
<b>Providing support</b>			
<b>Encouraging use of the ERA tool</b>			
Making sure buyers are encouraged and helped using ERAs	Stimulating	2	10
Having buyers who are reluctant to use the ERA tool	Inhibiting	4	6
<b>Starting with early adopters</b>			
Starting with the early adopters of the ERA tool	Stimulating	4	5
<b>Involving higher management</b>			
Having support of higher management	Stimulating	3	14
Having no support of higher management	Inhibiting	1	6
<b>Organizing support</b>			
Having a centre led support organization who provide internal consultancy	Stimulating	2	16
Hiring external consultants	Stimulating	1	9
<b>Communicating</b>			
<b>Sharing results</b>			
Communicating the results achieved with the ERA tool	Stimulating	5	16
<b>Showing functionality of ERA tool</b>			
Making sure everybody knows the possibilities of the ERA tool	Stimulating	3	9
<b>Creating awareness</b>			
Making sure everyone knows about the existence of the ERA tool	Stimulating	2	9
<b>Training</b>			
<b>Training of buyers</b>			
Providing of training for buyers	Stimulating	2	12
<b>Selecting key users</b>			

Making a selection of key users for the ERA tool	Stimulating	1	8
<b>Managing ERA knowledge</b>			
<b>Capturing ERA event knowledge</b>			
Having a central database to store event data	Stimulating	1	4
Capturing ERA event strategies and objectives	Stimulating	1	13
<b>Adapting the organization</b>			
<b>Position of the purchasing function</b>			
Having a mature and good position of the purchasing department in the organization	Stimulating	1	2
Having a weak position of the purchasing organization	Inhibiting	5	6
<b>Creating a separate ERA department</b>			
Creating a dedicated centre led ERA department	Stimulating	4	19
Having no dedicated centre led ERA department	Inhibiting	3	8
<b>Developing new purchasing procedures</b>			
Creating new purchasing processes to integrate the ERA tool	Stimulating	1	16
Structuring the implementation of the ERA tool	Stimulating	3	7
Not having a clear defined ERA process organization structure	Stimulating	3	4
<b>Collaborating in the use of the ERA tool</b>			
Conducting collaborative ERA events	Stimulating	1	3
<b>Rolling out of the ERA tool</b>			
Having a structured and broad implementation area within the organization	Stimulating	2	5
<b>Selecting specific products / services</b>			
<b>Using a product / service decision model</b>			
Using a decision model to check if a product/service is suited for an ERA	Stimulating	2	13
<b>Specifying the needs</b>			
Being very specific in your requirements	Stimulating	1	4
<b>Selecting specific suppliers / supply markets</b>			
<b>Suppliers having experience with the ERA tool</b>			
Having experienced suppliers	Stimulating	1	6
Suppliers not participating due to past experiences with the ERA tool	Inhibiting	5	10
<b>Approaching the supply market</b>			
Having supply markets with overcapacity	Stimulating	1	3
Having a supply market with under capacity	Inhibiting	1	1
<b>Using / Selecting ERA provider</b>			
<b>Selecting an ERA provider</b>			
Outsourcing the ERA tool in the beginning	Stimulating	1	1
Selecting one ERA provider for the entire organization	Stimulating	3	5
Having a contract with unlimited access to the ERA tool	Stimulating	1	2
Having a ERA provider selection process	Inhibiting	2	2



Parameter: # Users	Effect	# issues related to parameter	Total # issues
<b>Target / Objective setting</b>			
<b>Target setting</b>			
Realistic target setting for the use of ERAs	Stimulating	3	12
<b>Achieving results</b>			
Achieving bad results	Inhibiting	1	2
<b>Conducting change management</b>			
Accepting the ERA tool by buyers	Stimulating	2	9
Implementing the 'new way of buying'	Stimulating	3	12
<b>Providing support</b>			
<b>Encouraging use of the ERA tool</b>			
Making sure buyers are encouraged and helped using ERAs	Stimulating	3	10
Having buyers who are reluctant to use the ERA tool	Inhibiting	1	6
<b>Starting with early adopters</b>			
Starting with the early adopters of the ERA tool	Stimulating	1	5
<b>Involving higher management</b>			
Having support of higher management	Stimulating	4	14
<b>Organizing support</b>			
Having a centre led support organization who provide internal consultancy	Stimulating	3	16
Hiring external consultants	Stimulating	4	9
<b>Communicating</b>			
<b>Sharing results</b>			
Communicating the results achieved with the ERA tool	Stimulating	2	16
<b>Showing functionality of ERA tool</b>			
Making sure everybody knows the possibilities of the ERA tool	Stimulating	2	9
<b>Creating awareness</b>			
Making sure everyone knows about the existence of the ERA tool	Stimulating	2	9
<b>Training</b>			
<b>Training of buyers</b>			
Providing of training for buyers	Stimulating	5	12
Having no follow up after training	Inhibiting	2	3
<b>Selecting key users</b>			
Making a selection of key users for the ERA tool	Stimulating	4	8
<b>Managing ERA knowledge</b>			
<b>Capturing ERA event knowledge</b>			
Creating ERA policies and guidelines	Stimulating	1	8
<b>Adapting the organization</b>			
<b>Creating a separate ERA department</b>			
Creating a dedicated centre led ERA department	Stimulating	5	19
<b>Developing new purchasing procedures</b>			
Creating new purchasing processes to integrate the ERA tool	Stimulating	5	16
Structuring the implementation of the ERA tool	Stimulating	1	7
<b>Rolling out of the ERA tool</b>			

Having a structured and broad implementation area within the organization	Stimulating	1	5
<b>Selecting specific suppliers / supply markets</b>			
<b>Suppliers having experience with the ERA tool</b>			
Suppliers not participating due to past experiences with the ERA tool	Inhibiting	3	10
<b>Using / Selecting ERA provider</b>			
<b>Selecting an ERA provider</b>			
Changing ERA provider	Inhibiting	1	1

Parameter: Type of product / service	Effect	# issues related to parameter	Total # issues
<b>Target / Objective setting</b>			
<b>Conducting change management</b>			
Implementing the 'new way of buying'	Stimulating	2	12
<b>Providing support</b>			
<b>Organizing support</b>			
Having a centre led support organization who provide internal consultancy	Stimulating	4	16
<b>Managing ERA knowledge</b>			
<b>Capturing ERA event knowledge</b>			
Creating ERA policies and guidelines	Stimulating	2	8
<b>Gaining experience</b>			
Retrieving internal experience about ERAs	Stimulating	1	2
<b>Adapting the organization</b>			
<b>Creating a separate ERA department</b>			
Creating a dedicated centre led ERA department	Stimulating	1	19
Having no dedicated centre led ERA department	Inhibiting	1	8
<b>Developing new purchasing procedures</b>			
Creating new purchasing processes to integrate the ERA tool	Stimulating	2	16
<b>Collaborating in the use of the ERA tool</b>			
Having no alignment and authority regarding the ERA tool	Stimulating	3	4
<b>Selecting specific products / services</b>			
<b>Using a product / service decision model</b>			
Using a decision model to check if a product/service is suited for an ERA	Stimulating	10	13
<b>Specifying the product / service</b>			
Use easy to specify products / services for ERAs	Inhibiting	6	6
<b>Specifying the needs</b>			
Being very specific in your requirements	Stimulating	1	4
<b>Selecting specific suppliers / supply markets</b>			
<b>Suppliers having experience with the ERA tool</b>			
Having inexperienced suppliers	Stimulating	1	1
<b>Approaching the supply market</b>			
Piloting in supply markets to check how the market reacts	Stimulating	1	2

Parameter: Type of ERA	Effect	# issues related to parameter	Total # issues
<b>Target / Objective setting</b>			
<b>Managing event complexity</b>			
Keeping the ERA events simple	Inhibiting	5	6
<b>Managing ERA knowledge</b>			
<b>Gaining experience</b>			
Having no experience with ERAs	Inhibiting	2	3
<b>Adapting the organization</b>			
<b>Creating a separate ERA department</b>			
Having no dedicated centre led ERA department	Inhibiting	1	8
<b>Developing new purchasing procedures</b>			
Creating new purchasing processes to integrate the ERA tool	Stimulating	1	16
<b>Selecting specific products / services</b>			
<b>Specifying the needs</b>			
Being very specific in your requirements	Stimulating	1	4
<b>Using / Selecting ERA provider</b>			
<b>Selecting an ERA provider</b>	Stimulating	1	1
Having a fee per ERA event contract	Inhibiting	1	1

Parameter: General	Effect	# issues related to parameter	Total # issues
<b>Target / Objective setting</b>			
<b>Target setting</b>			
Realistic target setting for the use of ERAs	Stimulating	4	12
<b>Achieving results</b>			
Achieving good and quick results	Stimulating	5	9
<b>Conducting change management</b>			
Accepting the ERA tool by buyers	Stimulating	3	9
Implementing the 'new way of buying'	Stimulating	1	12
No clear setting of purchasing strategy and objectives	Inhibiting	1	3
<b>Managing event complexity</b>			
Keeping the ERA events simple	Stimulating	1	6
<b>Providing support</b>			
<b>Encouraging use of the ERA tool</b>			
Making sure buyers are encouraged and helped using ERAs	Stimulating	5	10
Having buyers who are reluctant to use the ERA tool	Inhibiting	1	6
<b>Involving higher management</b>			
Having support of higher management	Stimulating	7	14
Having no support of higher management	Inhibiting	5	6
<b>Organizing support</b>			
Having a centre led support organization who provide internal consultancy	Stimulating	7	16

Hiring external consultants	Stimulating	4	9
<b>Communicating</b>			
<b>Sharing results</b>			
Communicating the results achieved with the ERA tool	Stimulating	9	16
<b>Showing functionality of ERA tool</b>			
Making sure everybody knows the possibilities of the ERA tool	Stimulating	4	9
<b>Creating awareness</b>			
Making sure everyone knows about the existence of the ERA tool	Stimulating	5	9
<b>Training</b>			
<b>Training of buyers</b>			
Providing of training for buyers	Stimulating	5	12
Having no follow up after training	Inhibiting	1	3
<b>Selecting key users</b>			
Making a selection of key users for the ERA tool	Stimulating	3	8
<b>Managing ERA knowledge</b>			
<b>Capturing ERA event knowledge</b>			
Having a central database to store event data	Stimulating	3	4
Capturing ERA event strategies and objectives	Stimulating	13	14
Creating ERA policies and guidelines	Stimulating	5	8
Not capturing ERA data	Inhibiting	3	3
<b>Gaining experience</b>			
Retrieving internal experience about ERAs	Stimulating	1	2
Having no experience with ERAs	Inhibiting	1	3
<b>Adapting the organization</b>			
<b>Position of the purchasing function</b>			
Having a mature and good position of the purchasing department in the organization	Stimulating	1	2
Having a weak position of the purchasing organization	Inhibiting	1	6
<b>Creating a separate ERA department</b>			
Creating a dedicated centre led ERA department	Stimulating	9	19
Having no dedicated centre led ERA department	Inhibiting	3	8
<b>Developing new purchasing procedures</b>			
Creating new purchasing processes to integrate the ERA tool	Stimulating	7	16
Structuring the implementation of the ERA tool	Stimulating	3	7
Not having a clear defined ERA process organization structure	Stimulating	1	4
<b>Collaborating in the use of the ERA tool</b>			
Conducting collaborative ERA events	Stimulating	2	3
Having no alignment and authority regarding the ERA tool	Inhibiting	1	4
<b>Rolling out of the ERA tool</b>			
Having a structured and broad implementation area within the organization	Stimulating	2	5
Having a relative short implementation period	Stimulating	2	2
Having a long implementation period	Inhibiting	2	2
<b>Selecting specific products / services</b>			
<b>Using a product / service decision model</b>			
Using a decision model to check if a product/service is suited for an ERA	Stimulating	1	13
<b>Specifying the product / service</b>			

Having complicated product / service specifications	Inhibiting	1	1
<b>Specifying the needs</b>			
Being very specific in your requirements	Stimulating	1	4
Not being specific in your requirements	Inhibiting	1	1
<b>Selecting specific suppliers / supply markets</b>			
<b>Suppliers having experience with the ERA tool</b>			
Having experienced suppliers	Stimulating	5	6
Suppliers not participating due to past experiences with the ERA tool	Inhibiting	2	10
Suppliers talking to each other during ERAs	Inhibiting	1	1
<b>Approaching the supply market</b>			
Piloting in supply markets to check how the market reacts	Stimulating	1	2
Having supply markets with overcapacity	Stimulating	2	3
ERAs increase the competition in the supply market	Stimulating	1	1
Having a supply market with under capacity	Inhibiting	1	1
<b>Using / Selecting ERA provider</b>			
<b>Selecting an ERA provider</b>			
Having a simple and functional ERA tool	Stimulating	5	5
Selecting one ERA provider for the entire organization	Stimulating	2	5
Having a contract with unlimited access to the ERA tool	Stimulating	1	2
Having multiple ERA providers	Inhibiting	1	1