BUSINESS PROCESS IMPROVEMENT

An investigation of the production processes at the regional public broadcaster RTV Oost

THESIS - MASTER BUSINESS ADMINISTRATION

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Which is shorter? A – B, or A - C?

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PREFACE

In order to finish my Master Business Administration at the University of Twente, I investigated the editorial processes at the regional public broadcaster RTV Oost. The results of this investigation are written down in this thesis.

At the beginning of my graduation period at RTV Oost, the financial manager and I talked about several concerns. It seemed that RTV Oost was facing a subsidy cutback from the provincial government and that commercial revenues were decreasing. A reduction of the cost base was insurmountable in order to ensure the continuity of the public broadcast. Eventually we decided to aim at improving the efficiency and effectiveness, in order to reduce labor costs and he asked me to come with change propositions. I thought, alright that's interesting, let's do it! But after a while I noticed that this issue was too large and I wondered where to start. After reading 'thousand of articles' I finally found the right direction. Business process improvement, that's what I needed to focus on…

While writing this thesis, I have had support of many people. I would like to use this opportunity to thank some people in particular. To my first and second supervisor at RTV Oost, Gerard Slot and Sjaak Munsterman, thanks for all the support, provided information, feedback and the amusing conversations. Furthermore I'd like to thank the adjunct chief editor, Marcel Oude Wesselink, for all the interviews which last often more than one hour, thanks for your time, provided information and interesting view on several topics. Moreover my appreciation goes to my direct colleagues Marianne, Danielle and Jolanda for their warm welcome and of course the nice lunch breaks. And to all the other employees of RTV Oost, thanks for answering the sometimes maybe irritating questions. I've enjoyed my time at RTV Oost. This would have been impossible without the pleasant and positive attitude of all the employees, and this while they're facing such uncertain times.

Besides my gratitude goes to my supervisors from the University Twente, G.C. (Ger) Vergeer and H. (Henk) Kroon, because of their support and feedback during my graduation period.

Last, but not least, I'd like to thanks my parents. Not that they helped me investigating or writing this thesis, but just for their social and financial support during the four years of my study, which I'm am going to finish in about two weeks.

Marlies Heerdink

Hengelo, September 2012

MANAGEMENT SUMMARY

Introduction and research design.

Because of a probable cut back on subsidies from provincial government and a decrease in commercial revenues, a reduction in the cost base is insurmountable to ensure the continuity of RTV Oost. The financial department of this regional public broadcaster is assuming that trough more effective deployment of personnel, labour costs can be reduced and the broadcaster will be able to partially meet the necessary cost savings. Therefore business processes a RTV Oost are investigated and change propositions are made with the aim of improving the effectiveness and efficiency and achieve or improve a control of the labour cost. This research focuses on the editorial department of RTV Oost (see annex 1 for the organisation chart). The central research question is as follows:

"How should the editorial processes of RTV Oost be changed to improve the efficiency and effectiveness of the editorial department of RTV Oost and achieve or improve a control of the labour costs?"

In order to structure the thesis, the central research question is divided into three sub questions:

1. What are the relevant business processes and how are these executed?
2. What wastes and bottlenecks exist inside these processes?
3. How should the business processes be changed?

These sub-questions are answered through three phases, namely a theoretical review, the gathering of empirical data and an analysis and description. This is displayed in the research model, figure 1 at page 19. The theoretical framework focusses on business process identification and business process analysis and improvement theories and models. Empirical data is gathered trough semi-structured interviews with the management, chefs and end editors of the editorial department. Besides observation through the computer system Newsroom, participation in the two largest productions of RTV Oost and a brainstorm session with the editorial management team took place. In the analysis and description phase, an answer to each of the sub questions is given. The main answers and corresponding recommendations are shortly given below.

Effectiveness and efficiency improvement

The news detachment works with a complex system of different shifts and corresponding task distribution. This leads among other to confusion, rework, defects and unnecessary transfer of information. Moreover, in the current situation an uneven distribution of workload exists and employees capabilities are not used to the fullest, which causes underutilization of people. In order to eliminate all these kind of wastes a revised shift schedule and corresponding task description is proposed for the news detachment. This proposed schedule and job description is displayed in table 14 and 15 at page 98 and 99. One important modification is the separation between a first line and second line news distribution. First line news exists from website messages and radio bulletins and second line news includes all the other things. This separation partly existed, or should partly exist, but was often not well executed. With the new task

distribution and shift schedule this will be more easy. This separation is important because it will fit more to the customer's needs and thus increases effectiveness.

The main change proposition regarding the informative detachment is to ensure more continuity at desk editor tasks for the program of EDNED by among other assigning the responsibility for arranging certain guests at one person. The proposed job schedule for the EDNED desk editors is displayed in table 16 at page 102.

The sport detachment had very little structures and seemed therefore not efficient. The change proposition that has to be carried out first is the implementation of the computer system newsroom, which is already in use by the general news detachment. This will bring a lot more structure as it will reduce several news sources into one and makes transparent who has done what and when. The second important recommendation is to shift the task of reading the reading list (after the implementation of Newsroom), deciding from which subject to write a website message and writing sport news messages to the general news desk editors during weekdays. This is necessary because writing only sport news messages during weekdays will not provide enough tasks to fill a full time job. General news desk editors will also have to write messages for all other news items and this can be well combined with sport news messages.

Labour cost control achievement or improvement

The output, input and process description gives much insight in the activities that are carried out in the editorial department and in the analysis and change propositions insight is given in the effectiveness and efficiency of the current situation and improvement opportunities for the future. This solves a part of the control problem.

Further control can be acquainted by a improvement of the planning of staff in the planning system Prompt. First of all, the sport employees need to be planned in prompt. Because sport employees are often on the road and it is not well known which activities are carried out by whom, an absence in prompt causes a huge lack of control. It is recommended to implement the planning of sport employees in prompt in the following sequence. First, describe the output of the sport detachment in more detail. Then estimate based on this output an expected amount of hours spend on producing that output. Finally determine based on this amount a desired occupation and plan this in prompt.

The shifts and needed occupation for the sport detachment, based on secondary and empirical data collected during the study, are given in table 18 at page 105. This can be used as a base for the planning in prompt.

MANAGEMENT SAMENVATTING

Inleiding en onderzoeksopzet

Vanwege zeer waarschijnlijke bezuinigen op subsidies van provinciale overheid en een daling van de inkomsten uit commerciële activiteiten, is een reductie van de kostenbasis onoverkomelijk om de continuïteit van RTV Oost te kunnen waarborgen. De financiële afdeling van deze regionale publieke omroep is in de veronderstelling dat door een effectievere inzet van personeel, de arbeidskosten kunnen worden verminderd en hiermee gedeeltelijk tegemoet kan worden gekomen aan de noodzakelijke kostenbesparingen. Om deze reden zijn de bedrijfsprocessen van RTV Oost onderzocht. Het doel van deze studie is te onderzoeken hoe de efficiëntie en effectiviteit van de bedrijfsprocessen verbeterd kunnen worden en een beheersing van de arbeidskosten gerealiseerd dan wel verbeterd kan worden. Deze studie richt zich op de redactie van RTV Oost (zie annex 1 voor een organogram). De centrale onderzoeksvraag luidt:

"Hoe zouden de redactionele processen van RTV Oost veranderd moeten worden om de redactionele afdeling efficiënter en effectiever te krijgen en een realisatie dan wel verbetering in de beheersing van de arbeidskosten te bewerkstelligen?"

De centrale onderzoeksvraag is verdeeld in drie deelvragen:

1. Wat zijn de relevante bedrijfsprocessen en hoe worden deze uitgevoerd?
2. Welke verspillingen en knelpunten bestaan in deze processen?
3. Hoe moeten deze processen veranderd worden?

Deze deelvragen zijn beantwoord in drie fases, namelijk door de vorming van een theoretisch kader, verzameling van empirische data en een analyse en beschrijving. Dit is weergeven in het onderzoeksmodel, figuur 1 op pagina 19. Het theoretisch kader focust op bedrijfsproces identificatie en bedrijfsproces analyse- en verbeteringstheorieën en modellen. Empirische data is verzameld door semigestructureerde interviews met het management, de chefs en de eindredacteuren van de redactie. Daarnaast is empirische data verzameld door observatie in het computersysteem Newsroom, participatie bij de grootste producties van RTV Oost en een brainstormsessie met het redactionele beleidsteam. In het analyse en beschrijvingsfase wordt een antwoord gegeven op elk van de drie deelvragen. The belangrijkste bevindingen worden hieronder gegeven.

Verbetering van efficiëntie en effectiviteit

De nieuwsafdeling werkt met een complex systeem van verschillende diensten en bijbehorende taakverdeling. Dit veroorzaakt onder andere inefficiënties en ineffectiviteiten door verwarring, dubbel werk, fouten, en onnodige overdracht van informatie. Daarnaast is er in de huidige situatie sprake van een onevenredige werklast en het niet volledig gebruiken van de competenties van werknemers, dit veroorzaakt een onderbenutting van personeel. Om al deze inefficiënties en ineffectiviteiten te elimineren is een herziene dienstschema met bijbehorende taak omschrijvingen voorgesteld ten behoeve van de nieuwsafdeling. Dit herziene schema en bijbehorende taakomschrijvingen zijn te zien in tabel 14 en 15 op pagina 98 en 99. Een belangrijke verandering voor de nieuwsafdeling is de scheiding tussen eerstelijns en tweedelijns

nieuws distributie. De eerstelijns nieuwsvoorziening bestaat uit alle website berichten en regionale nieuws bulletins voor op de radio. De tweedelijns nieuwsvoorziening bestaat uit al het andere nieuws, denk aan telefoongesprekken en televisie reportages. Deze scheiding was al wel gedeeltelijk opgenomen in de visie van RTV Oost, maar nog niet in praktijk uitgevoerd. De herziene diensten en taakverdeling maken het makkelijker om deze scheiding in de praktijk te brengen. Deze verdeling is belangrijk, omdat RTV Oost dan beter aan de veranderde wensen van de consument tegemoet kan komen en daarmee dus effectiever wordt.

Het voornaamste veranderingsvoorstel dat gedaan is ten behoeve van de informatieve afdeling van de redactie is het waarborgen van meer continuïteit in de taken van bureauredacteuren die werken aan het programma EDNED. Dit kan gerealiseerd worden door o.a. de verantwoordelijkheid voor het regelen van een bepaalde gast bij een iemand te leggen. Ook voor dit programma is een dienstrooster voorgesteld, welke te zien is in tabel 16 op pagina 102.

The sportnieuws afdeling heeft weinig structuur en opereert daardoor op een inefficiënte wijze. Het verandervoorstel dat hier het eerst uitgevoerd zal moeten worden is de implementatie van het computersysteem Newsroom, waar de algemene nieuwsafdeling al mee werkt. Dit systeem zal structuur brengen doordat het aantal nieuwsbronnen zal worden gereduceerd tot een leeslijst. Daarnaast zal Newsroom het proces veel inzichtelijker maken doordat gezien kan worden wie waarmee en wanneer bezig is. De tweede belangrijke verandering die is aanbevolen is het verschuiven van de taken rondom het schrijven van een sportnieuws bericht naar de algemene nieuwsafdeling op doordeweekse dagen. Dit is noodzakelijk omdat de taken rondom het schrijven van enkel sportnieuwsberichten op doordeweekse dagen niet voldoende tijd in beslag zal nemen om daar een volledige dienst aan te koppelen. Een bureauredacteur die berichten schrijft voor al het andere nieuws kan deze taak er prima bij nemen.

Realisatie dan wel verbetering van een beheersing van de arbeidskosten

De output, input en proces beschrijving geeft inzicht in de activiteiten die uitgevoerd worden op de redactie. Door de analyse en veranderingsvoorstellen is daarnaast inzicht verkregen in de efficiëntie en effectiviteit van de huidige situatie en verbetermogelijkheden voor de toekomst. Dit inzicht verminderd voor een deel al het gebrek aan manieren om de arbeidskosten onder controle te houden, omdat nu op een objectievere manier gestuurd kan worden.

Verdere beheersing van de arbeidskosten kan behaald worden door een verbeterde planning in Prompt. Belangrijk hierin is dat de werknemers van de sportnieuws afdeling ook gepland worden in Prompt. Doordat deze werknemers vaak op pad zijn en het niet bekend is wie welke activiteiten wanneer uitvoert en wat het doel daarvan is, is er bij een afwezigheid in het planningssysteem Pompt een groot gebrek aan controle. Het wordt aanbevolen de planning in prompt voor deze personeelsleden in de volgende volgorde te implementeren. Beschrijf als eerste de output die gerealiseerd moet worden gedetailleerder. Schat op basis daarvan de verwachtte aan uren (en personen) dat nodig is om deze output te realiseren. Bepaal uiteindelijk op basis van die geschatte uren de gewenste bezetting en plan dit in Prompt. De diensten en benodigde bezetting voor de sportafdeling, gebaseerd op secundaire en empirische data dat verzameld is gedurende het onderzoek, zijn gegeven in tabel 18 op pagina 105. Dit kan gebruikt worden als basis voor de planning in Prompt.

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CHAPTER 1: INTRODUCTION

1.1 Introduction to the research problem

Just like most organisations, RTV Oost has to make decisions that affect the future. It is expected that in the coming years, the provincial government will cut back on subsidies for regional public broadcasting. Additionally, commercial revenues will decrease, because of the economic crisis. One of the ways to ensure the continuity of RTV Oost is to achieve a reduction in the cost base, by making the business processes more effective and efficient.

Last years, the expenses on freelancers have risen considerably at RTV Oost. This, while more programs were purchased from third parties. It is suspected by the financial department that through more effective deployment of personnel, labour costs can be reduced and the broadcaster will be able to partially meet the necessary cost savings. By adapting the organisational structure and organise business processes in a different way, it could be possible to achieve a reduction in labour costs. In that context, the financial manager of RTV Oost likes to achieve more insight into the effectiveness and efficiency of the current[1] business processes and improvement opportunities that exist within these processes. Besides, the little insight the management has in the effectiveness and efficiency and the precise activities that are carried out in the editorial department leads to a lack of control by the financial manager. He likes to increase this insight and control.

1.1.1 Research objective

The purpose of this thesis is displaying the current business processes in a clear way, analysing these processes and giving change propositions, with the aim of improving the efficiency and effectiveness of the editorial department of RTV Oost and achieve or improve a control of the labour costs. In order to structure this research, the following objectives are drawn up that support the purpose.

1. Identify and describe the relevant business processes.
    a. Describe the aspects related to business process identification according to literature.
    b. Identify and describe the relevant business processes at RTV Oost.
2. Analyse the relevant business processes and identify bottlenecks.
    a. Describe theories and models related to analyzing and improving business processes.
    b. Describe the tools from these theories and models that can be used to analyse business processes.
    c. Analyse the business processes of RTV Oost with the use of the selected tools.
    d. Identify the main bottleneck(s).
3. Investigate possible ways to improve the business processes.

[1] During the study at RTV Oost the organization awoke and started to change certain things. Therefore there might exist a discrepancy between the situation displayed in this thesis and the situation at the end of this thesis. Which might have some influences on the outcomes of this report.

a. Describe the tools from the described theories and models that can be used to improve the bottleneck(s) identified.
b. Investigate change propositions and give recommendations for the implementation.

1.1.2 Focus of the research

The key motive for starting an investigation about the business processes at RTV Oost is the considerable increase of expenses on freelance employees, while the amount of programs made by RTV Oost decreased and more parts were purchased from third parties. The increase of freelancers mainly stems from the editorial department. Besides, the desire of the financial management team to achieve more control in staff deployment of the company is largely determined by the little insight they have in the effectiveness and efficiency and the precise activities that are carried out in the editorial department. This leads to a lack of control by the financial manager. They like to increase this insight and control. Therefore this research will focus on the editorial department.

1.2 Introduction to RTV Oost

RTV Oost is the regional public broadcasting of the province Overijssel. The organisation is headquartered in Hengelo and has offices in Zwolle and Deventer. This research is performed at Hengelo. The activities of RTV Oost include the production and broadcasting of news and informative programs for radio, television and internet. The broadcaster strives to reach a large and wide as possible audience in the province Overijssel. Their focus group is the population with age of 35+, which is medium-skilled and from an average wealth class. RTV Oost's mission is as follows: "RTV Oost makes independent Radio and TV, that meets the perception of the Overijssel's population and from which they distinguish themselves from other stations." How this vision is elaborated to operational purposes is described later in the analysis.

1.2.1 History

In 1979, the precursor of RTV Oost, Radio Oost, was established. This was a regional separation of the RONO, Regionale Omroep Noord en Oost. Radio Oost began as a regional radio station for the provinces Gelderland and Overijssel and was back then under administration of the NOS. During the privatization of the regional broadcasters, Gelderland established an own regional broadcaster and Radio Oost continued as the regional broadcaster for Overijssel's population. Three years later, the funding transferred from NOS to the provincial government. In 1992, de broadcaster began producing one hour of television, as first regional public broadcaster in the Netherlands, and the name was changed into RTV Oost.

Currently, the broadcaster is producing 24 hours of television and 23 hours radio, of which 2 hours unique television productions and 14 hours of presented radio. Besides, internet has become increasingly important. Nowadays the website and its mobile derivatives are central in the primary news. Radio brings diversion and draws attention to news and television focuses more on interpretation of news and live recordings of events for which there is wide interest.

1.2.2 Organisation

The organisational chart of RTV Oost of December 31, 2011 can be found in Annex 1. Basically RTV Oost has at the top of the organisation the general manager / chief editor. Further, the organisation is organised among four departments, the editorial, technical, commercial and financial. This study was conducted at the financial department, but was focussed on the editorial and technical departments. The organisational structure of these last two departments is displayed in Annex 2 and 3. The editorial department consists among others of the components New Media, News RTV, Sports RTV and Informative RTV. These sections have each their own staff, such as desk editors, reporters, presenters and program makers. The technical department consists of planning, TV technology and audio technology, ICT and R&D.

1.2.3 Financial information

In 2011, RTV Oost had a budget of 13.4 million. This budget consists of 10.9 million euro, made available by the provincial government in the form of grants or other contributions, almost 2 million from commercial revenues and about 0.5 million from other activities and contributions of third parties.

The permanent staff costs are approximately 7.5 million. At this moment, the organisation has 112 permanent employees, 107.2 fte. The editorial department, with 63.9 fte staff, is by far the largest department. The second largest is the technical department with only 23.9 fte staff. Every year about 1.2 million is paid to freelancers. The editorial department has an annual freelance budget of about 836.00. The total labour costs cover 65% of total expenditure.

1.3 Structure of the thesis

This thesis is structured as follows. First the research framework is explained in chapter 2, by introducing the research questions, research model and methodology. The theoretical framework is formed in chapter 3. In this framework first the concept business process is explained. Second business process management in a public broadcaster is discussed. Paragraph 3.3 represents information about business process identification. In paragraph 3.4 relevant theories and models for analysing and improving business processes are described. The tools that can be used to analyse and improve business processes are described in the last paragraph of the theoretical framework, paragraph 3.5. Chapter 4 contains the description of the editorial business processes of RTV Oost. These business processes are analysed in chapter 5. This chapter will conclude with the identification of the main bottlenecks. In chapter 6 change propositions to eliminate the main bottleneck(s) will be elaborated and in chapter 7 recommendations about the implementation of those change propositions will be given.

CHAPTER 2: RESEARCH FRAMEWORK

This chapter presents the research framework that is used to achieve the purpose of this thesis, mentioned in section 1.4. First the central research question and related sub-questions are given. Than the research design is discussed and visualized into a research model. The third paragraph presents the methodology by describing the type of research, the data gathering process and the way data will be analysed.

2.1 Research questions

Based on the purpose of this research and the underlying objectives, mentioned in section 1.4., the central research question and sub-questions are drawn up. The central research question is:

"How should the editorial processes of RTV Oost be changed to improve the efficiency and effectiveness of the editorial department of RTV Oost and achieve or improve a control of the labour costs?"

In order to answer the central research question, three kinds of issues need to be addressed. The first is the identification of the relevant business processes. The second is the analysis of the current situation of the business processes and the identification of bottlenecks within it. The third is giving advice for improving the current situation, to achieve a labour cost reduction. Because of the scope of the purpose of this thesis, the central research question is divided into the following sub-questions. These sub-questions give a good direction for solving the problem.

1. What are the relevant business processes and how are these executed?
    a. What is important in identifying business processes and how can business processes be structured documented?
    b. What business processes and activities can be distinguished within RTV Oost and how are these executed?
2. What wastes and bottlenecks exist inside these processes?
    a. What are relevant theories and models for analysing and improving business processes?
    b. Which tools from these theories and models can be used to analyse the editorial processes of RTV Oost?
    c. Which wastes and bottlenecks can be identified?
3. How should the business processes be changed?
    a. Which tools from the described theories and models that can be used to improve the bottlenecks identified?
    b. How should the editorial processes be changed to eliminate the main bottleneck(s)?
    c. How should these change propositions be implemented within RTV Oost?

2.2 Research design

The research approach exists of three sub-questions, which are described above. These sub-questions will be answered through three phases, namely a theoretical review, the gathering of empirical data and an analysis and description. The research design is displayed in figure 1.

First an introduction to business processes and points of attention in business process management in a public broadcaster will be given, based on literature. Then a literature review on business process identification and documentation will take place. Third a literature review of relevant business process analysis and improvement theories and models will be performed. From these theories and models, the analysis and improvement tools which are most appropriate for RTV Oost will be selected. This selection will be based on pre-described criteria and in consultation with the management of RTV Oost.

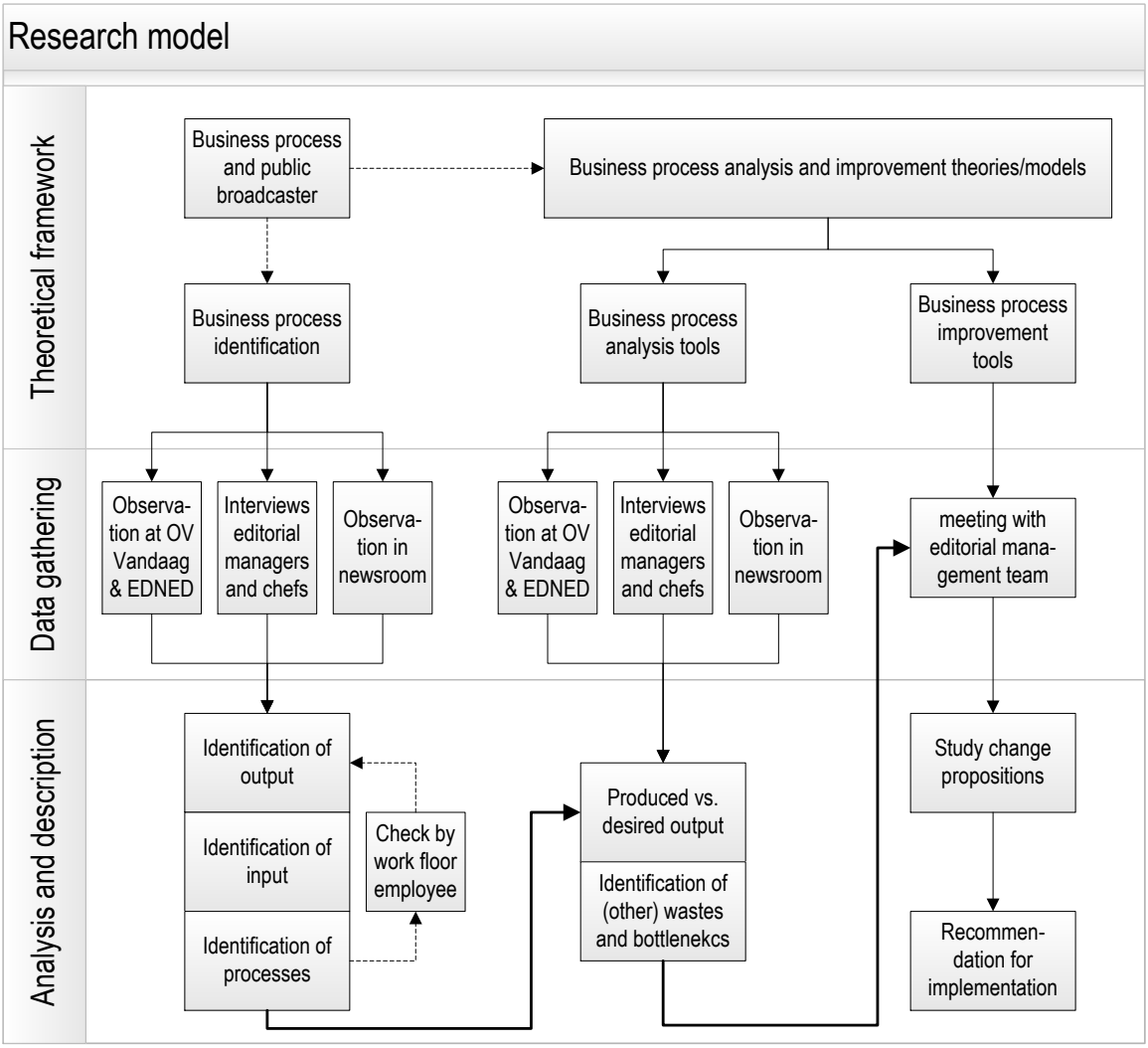


Figure 1: The research model

After developing the theoretical framework, the data gathering begins. According to Damij et al. (2008), interviews form a good source for data collection. Jimmerson (2010) states that interviews from employees need to be checked by own observations in order to validate the data. Therefore the first empirical data collection will take place through interviews and

participation/observation. The interviews will be held with the managers, chefs and the end-editors of the editorial department. The participation/observation will take place at the activities for the largest productions, such as Edned and Overijssel Vandaag. Furthermore additional data will be retrieved from the computer system newsroom[2]. This system provides information reliable information about the used input and realized output. The collected data will then be analysed. In this analysis, the processes within RTV Oost will be described and documented in a structured way. To ensure its robustness, this description will be checked by employees from the work floor and adjusted if needed. The first sub-question is then answered.

For the second sub-question the already gained data will be used and new empirical data collection will take place. Again the data will be obtained through interviews and participation/observations. The only difference is that this time the questions will be based on the analysis tools selected from the business process analysis and improvement theories and models. The analysis of this data will lead to the identification of bottlenecks that occur in the processes.

The answering of third sub-question will begin with the selection of appropriate improvement tools. Then empirical data will be gathered through brainstorming with employees of RTV Oost. Questions will be asked about what bottlenecks they see in the described processes and how they should solve the bottlenecks that are identified in the editorial processes of RTV Oost. This method is chosen for two reasons. One, interesting views on the current processes and elimination of bottlenecks can be given. Two, by involving employees in the change propositions, the risk of aversion of employees against changes will decrease. In this phase change proposition are studied in order to eliminate the identified bottlenecks and increase effectiveness and efficiency. For these change propositions, some recommendation will be made, with respect to the implementation of it. This will result in an advice to the management of RTV Oost and an answer to the central research question: *"How should the editorial processes of RTV Oost be changed to improve the efficiency and effectiveness of the editorial department of RTV Oost and achieve or improve a control of the labour costs?"*

2.3 Methodology

2.3.1 Research type

Although many process improvement methods are quantitative of nature, this research will be mainly qualitative. In section 3.2 the difference of process management in a manufacturing company and a public broadcaster is discussed. One of the main differences is that the operations of a public broadcaster are not easily to measure, whereas those of a manufacturing are. This makes it hard, or even impossible to do a quantitative research. In order to gain a deep understanding of the processes of RTV Oost, a qualitative field research is needed. In a qualitative field research, researchers can develop a fuller and deeper understanding of a phenomenon, through observing it as completely as possible (Babbie, 2007). A common used qualitative field research is a qualitative case study. One of the main advantages of a qualitative

[2] Newsroom is a computer system in which news is gathered, tasks can be allocated, messages can be written and items can be uploaded and spread through the different broadcast channels.

case study is that a phenomenon can be explored within its context using a variety of data sources. This ensures that the issue is not explored through one lens, which enables the researcher to reveal and understand multiple facets of the phenomenon (Baxter & Jack, 2008). Furthermore a qualitative case study fits to the exploratory purpose of the research question, trying to explain how business processes can be changed to improve efficiency and effectiveness and control of the labour costs. A disadvantage of a case study is that the results cannot easily be generalized (van Aken, 1994). However, this study intends to develop knowledge about the business processes at RTV Oost, not to build theories or find truths.

It is important to determine what the phenomenon that will be studied, or the case, will be and what it will not be. This is to prevent from answering a question that is too broad or a topic that has too many objectives (Baxter & Jack, 2008). The case for this study will be the primary processes of the editorial department at RTV Oost and one support process, namely planning. The planning process is intensely related to the primary processes, as the employees working on primary processes are planned by that process. Employees working on support or management processes are often not planned. Therefore, this case study requires only one case, the primary and planning processes of the editorial department of RTV Oost. Within this primary process and the strongly related planning process, several sub processes can be identified. Therefore this research will be based on an embedded single case study.

2.3.2 Data collection

In order to answer the research question information is required, called data. There are diverse types and sources of data. Two main types are qualitative and quantitative data. Quantitative data is numerical, qualitative is everything that is not numerical. Because of the qualitative nature of this study, the data will also be mainly qualitative. The sources of data can among other be divided by secondary data and empirical data. Secondary data contains all information that is written and made available through articles, internet, databases etc. Empirical data is obtained by the researcher self, through performing empirical research. A description of the used data sources is given below and is structured by secondary and empirical data.

Secondary data

This study begins with the review of literature about business processes, business process management in a public broadcast organization, business process analysis and improvement theories and models and the tools these theories prescribe. This review will almost entirely be based on scientific literature, like articles and books. These secondary sources will be referred to using the APA guidelines.

In the theoretical framework, a short discussion of the differences between a manufacturing, healthcare and public broadcasting operation has to take place, because all process improvement theories are grounded in the manufacturing and some are widely used in the healthcare. No studies have however been found about process improvement in a public broadcast organization. For this comparison, besides scientific literature, documentation of RTV Oost will be used, such as annual reports, social reports, planning schedules etc. These documentations will also be used for the analysis of all the three sub-questions, as everything that is documented, no longer needs to be asked during the interviews.

One of the main secondary data resource for the data gathering phases is the computer system Newsroom. From this kind of database information is gathered about realized output and input, which will provide reliable information about the as-is situation. Newsroom is therefore an important source to check the data derived from empirical research.

Empirical data

Some empirical data is already gained from a few orienting conversations with the management and other employees of RTV Oost. This data is used in the introduction of this thesis and also for the comparison between a manufacturing and healthcare organization. The main empirical data will be gained with the use of semi-structured interviews and direct observations. These are performed two times, one time for the identification and description of the processes and another time for the analysis and identification of bottlenecks.

The first interview will be held with the manager of the editorial department. Then the chefs of the detachments news and informative programs will be interviewed. After this, the end-editors of news, informative programs and sport will be questioned about the activities that take place. Last, the planner will be interviewed. In this way, not only information about the processes and activities can be gained, but also differences in perspectives from top-management and lower management can be distinguished. This can be of use in identifying bottlenecks and giving directions for improvement. During these interviews, interviewees will be asked about the flow of activities that take place during a process, the time and competencies needed to perform the different activities, the used input for each activity and the delivered output and bottlenecks or frustrations they experience during the process. Participation and observation of activities will lead to actual as-is information, about all the activities that take place. This data will lead to a good understanding of the production activities and will serve as a check for the reliability of the interviews. After describing and mapping the current editorial processes based on the obtained information, the descriptions and process maps will be checked by employees from the work floor, namely a desk editor/reporter, the project leader of the implementation project of Newsroom and a program maker. These persons are chosen because they know the different tasks that need to be carried out, they have a clear view, are willing to reflect the current processes and are open to changes.

For the second sub-question, "how can the editorial business processes be analysed and bottlenecks identified?" the already gained data will be used and new empirical data collection will take place. Again the data will be obtained through interviews and participation/ observation. The only difference is that this time the questions will be based on the analysis tools selected from the business process analysis and improvement theories and models. These analysis tools are described in section 3.5 and include: value stream mapping, cause-effect analysis and lean waste matrix.

The interviews are semi-structured, meaning that the interview procedure consists of multiple themes for which questions are formed. This type of interview leaves room for adding questions during the interview, when this is desired. This ensures that the interview is structured and answers are given in the right direction and will be useful, but also leaves the opportunity to attain interesting answers that was previously not anticipated for. Furthermore all interviews

will be held individually and kept anonymously, so respondents will feel freer to give straight answers. When conducting the interviews, it is important to keep in mind the sensitivity of the research purpose for employees. Employees are in general reluctant to changes (Merchant & Van der Stede, 2007) and can therefore give answers of which they think that it will put their job less in danger. Since conducting interviews and afterward analysing all the results is time consuming, the amount of interviews is limited to 16, namely two times eight employees (one manager, two chefs, four end-editors and the planner). Because all the interviews will be held internally a 100% response is expected.

For the third and last sub-question, empirical data will be gathered through brainstorming with employees of RTV Oost. The employees chosen are those that are in the editorial management team. This is because these employees are responsible for the editorial output and (operational) management. There is explicitly not chosen for a general meeting for everyone from the editorial department, because journalists can be very tricky and make a chaos of discussions. Questions during this meeting will be asked about what bottlenecks the attendees see in the described processes and how they should solve the bottlenecks that are identified in the editorial processes of RTV Oost.

2.3.3 Data analysis

In qualitative research, data collection, analysis and theory are intimately intertwined (Babbie, 2007) and the data collection and analysis occur concurrently (Baxter & Jack, 2008). There are different strategies for analysis, two of which are developing a case description and relying on theoretical propositions (Yin, 2003). In this study the data for the first sub-question will be analysed using case descriptions. In case descriptions, analysis is organized by general characteristics and relations of the phenomenon investigated (Yin, 2003). For the used case description, data will be analysed according to the categories: input, output and processes. According to the literature, discussed in section 3.3, this data can be well structured and documented with the use of process maps. Therefore data analysis will take place in form of textual descriptions and process maps. The process maps will be made with the use of the functional flowchart technique and realized in Microsoft Visio 2010.

The analysis for the second sub-question, which will lead to the identification of wastes and bottlenecks and their causes, will be more difficult and it is therefore useful to structure this more from theories. The strategy chosen for this analysis is with the use of theoretical propositions. In this strategy, analysis will be guided from theoretical propositions, which help to focus attention on certain data and ignore other data (Yin, 2003). The process analysis tools that are derived from the selected business process analysis and improvement theories and models form the base for these propositions. These tools are: lean waste matrix, cause-effect analysis and value stream mapping.

The third sub-question, will also be guided from theory and the theoretical proposition strategy will be used. The improvement tools, derived from the selected theories and models for business process analysis and improvement, used for this analysis are: brainstorming, complexity reduction strategies, to-be process mapping, job design and planning techniques.

CHAPTER 3: THEORETICAL FRAMEWORK

3.1 Introduction to business processes

Before investigating the business processes at RTV Oost, it is convenient to achieve an understanding of what business processes are. Therefore this paragraph introduces the concept business process.

A business process can be defined as a set of activities that use system resources, intended to transform system inputs into desired system outputs (Kalpič & Bernus, 2006). Within organisations various processes are carried out. These processes can be categorized among three main types, namely primary, support and management processes. Primary processes are those that directly deliver a service or produce a product and are thus directly involved in the transformation process. Support processes are all activities aimed at providing other processes with sufficient quality and amount of people, funds, materials and information, needed to perform the transformation of input into output. The purpose of management processes is to ensure a right course of action for the other processes. Together these primary, support and management processes form a system, which is visualized in figure 2 (Boer & Krabbendam, 1996).

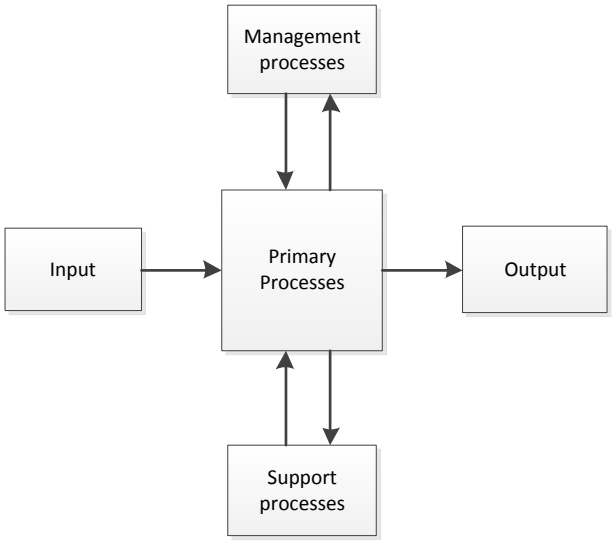


Figure 2: Business process types and their relationship

The editorial department includes mainly primary processes, because here the production of news, sport or other programs for radio, television and internet and teletext take place. The planning of resources and materials for the primary processes of the editorial department is a support process. Employees working on support or management processes are often not planned. Because the management of RTV Oost is interested in the effectiveness of staff deployment of the editorial department, the planning process will be of big importance. Therefore this study focuses on the primary processes of the editorial department in RTV Oost and on the support process, planning.

3.2 Business process management in a public broadcast organization

The purpose of this chapter is to achieve an understanding of how process improvement methods can be used in a public broadcaster organisation. This is needed because studies about business process improvement in public broadcast organizations are not found. Moreover, little literature was available about public broadcast organization's operations. Therefore existing literature about business improvement in other types of organizations had to be used.

All major process improvement methods are rooted in the manufacturing industry (Guo and Hariharan, 2012). Since the end of the '80's process improvement became also popular in the healthcare. In 1987 the national demonstration project in quality improvement in healthcare was conducted (Goldstein & Schweikhart, 2002). And after that, many other studies about process improvement application in healthcare followed. The application of business improvement methods in manufacturing industries was proved to be successful. The applications of those methods in clinical operations showed however mixed results. Guo and Hariharan (2012) investigated why the results for clinical operations were mixed by comparing the characteristics of clinical and manufacturing operations against nine categories. This comparison gives a good understanding of the differences between the operations and their possible effects on improvement endeavours and can therefore be used to understand the differences of manufacturing operations and public broadcasting operations too. Hence a comparison between the operations of these organizations against the same nine categories is made and the differences and their possible impact on the effects of improvement methods is analysed. In this way possible pitfalls by using manufacturing-based improvement methods could be anticipated for.

3.2.1 Comparison of manufacturing, clinical and broadcasting operations

In table [1], the discussion of Guo & Hariharan (2012) about a clinical and manufacturing operation is summarized. During conversations with managers of RTV Oost, documentation of RTV Oost and scientific literature, the characteristics of a public broadcaster are compared against those of a manufacturing and clinical operation. The outcomes of these interviews are also given in table [1]. The characteristics of a public broadcaster are elaborated below and in the following paragraph the possible effects and pitfalls are analysed.

Table 1: Comparison between manufacturing, clinical and broadcaster operations

Category	Manufacturing	Healthcare	Public broadcaster
Production			
Production amount	Push system, forecast based.	Pull system, demand based.	Mix of pull and push system News is more pull, informative more push.
Productivity limit	Known.	Unknown.	Unknown.
Product			
Type	Goods.	Service.	Service
Defect	Return possible and defects cost money.	Return is not possible and errors are crucial.	Return not possible, but errors are less crucial.

Reimbursement	Consumer is payer	Consumer is not payer; quality may not be financially rewarded.	Consumer is not payer; quality may not be financially rewarded.
Competition			
Geography	Global	Domestic/regional	Domestic/regional
Choice restrictions	None	Insurance	non
Regulation	Free competition	Regulated competition	Semi-free competition
Process personnel			
Operators	Workers; less educated and self-motivated/committed.	Clinical staff; highly educated and self-motivated/committed.	Journalists: moderately educated, and motivated/ committed.
Managers	Supervisor; does not carry out production work, sole manager, dependent on the firm.	Physician; carries out important part of the work, co-manager, more independent and autonomous.	Chef; does not carry out production work, sole manager, dependent on the firm.
Customer contact	No	Yes	No
Performance indicators	Effectiveness and efficiency measures are easy to develop.	Difficult to develop effectiveness and efficiency measures. Many factors influence the processes and outcome standards are hard to find.	Difficult to develop effectiveness and efficiency measures. Other factors influence the processes and outcome standards are hard to find.
Variability			
Input	Consistent material	Inconsistent patient	Inconsistent news
Process	Consistent, human variability can be minimized through automation.	Inconsistent, differs by patient and staff variability. And unpredictable effects.	Inconsistent, differs by news and staff variability.
Output	Consistent output.	Inconsistent outcome.	Inconsistent output
Standardization	Easy	Difficult, because of variable patients and staff. One can choose to standardize only the repetitive activities.	Difficult, because of variable news and staff. One can choose to standardize only the repetitive activities.
Organizational culture	Many have a culture of improvement	Culture of blame	In between, there are signs of a culture of blame.

Production

The production amount for TV production of RTV Oost is determined by the management and expresses itself in the amount of minutes the broadcaster broadcasts news, sport or other programs, called informative programs. For the news broadcast, the minutes a broadcast lasts is fixed, however, the amount of items that will be used and the type of report (live report, background report, message told by the presenter and/or a guest at the studio) is variable and depends on the amount and type of news of that day. So for these productions, the operation is more a pull system and demand based[3]. Productions based on sport games can be forecasted, because the location, date and time of sport games are known. Sport news like transfers etc. is however variable, just like general news. So here a combination of push and pull exists. The amount and type of informative programs are planned for the future. The production is therefore a push system and forecast based. Also the time spend on making such programs can be forecasted, but is dependent on factors that are outside of our control, like the weather, which makes forecasting difficult and less accurate, than in for example manufacturing operations.

For radio, there exists also a combination of push and pull system. The management of RTV Oost decides how many hours presented radio will be broadcasted and how many will be non-stop music. For all the presented radio hours, presenters are arranged. For each different program it is forecasted how much time the presenter needs to prepare and present it. Also the time spend on making a song list can be forecasted. Furthermore, there exist guidelines for the times at which news or other information should be broadcasted. This all indicates a push system, which is forecast based. The production of informative programs for the radio is also, just like on television, a push system. However, the amount of minutes and type of reports that are broadcasted during a program depends on the amount and type of news of that day. Moreover, presenters often arrange guests for their programs. The amount of guests and the minutes they speak are not fixed, but there could be made guidelines by the chefs for this amount. This will however also depend on the subjects of the conversations etc. The production amount for radio is therefore also partly demand based and indicates a pull system

The production amount of teletext and internet is demand based. The amount of reports posted on teletext and internet only depends of the type and amount of news of that day. If there is much news, the production amount will be way bigger than if there is little news that day. Therefore this production system is pull-based.

The productivity limit is unknown at RTV Oost. This is because the output quality is hard to measure. Moreover, the production process is labour-intensive, which is more difficult to measure than machinery. And for the news section, also the input is variable. This makes it very hard to measure the productivity. More understanding of the productivity limit of staff can be gained through process mapping and time studies (Guo & Hariharan, 2012).

[3] Note in the production of news, the demand exists from the presence of news and not from the call of a customer for some kind of product.

Product

The product of RTV Oost is a service; it delivers news, other information or entertainment to Overijssel's populations. The production process has however more similarities with a manufacturing, than a clinical operation has with a manufacturing operation. This is because the product is just like in manufacturing operations delivered at the end of the process, namely at the presentation on television, radio, teletekst or internet, while in a clinical operation, the process is the product.

A difference with a manufacturing operation is that defects cannot be returned. Defects will lead to an immediately decrease in quality, which cannot be replaced. The impact will however be less crucial than in a healthcare operation, where a defect can mean life or death. In a manufacturing company the cost of defects can be determined and weighted against the revenues of an efficient process. In the public broadcast, the assessment between a risk of defects and benefits of an efficient process needs t be carefully considered and is probably more qualitative of nature.

Reimbursement

Whereas for goods, a customer is both a payer and a consumer, for services, this is not always the case. In the healthcare, the customer is the patient, but the payer is often an insurance company. In a public broadcaster, the customer is someone who is watching a program on television, hearing it on the radio or seeing it on teletekst or internet. The payer is the provincial government. This means that public broadcasters may not financially be rewarded for its quality and innovative technology. The provincial government pays a fixed amount of subsidy per resident of the province to the regional public broadcaster. Because the customer is not paying for the product, some definitions in process improvement need to be revised, like value-added activity. Value-added activity is defined as an activity the customer is willing to pay for. If the customer however does not pay the product, the value-added activity should be defined as an activity the customer is willing to receive (Guo & Hariharan, 2012).

Competition

The geographic competition of manufacturing goods can be global, because they can be transported. Clinical operations are not physical and need the presence of both the patient and provider. Healthcare competition is therefore mostly domestic. Broadcasting can occur global. However, programs of Dutch broadcasters will be in Dutch, which makes competition mostly domestic. Moreover, the regional public broadcasters are focused on regional news and actualities, which makes them less interesting for other provinces. For other programs, informative programs, the competition is higher because a customer can easily zap from one channel to another. Competition for regional public broadcasters is semi-free, because all organisation may broadcast but this is expensive. Subsidy is provided by the provincial government, which cannot be retrieved easily by other organisations. However internet sites have become increasingly important. There are a lot of websites distributing news or other information to customers, which increases competition. A lack of competition can create organizational inertia (Merchant & Van der Stede, 2007). According to Guo & Hariharan (2012) may public disclosure of performance data raise awareness of quality and cost, change attitude

towards process improvement or force an organization to allocate more resources to process improvement. The upcoming internet has made things far more transparent and therefore increases awareness of quality.

Process personnel

The operators of a manufacturing company are workers, often performing standardized tasks and lack motivation or commitment. Clinical staff is often highly educated, more self-motivated and in general highly committed to their patients. Journalists or desk editors are moderately to highly educated and probably moderately self-motivated and committed. Their tasks are more complex than those of manufacturing workers and cannot be so easily standardized.

Customer contact

In healthcare, there is a direct customer contact, which has implications for process improvement. For a public broadcaster, just like in manufacturing companies, there is no direct customer contact and thus no further implications.

Performance indicators

Effectiveness and efficiency are commonly used process measures (Guo & Hariharan, 2012; Grünberg, 2007). Developing indicators is a daunting task for all organizations, but for service providers this task is often even more difficult than for manufacturing organizations. In order to define effectiveness, an organization must (I) identify its customers, (II) understand the needs and expectations of customers, (III) translate the understanding into operational outcomes and (IV) develop an inspection procedure for conformance to specifications. The first step will not be a big problem for RTV Oost. They have already a focus group. Understanding the needs and expectations of customers will be more difficult. “If one should ask ten customers about their opinion of a program, you’d get ten different answers” (interview adjunct chief editor, 2012). Then the needs and expectations need to be translated into operational outcomes. Finally inspection has to take place. A manufacturer can produce consistent products thanks to its well-defined specifications. In contrast, a public broadcaster operation contains uncontrollable factors. Examples of these factors are the appearance of news, the weather, the location of actualities, the people that collaborate for an item etc. These noises can make it difficult to judge whether an undesirable outcome is due to a lack of quality or because of uncontrollable factors.

Efficiency is often defined in terms of cycle time, cost per unit, hours per unit, percentage of non-value-added time and amount of rework (Guo & Hariharan, 2012; Liker, 2004; Grünberg, 2007; Rohleder & Silver, 1997). In manufacturing operations these indicators can unambiguously be measured. In healthcare this is difficult, because it is highly judgemental whether a step in the process is a waste, how much time a physician needs to spend with his patient and if a long cycle time demonstrate commitment or inefficiency (Guo & Hariharan, 2012). Also in a public broadcaster such kind of problems exists. It is judgemental whether an extra hour of camera production was necessary for a program or news item, or whether an extra hour of preparation time for a radio program demonstrates inefficiency, or commitment of the presenter.

If one wants to use effectiveness or efficiency measures inside a public broadcaster, a careful consideration of the factors that possibly influence the used indicators is needed. The factors

influencing the process and outcomes of a public broadcaster operation are probably less than in a clinical operation. Maybe solutions for this problem are provided by the healthcare industry. These could than give good directions for the public broadcaster also.

Variability

The input of a manufacturing organization is often consistent material. The input of a clinical operation, the patients, is inconsistent. The input of a public broadcaster is also inconsistent. News changes and for informative programs, the guests, program ideas and discussed actualities are also constantly different. Just like in healthcare organizations each disease process is a batch but needs service requirements (Bartel, Ichniowski & Shaw, 2007), in a public broadcaster each program or item delivery is a process, but needs requirements. It can be tried to control input variability with for example the use of categorization of inputs

A manufacturing process can be planned from beginning to end and broken into small tasks. Expenditure of resources and quality of outputs is predictable. The cycle time is constant and human variability can be minimized through automation. A public broadcaster operation is not as constant as a manufacturing one. Even though the process can be planned and broken into tasks, these tasks cannot be made very small. Besides, resource expenditure and output quality is more difficult to predict. Manufacturing outputs can be checked against a set of lists (Guo & Hariharan, 2012). In a public broadcasting, output quality is judgemental.

Standardization in many manufacturing operations is often more easy. In healthcare and public broadcasting, profound standardization is quite impossible. In the repetitive activities standardization will not be so hard to realize, however also many non-repetitive activities exist which are much more difficult to standardize, because of the variability in the inputs and the relatively large amount of human interventions that is needed. Staff is variable, for the reason that they have different perspectives, experiences and used techniques.

Organizational culture

Also the organizational culture can be of importance. Guo & Hariharan (2012) use two kinds of cultures from Berwick (1989) in their article. The first is the theory of bad apples. In this culture, people ask immediately whose fault it is, when an error occurs. As a result, the organization gets a punitive culture, in which people's focus is on how to survive rather than how to improve. The second is the theory of improvement. In this culture, people know that the main part of errors belong to the system, rather than an individual. A response to an error will then be, "how could this happen despite our best intentions" followed by "what can we do so that the error will never occur again". In this culture the belief exists that a mistake could have short-term effects, but the knowledge gained from the mistake will produce a long-term benefit. People become proactive in preventing errors to happen. It is beyond the scope of this study to investigate the type of culture inside RTV Oost and other public broadcasters. The type of culture could however be a pitfall in introducing process improvements and should therefore be kept in mind.

3.2.2 Points of attention for process management in a public broadcast organization

From the previous analysis some points of attention when engaging in business process analysis and improvement in a public broadcaster organization could be derived.

The production amount of a public manufacturer is push and pull based and the productivity limit is mostly unknown. More understanding of the productivity limit of staff can be gained through process mapping and time studies. Another difference is that in a manufacturing company the cost of defects can be determined and weighted against the revenues of an efficient process. In the public broadcast, the assessment between a risk of defects and benefits of an efficient process needs to be carefully considered and is probably more qualitative of nature.

If one wants to use effectiveness or efficiency measures inside a public broadcaster, a careful consideration of the factors that possibly influence the used indicators is needed. Otherwise measurement outcomes could be easily misinterpreted.

Furthermore reimbursement and consuming is segregated, which means that public broadcasters may not financially be rewarded for its quality and innovative technology. Because the customer is not paying for the product, some definitions in process improvement need to be revised, like value-added activity. Value-added activity is defined as an activity the customer is willing to pay for. If the customer however does not pay the product, the value-added activity should be defined as an activity the customer is willing to receive.

It can be tried to control input variability with for example the use of categorization of inputs. And a possible way to solve the issues with standardization is by standardizing the repetitive activities and remaining non-repetitive activities individualized.

Finally it is important to keep in mind that employees can be reluctant to changes and therefore the type of culture could be a pitfall in introducing process changes.

3.3 Identification of business processes

In this paragraph an business process identification method is chosen an briefly elaborated.

Because the primary processes at RTV Oost are complex and dynamic, it is important to get a detailed understanding of it and represent these processes in a structured manner. A way of identifying business processes is with the use of business process models. A model is a set of all relevant facts about an entity captured in a structured and documented form. A business process model focuses on the description of business process features and characteristics (Kalpič & Bernus, 2006). It is often used to give a detailed understanding of the processes prior to improvement (Slack et al., 2007; Giaglis & Doukidis, 1997; Grünberg, 2007) and therefore useful for identifying the primary processes at RTV Oost.

A business process model can describe many aspect of a process, like the functionality and structure, the sequence of activities and their relationships, the cost and resources usage for the activities etc. The purpose of modelling determines which features of business processes need to be represented. Kalpič & Bernus (2006) identified two major categories of process models. The first is behavioural models. These describe the rules of the sequence in which activities are performed and are especially well suited for the design or analysis of business processes in which the timing and/or sequencing of activities is critical. These models can only be used for processes that follow known procedures and are therefore less applicable for RTV Oost. The second is activity models. These models describe processes by its structure, the required inputs

and delivered outputs for each activity, control relationships and resources needed for performing each activity. This kind of process model is applicable for describing the processes at RTV Oost and will be used in this study.

Because the business model used in the first phase of this study has as primary task, the identification, description and structured presentation of the relevant business processes at RTV Oost and the activities within it, a (function) flowchart is used as a tool to make the business process model. A (function) flowchart shows the flow of a process from the start till the end, organized by the function that will carry out an activity. It consists of predetermined symbols, connected by arrows, arranged in such way that it leads through a series of steps, in the right sequence of order (Damij et al., 2008). The main advantage of the flowchart is its communicative characteristic. Moreover the model is in best use when processes need a high level of detail (Aguilar-Saven, 2004). Since a deep understanding of process details is missing at RTV Oost, and a structured and clear representation is needed, the flowchart will be an appropriate technique. Some common process mapping symbols that are used in flowcharts are represented in figure 2.

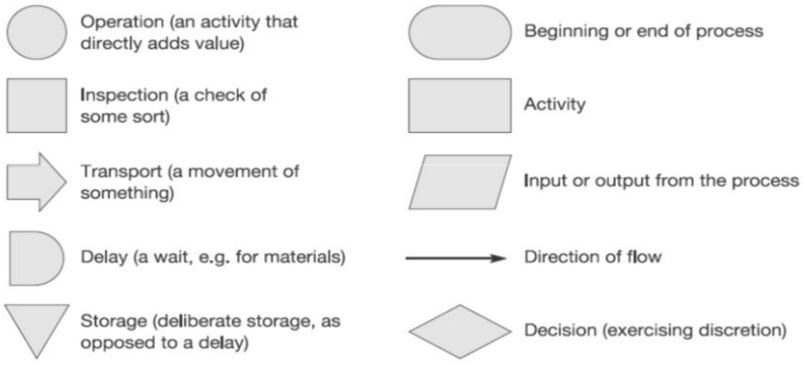


Figure 3: Some common process map symbols

In summary, the identification of business processes will start with describing the structure, the required inputs and delivered outputs for each activity, and the flow of activities. This information will be structured represented in a business process model, using the function flowchart technique.

3.4 Theories and models for analysing and improving business processes

In order to analyse and improve business processes, a theory or model is required to provide a base for identifying bottlenecks and indicating improvement opportunities. Therefore this paragraph elaborates some theories and models useful in analysing and improving business processes. First the theories and models that are still commonly used in businesses are shortly explained. After this some theories and models are selected that will be used during this research. The selected theories and models will be extensively elaborated in the next and final section of this theoretical framework, section 3.5.

In the literature, there are many theories and models presented for business process analysis and improvement. In this thesis only those theories and models that are still in common use in

businesses and applicable in primary and planning processes are explained. These are the theory of constraints, lean production, six sigma, total quality management and business process reengineering (Grünberg, 2007; Talib, 2011).

3.4.1 Lean production

Lean production is a quality method introduced by Toyota. The primary focus is to reduce waste, with the objective of building the highest quality product, at the lowest cost in the shortest time. Waste is considered as all activities that do not provide value for the customer. Toyota has defined seven types of waste that form the core of the lean philosophy: Overproduction, inappropriate/unnecessary processing, unnecessary inventory, unnecessary movement, unnecessary transport, waiting and defects. Liker (2004) also defined unused employee creativity and Jimmerson (2010) added confusion as a source of waste.

One fundamentally used approach in the lean concept is the continuously repetition of the following five process improvement steps (Vonderheide-Liem & Pate, 2004):

1. Identify value adding activities.
2. Map the value steam
3. Create flow: eliminate wasteful activities
4. Establish a pull system: and use a level production.
5. Seek perfection

A lot of analysis and improvement tools techniques are used in the concept of lean production. Like creating 100% functionality by implementing an error proofing system or inspections inside the processes and not at the end. Furthermore one has to visualize production waste and production controls to reduce waste, this can be done by implementing a production information board, at which for example customer demand and resource availability can be displayed. Furthermore standardization is important, to ensure efficient and effective work (Grünberg, 2007). Also process mapping, kaizen, 5S, Poka-yoka, Pareto charts and cause-effect charts are used (Vonderheide-Liem & Pate, 2004; Grünberg, 2007).

According to (Keyte & Locher, 2004) the critical success factors of lean production are management support, the authority power of operational managers, a detailed implementation plan, teamwork and communication, efficient use of resources and continuous improvement. A pitfall in implementing lean production is that the implementation time is often underestimated; it takes several years to accomplish. Moreover implementation is not very good supported, the approach describes the desired results, but not extensively how to acquire them (Grünberg, 2007).

3.4.2 Total Quality Management (TQM)

Total quality management focuses on the control of all organizational processes and aims for continuous improvement and customer satisfaction. One can divide the term in “total”, which will mean the whole organization, “quality” meaning improving customer satisfaction and “management” indicating the management of improvement in steps (Vonderheide-Liem & Pate, 2004). One of the main principles of TQM is that human mistakes are often caused by defects in

the process or system. Therefore by eliminating process defects, mistakes can be prevented (Talib, 2011).

The TQM philosophy is based on the Deming cycle (figure 4) for continuous improvement efforts. This cycle contains four steps that are necessary to align the organization with its processes, namely plan, do, check and act (Deming, 1986). During the planning phase "plan", organizational processes are identified and modelled, with the use of process modelling tools. In the execution phase "do", processes are implemented and the organizational structure is adjusted to fit the processes. Information systems are implemented and metrics of process executions are gathered. In the evaluation phase "check", the processes are analyzed based on the collected data in the previous phase. Throughout the reengineering phase "Act", adjustments to the processes are made, based on the analysis of the evaluation phase.

Talib (2011) discusses in his research some objectives of total quality management. These are customer satisfaction, involvement of all the people in a business, the standardization of processes, the identification of process goals and performance measurements and the generation of a step-by-step action plan to solve observed problems. A common success factor is using TQM as a continuous long term approach. The Deming approach focuses on statistical quality measures, which can give good directions on what to improve. However, statistical quality measurement could be quite difficult at RTV Oost, because quality cannot easily be measured. Furthermore, there is little support on how to improve (Grünberg, 2007).

3.4.3 Six sigma

Six sigma came from the Motorola Company. It is an approach to decrease variation in manufacturing processes with the use of statistical tools and supporting software. The objective is to eliminate, defects and quality problems. Six sigma is based on principles of total quality management (Talib, 2011; Grünberg 2007).

Six sigma is based on the process improvement model DMAIC:

1. Define: Define the scope, benefit and plan and map the target processes.
2. Measure: The data collection phase, study the process and make measurements.
3. Analyse: Analyse the results in order to support decisions.
4. Improve: Provide solutions to reduce the defects in the process.
5. Control: Retain achieved results by ongoing measurement and monitoring.

A lot of tools could be used for this methodology, like benchmarking, flow charts, effect analysis, scatter diagrams, cycle time analysis and so forth. According to George (2003), six sigma can be excellently combined with lean production. It is then called, lean six sigma. This combination offers a focus on defects in quality and the elimination of variation from six sigma and the speed, efficiency, and elimination of waste from lean production.

An advantage of the DMAIC approach is that there is strong support on how to implement improvement work. Also the approach is good structured. The start of improvement and the choice of which improvement object to solve is however less supported (Grünberg, 2007). Six sigma is difficult to use for processes that do not contribute to the bottom line or when their sole

objective is not serving the customer (Talib, 2011), but this will not be an issue as this study focuses on primary processes and a strongly related support process.

3.4.4 Theory of Constraints (TOC)

The theory of constraints aims at improving profits of an organization by increasing the throughput. The theory focuses on bottlenecks or constraints. It is based on the book of Eliyahu Goldratt, "The Goal", in which optimized production technology was introduced. According to Goldratt (1993), Optimized production technology was about optimizing the flow and not capacity to customer demand. Planning and control could be made easier if the production system's bottlenecks were identified and the rest of the production activities were subordinated to that bottleneck. According to this theory a production process cannot produce more that the bottleneck can produce.

The improvement method of The Goal was later summarized in the theory of constraints and contains five steps:

1. Identify the system's constraints: usually exposed by queues in front of the resource.
2. Decide how to exploit the systems constraints: by for example reduced set-up times, capacity increase or reduced downtimes
3. Subordinate everything else to the above decision.
4. Alleviate the system's constraints.
5. If in a previous step a constraint has been broke, go back to step 1.

There are also other techniques used for TOC, like the drum-buffer-rope production planning, critical chain product management, continuous replenishment for distribution, throughput accounting and thinking process problem solving techniques.

An advantage of the theory of constraints is that it is easy to communicate, because the queues in front of bottleneck resources are visible. Furthermore the theory gives a clear picture of what to improve as well as how an improved future state should look like. However the concept could be difficult in a complex production system, with many products and flows because then the bottleneck might change (Grunberg, 2007).

3.4.5 Business Process Reengineering (BPR)

Business process reengineering is unlike the other theories a radical improvement approach and introduced by Hammer & Champy in 1993. This approach lies on the philosophy that one can achieve some benefits by optimizing the performance of sub-processes, but it cannot provide immense improvements if the process itself is fundamentally inefficient and obsolete. Therefore BPR focuses on the redesign of the whole process in order to gain the greatest possible advantages for the organizations and its customers.

Muthu Whitman & Cheraghi (1999), developed an consolidated BPR methodology, shown in the figure below.

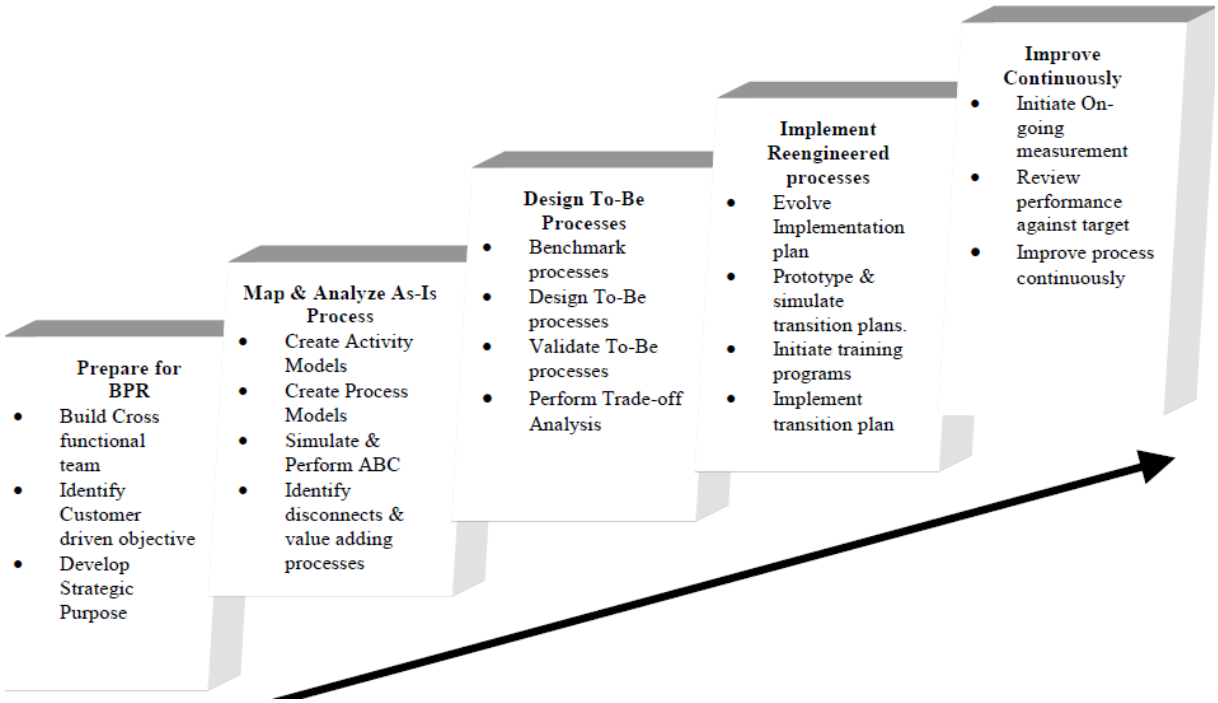


Figure 4: A consolidated BPR model

Some critical success factors for business process reengineering are a strong executive leadership and support, clear understanding of reengineering, organizational commitment and clear and measurable objectives (Talib, 2011). Because the approach is so radical, there is little support on what to improve and what the future state should be. However, while the approach is radical and focused on the entire organization, it can also be used in parts of the organization and for some processes (Wentink, 2005). This makes the approach more usable.

3.4.6 Selection of theories/models for analyzing and improving business processes

The purpose of this thesis is searching for ways to improve the production processes of the editorial and technical departments, in order to achieve or improve control in the labour costs, in such way that these are effective and efficiently spend. Therefore the theory/model should focus on efficiency and effectiveness and must enable a control of (labour) cost. Furthermore, the theory/model must guide the analysis as well as the improvement of business processes. Based on these criteria, the above described theories of and models are analysed. The outcomes of this analysis are summarized in table 2.

In lean production systems, the focus is on reducing waste, with the purpose of achieving high quality at low cost in a short period of time. This is focusing on efficiency, because of the need to do as much as possible with as little as possible. Effectiveness stems from the definition of waste: everything that is not valued by the customer. This implies that operation outcomes must always fit the need of the customer. Also the theory enables a control of cost, as it attempts to first eliminate all wasteful activities, before adding new ones. The analysis is well guided because it is known what to analyze and where to focus on, namely non-value adding activities. However, the identification of such activities can be quite difficult in a public broadcaster production process, as output quality is much harder to analyze. The desired future state of a production process is

good indicated by the principles of lean production, which makes improvement work easier. How to implement improvements is however not well supported from the theory.

Total quality management focuses on customer satisfaction and elimination of process defects. The philosophy is that with the elimination of defects, also costs will decrease, however the theory focuses more on quality than on a control of cost and more on effectiveness than efficiency. Analysis is quite difficult, because the quality of the products in RTV Oost is highly judgmental. Furthermore there is little support on how to improve.

Six sigma, just like TQM, focuses on defects in quality. In addition in tries to decrease variation in manufacturing processes. Therefore six sigma is also quality based and focuses more on effectiveness than on efficiency. It is primarily based on quality improvement, but because of the variation reduction, the approach is able to control costs due to complexity. The DMAIC approach gives good support for implementing improvement work, but it is less clear where to start the improvement work and which improvement objects to solve. Furthermore analysis is quite difficult, because the quality of the products in RTV Oost is highly judgmental

The theory of constraints aims at increasing the throughput. It will optimize the flow, by concentrating on the bottlenecks in the production system. It focuses on efficiency by reducing inventory and optimizing the flow. Effectiveness is defined by optimizing the flow to customer demand. However this focus is only directed to volumes and not on for example expected quality measures. Labor cost can be controlled by optimizing the flow of activities. The difference with lean production is however that TOC exploits its constraints whereas lean first eliminates all wasteful activities before adding new ones. The TOC clearly states what to improve and how an improved future state should look like. However implementation is less supported and the approach becomes difficult as processes become more complex.

Business process engineering is a radical improvement method, aiming at a total redesign of the whole organization and construct best practices by benchmarking, value stream mapping, simulation etc. It begins at setting customer objectives, which implies a focus on effectiveness. Also the mapping of value adding processes implies a focus on effectiveness. Moreover, achieving best practices through benchmarking and simulation leads to a focus on efficiency. The approach enables for a control on costs, because the objectives of improvement could be determined prior to the reengineering. However, because of the radical characteristic, it would be difficult to forecast the expected cost benefits and a radical change could lead to higher costs due to for example extensive training and lost time, because employees need to adjust to the new situation. The consolidated BPR model does give some guidance to analysis and improvement. However, in a radical change approach it is not clear where to go to and where to focus on, which makes analysis and improvement difficult.

Table 2: Selection of theories and models

Criteria	Lean	TQM	Six Sigma	TOC	BPR
Focus on efficiency	***	**	**	**	***
Focus on effectiveness	**	***	***	**	***
Enable a control of (labour) costs	***	*	**	**	**
Guide analysis	**	*	*	**	*
Guide improvement	**	*	**	**	*

From the above table it can easily be seen that Lean production serves the most criteria. Lean production will therefore be chosen to use for this study. The weakness of Lean production lies in the fact that there is little support on how to implement improvements and that value adding activities will be more difficult to trace in a public broadcasting organization. To strengthen the lean approach, six sigma could be used. According to George (2003), these two approaches can be excellently combined. Six sigma does provide support on how implementation of improvement work should take place. Quality measures stay unfortunately a difficult point. The two approaches, six sigma and lean production will be elaborated extensively in the next section; analysis and improvement tools for business processes.

3.5 Analysis and improvement tools for business processes

In this paragraph the process management theories, selected for this research are further introduced. The elaboration of the lean production theory and the description of prescribed tools and techniques of lean took place in the first part of this section. In the second part, the six sigma approach is elaborated and the tools for analysis and improvement prescribed by this approach are explained.

3.5.1 Lean production

As stated earlier, lean production is a quality method introduced by Toyota. The primary focus is to reduce waste, with the objective of building the highest quality product, at the lowest cost in the shortest time. In the following paragraphs the concept waste is clarified, followed by an explanation of the five lean principles and an elaboration of possible lean production tools and techniques.

Waste

Womack and Jones (2003) classified tasks into three categories. The first are those tasks that add value in the eyes of the customer. The second are those tasks that do not add value, but are necessary in the current state of business. This can be due to governmental rules, or the lack of improvement technology or production methods. These activities are also called business-value added or type one waste. The third contains unnecessary, non-value-added activities and is often characterized as type two waste. Toyota has defined seven types of waste that form the core of the lean philosophy: Overproduction, inappropriate/unnecessary processing, unnecessary inventory, unnecessary transport, unnecessary movement, waiting time and defects. Wastes in services can be tangible, but are often intangible. This intangibility makes it difficult to manage waste. Therefore some waste concepts need to be adjusted in order to be applicable in service

organizations. The adjustment of the seven waste concepts for service organizations was done by George (2003). Sarkar (2008) defined the same types of waste as George (2003) and also added an eight one: underutilization of people. Underutilization of people also includes unused employee creativity, which was described by Liker (2004) as a type of waste. Jimmerson (2010) identified during his study in the healthcare industry another type of waste for service organizations, namely confusion. All these types of waste, nine in total, are explained below:

1. *Overproduction*: production of service outputs or products beyond what is needed for immediate use. For example, processing paperwork before the next person is ready for it.
2. *Overprocessing*: doing more work, than is absolutely needed to satisfy your customers. Two kind of overprocessing can be defined (George, 2003): (I) not knowing what your customer's needs are and thus adding to much value and (II) allowing non-value-added work to sneak into the process. Examples of overprocessing are multiple inspections and overdesigning of a product.
3. *Unnecessary inventory*: work-in-progress, or things-in-progress, that is in excess of what is required to produce for the customer. High WIP implies that the sequence of activities is not optimal. For example printed documents and files, more than necessary.
4. *Unnecessary transportation*: unnecessary movement of materials, products or information. For instance, multiple handoffs, bureaucratic procedures, unnecessary movement of documents between employees.
5. *Unnecessary movement:* unnecessary movement of people. In services this is often not physical movement, but for example switching from computer domains or drivers.
6. *Waiting time*: any delay between the end of an activity and the start of the next activity. One can think of files and documents waiting for a signature or approval or employees waiting to receive input from the previous step in the process.
7. *Defect*: anything that does not conform to customer needs. It could be missing information, missed deadlines, incorrect documents, incorrect orders, rework in the process etc.
8. *Underutilization of people:* This happens when more people are involved in a job than necessary, or when the capabilities of employees are not being used to the fullest. Examples are not leveraging the qualities of associates to the fullest, not using the creative brainpower of employees or an uneven distribution of workload.
9. *Confusion:* confusion contains all questions like what do I have to do with this? What has he written over here? Where is the…? Confusion is often seen as a great source of frustration.

These types of waste are not the problem themselves, but can be seen as the symptoms of a problem in a business process. In order to achieve lean processes, wastes need to be identified and their causes have to be understood and improved. This can be done through the use of lean tools and techniques. Because much work in a service process is invisible, process mapping techniques are essential for finding wastes (George, 2003).

Five lean process principals

According to Vonderheide-Liem & Pate (2004) one fundamentally used approach in the lean concept is the continuously repetition of the following five process improvement steps:

1. Identify value adding activities
2. Map the value steam
3. Create flow
4. Establish a pull system
5. Seek perfection

Identifying how value is perceived from the customer's point of view is the first step in the lean thinking process (Picchi & Granja, 2004). This step is tricky, because the quality of a broadcaster service is highly judgemental: "If one should ask ten people to reveal their meaning on a program, you'd get ten different answers" (interview adjunct chief editor, 2012). Moreover it is beyond the scope of this study to do a market research and investigate the needs of the customers. However, there will be some points of attention an end editor will (unintentionally) consider when approving an item for radio or television. Furthermore there are guidelines of how many minutes a news broadcast must take, what must be placed on teletext or internet and so on. These points or guidelines could be used to identify in any case what RTV Oost thinks the customer values. And can be seen as the quality standard that is currently tried to achieve. From these identified values, or quality standards, value adding activities need to be identified.

The value stream is an entire process that transforms supplier inputs into outputs that satisfy the need of customers. It contains all activities within that process: value added, business-value added and non-value added. It thus describes the as-is process of a business. In this value stream wastes should be detected.

The third step is creating flow. This is one of the main elements in the lean thinking philosophy and includes the elimination of waste. The level of flow can be determined by dividing the value added time by the total lead time (Womack & Jones, 2003). Service processes are usually slow processes and slow processes are expensive processes. They are prone to poor quality, which will drive up costs, drives down customer satisfaction and hence decreases revenue. In a service organization a product often spends a lot of time waiting in a process, sometimes even up to 90% or more. It is also investigated that in un-lean services more than 50% of the work that is done is non-value added. The cause of the slow characteristic of service processes is that there is way too much work-in-process, which is often the result of unnecessary complexity in service offering. In any process with a cycle efficiency of 10% or less, 80% of the process delay is caused by 20% of the activities. Therefore only 20% of the activities need to be identified and improved in order to affect 80% of the delay. These 20% are called time traps (George, 2003).

After the elimination of wastes and the creation of flow, a pull system needs to be created. In a pull system customers pull the services/products out of the process. In this system the risk of overproduction is decreased, as services and products are only produced when asked by the customer. The risk of overproduction to internal customers, however, can remain (Guo & Hariharan 2012). In processes with multiple steps, therefore, a pull system implies that a new

task is only released when the following process step has capacity available to process it (Womack & Jones, 2003). The secret in making a pull system work is constructing an input buffer in which all customer requests, or in the case of RTV Oost, for example news items, are gathered. Only when a product or service exits the process, a new item can be released into the process from the input buffer. Which item needs to be released from the input buffer, can be based on for example first in first out principles, or determined by previous constructed criteria.

The last step in this improvement approach is seeking for perfection. This means doing the whole process again until perfection is reached, which can take decades (Grünberg, 2007).

Lean production tools and techniques

The lean approach consists of several tools and techniques to analyze and improve business processes. In this paragraph these tools and techniques are divided in those suited for analysis and those suited for improvement actions and are explained below.

Relevant analyzing tools of the lean approach are:

- Lean waste matrix
- Value stream mapping and complexity value stream mapping
- Cause-effect diagram
- Pareto analysis

Relevant improvement tools are:

- To-be process mapping
- Pull system
- Job design techniques
- Planning techniques

A lean waste matrix is a matrix in which one can indicate what activities face what kind of waste. This matrix is very useful as a support for value stream mapping and the analysis of wasteful activities. Activities that cause a lot of wastes need to be improved.

Value stream mapping is the mapping of all activities that transform supplier inputs into outputs that satisfy the need of customers, value as well as non-value added. Value stream mapping can be done with the use of a flow diagram. Process mapping with the use of a flowchart is already described in section 3.3. However, according to George (2003), ordinary value stream mapping shows the flow of one product family through the process, while in reality services face significant and growing complexity in their services and products. Also variation in demand is often in services much higher than in repetitive manufacturing operations. Therefore it must be kept in mind that a value stream map does not display all complexities and variations that are present in a process.

A **cause-effect diagram** is a visual tool that is used to logically organize possible causes for a specific problem or effect, by graphically displaying them. This tools helps identifying root causes and ensuring a common understanding of them (Slack, 2007).

In a **Pareto analysis** the causes for a problem are ranked to frequency and impact. Therefore this tool can be used to determine which of the identified bottlenecks should be devoted a high level of attention (Slack, 2007). In most service processes only a few activities account for most of the process's problem. Improving only those activities can save a lot of time, while ensuring a decently improvement (George, 2003).

To-be process mapping: With the use of mapping techniques trying to find proper solutions to eliminate wastes, by for instance changing the sequence of activities or considering the elimination of tasks. This can for example reduce waiting times and overprocessing.

A pull system is demand based; customers pull the services/products out of the process. In his book "Lean six sigma for services", George (2003) suggests a sequence to make such a system work. The following steps are mentioned:

1. Establish the service level the company wants to achieve
2. Determine the completion rate of employees
3. Determine maximum WIP
4. Cap the active work in the process at the maximum WIP
5. Out all incoming work into an input buffer
6. Develop a triage system, for determining which item should be released into the process

Job design techniques: The elimination of waste can also mean that jobs need to be redesigned. For these purposes job design techniques like job simplification, rotation or enlargement could be useful for improvement (Daft, 2003).

Planning and scheduling techniques: Another effect of the elimination of waste can be the necessity of a reconsideration of the planning and scheduling. There is a planning system at RTV Oost, called Prompt. RTV Oost wants to keep this planning system as it is relatively new. However, inside the planning system there might exists some improvement opportunities and thing might need to be modified. It is hard to predict, if and if so, which kind of improvements inside the planning system are needed. An example of a planning adjustment is the implementation of a strategic staffing plan.

Another important type of waste that impacts the flow of products heavily is defects. Avoiding for example rework due to quality deficiencies is essential for assuring products to flow properly (Picchi & Granja, 2004). The occurrence of defects can properly be improved with the use of six sigma tools. This will be described in the following section.

Furthermore visual process management is important in lean processes. Visual process management is the visualization of production information and performance to everyone involved. It is investigated that there is tendency of straight correlation between transparency and efficiency (Picchi & Granja, 2004). For visual process control, production information board can be used, where management can inform about customers demand, the availability of resources, put information about performance indicators and so forth (Grünberg, 2007). This technique could be used as a control method after implementing lean principles.

Other lean techniques that are not elaborated above are 5S and Poke-Yoke. 5S is not mentioned because this approach aims at generating a clean and manageable workplace (George, 2003). The workplaces are however ordered and clean. Moreover, changing the location of workplaces or studio's will require quite large investments and will thus increase, while the purpose of this thesis is to achieve a short term cost reduction. Poke-Yoke is a quality improvement technique with the use of an automated defect detection system (Grünberg, 2007). Such a system seems to be quite difficult to apply in a broadcasting operation, because some kind of defects will be highly judgemental and human experience is needed to judge the products/services. Furthermore, quality problems will be addressed with the use of the quality approach six sigma.

3.5.2 Six sigma

As mentioned in section 3.4.4, six sigma is a quality management approach. It aims at decreasing variation in manufacturing processes and eliminating defects and quality problems. The focus on decreasing variation is what distinguishes six sigma from other business improvement theories. This is one of the reasons why six sigma can complement lean production well. Variation can exist in business processes by producing defects, variation in demand, variation in supply and variation in the time it takes to perform an activity that creates an offering. These sources are not directly addressed by the lean approach. Only a 10 percent defect rate can ensure an increase of lead times by 38% and WIP by 53%. Therefore speed and cost gains obtained by lean applications can instantaneously be erased by an increase in variation. The closer a process operates to capacity, the bigger the effect of variability has on how long the work has to wait in queue and the greater the variability, the greater the effect. Therefore, the larger the variability, the more excess capacity is needed. If there is either low variation or demand can be controlled in some way, processes can operate at a higher capacity without risking excessive delays (George, 2003).

DMAIC model

Six sigma is based on the process improvement model DMAIC. The DMAIC approach is well structured and gives strong support on how to implement improvement work. The improvement model consists of 5 steps, which will be elaborated below. For each step some tools and techniques that can be useful will be introduced. These tools and techniques will be explained in the next paragraph; six sigma tools and techniques.

1. *Define:* In this step agreement should be reached on what the project is and what it should accomplish. Therefore one should achieve agreement on the problem and the projects boundaries. Furthermore the project's link to corporate strategy needs to be understood. Also it is important to know what indicators and metrics will be used to evaluate success. A define tool of six sigma is a SIPOC map (Geoge, 2003).
2. *Measure:* The data collection phase, in which the process is studied and measurements are made. This can be done by for example observation, participation and interviews (George, 2003; Jimmerson, 2010; Damij et al., 2008). Six sigma tools used in this phase are a cause-effect diagram and a Pareto analysis (George, 2003; Slack et al., 2007)

3. *Analyse:* In this phase results are analyzed in order to support decisions for improvement. Also in this phase the Pareto chart and cause-effect analysis are very popular. Also as-is process maps are often used.
4. *Improve:* Provide solutions to reduce the variability and defects in the process. This can be done by complexity reducing strategies. Also to-be process maps and benchmarking are frequently applied techniques.
5. *Control:* Retain achieved results by on-going measurement and monitoring.

Six sigma tools and techniques

In this paragraph the six sigma tools and techniques that were previously mentioned behind each DMAIC phase are explained.

The relevant description and analysis tools are:

- SIPOC map
- cause-effect diagram (see section 3.5.1. under lean tools and techniques)
- Pareto analysis (see section 3.5.1. under lean tools and techniques)

Relevant improvement tools are:

- Complexity reduction strategies
- To-be process mapping (see section 3.5.1. under lean tools and techniques)
- Benchmarking

SIPOC map: a useful tool for creating a high-level process map. It includes suppliers; the entities that provide whatever is worked on in the process, inputs; the information or material provided to work on, process; the steps taken to transfer inputs into outputs, output; the product, service or information being sent to the (internal) customer and customers; the next step in the process or the end-customer (George,2003).

There are two **Complexity reduction strategies.** The first is standardization. In this strategy, internal tasks and components of a service/product need to be standardized and modularized so a fewer number of them can be assembled into many different offerings that satisfy the need of the customer. This can be seen in Toyota, where the components of a car are often the same, think of radio, chairs, odometers etc., but the total layout and capabilities between car groups are very different because the components are assembled and combined in a different way each time. In this way many different models can be produced, with the use of relatively few components. The second complexity reduction strategy is optimization. Optimization implies the elimination of products/services that generate a sustaining negative economic profit. Or in the case of a non-profit service organization, services that customers are not willing to receive (George, 2003).

Benchmarking is the activity of comparing methods or performance with other processes in order to learn from them or assess performance. Benchmarking in this context will focus on the comparison of methods in order to learn from them. Benchmarking can take place internal as well as external. Internal benchmarking is mainly used in large organizations with multiple factories. The different factories can then be compared to each other (slack et al., 2007). This will

be less applicable for RTV Oost. External benchmarking at other public regional broadcasters can deliver some helpful insights and possibly new methods.

3.5.3 Selection of analysis and improvement tools and techniques

In the lean approach, value stream mapping is explained as a mapping technique. In the process identification section, flowcharts are explained as a useful mapping technique. And in de six sigma philosophy SIPOC is described as a useful identification technique. However, a (functional) flowcharts describing the structure and input, output and flow of each activity displays actually the same as a SIPOC map. Flowcharts are also easily to adjust and when adding the value added activities, a value stream map is produced. This flowchart will display the as-is situation of the editorial department of RTV Oost. The detection of wastes will be done by analysing the complete flow of activities and identify (the kind of) wastes that occur among the different activities. Moreover it is important to understand the causes of these wastes which will be elaborated immediately after detecting a waste. All these wastes and causes thereof will be mapped. Finally change propositions will be studied in order to improve efficiency and effectiveness of the editorial processes and achieve or improve control of the labour costs. Change possibilities will result from brainstorming and to be process mapping. Changes will occur among other in departmental structure, flow of activities, job design, desired occupation, appropriate shifts and planning techniques.

CHAPTER 4: AS-IS SITUATION OF THE EDITORIAL DEPARTMENT

In order to give an understanding of the production processes at the editorial department of RTV Oost, first the output is described. In the second part of this chapter the input in the form of staff is described. Based on this output and input description, the process description is structured. This is necessary because without clarifying the output and input of RTV Oost, the processes on the editorial department are difficult to understand. The sport detachment is described in a different paragraph, because this department has a very specific focus, namely sport and operates mostly apart from the rest of the editorial departments. Moreover the sport output, beside the television programs, have less fixed times and are just broadcasted when they are available. Displaying their output together with the output of the news and informative detachment will lead to an unclear picture. In the last paragraph of this chapter the planning process is shortly described and displayed in a process map.

4.1 Current output of the news and informative detachment

As mentioned in the introduction to RTV Oost, RTV Oost is headquartered in Hengelo. Furthermore it has a studio in Deventer, which is currently hardly used, and a studio in Zwolle, from which every day some reporters work. Other staff is all located at Hengelo. Also the broadcast of radio and television and editing the website is arranged from Hengelo. Therefore, unless explicitly stated, the location Hengelo is always mentioned in this study.

The output of RTV Oost consists of three main channels namely, the website and derivative applications, radio programs and television programs. The output for these distribution channels will be discussed separately. It is however important to keep in mind that the processes for these three channels are interrelated. The output described in the following sections is based on interviews with the adjunct chief editor, the chefs of the editorial department and the end editors and on observations from the 2nd till the 27th of April during weekdays.

4.1.1 Website and derivative applications[4]

On average, every day twenty-four news messages are written for the website. This amount lies between a minimum of fifteen and a maximum of thirty-three messages. Most of the website messages are also distributed by teletext. Reports that are made for television or radio are placed along with the standard message on the website. Most of the additional reports are added to the standard message at the end of the afternoon. Sometimes live reports from the television program Overijssel Vandaag (see for more information about this program section 4.1.3) are forgotten to be placed on the website immediately after the broadcast and are placed the next morning. The news messages on the website are also distributed to customers by derivative mobile applications for smartphones, I-phones and I-pads. The messages are written between 06:00 and 01:00.

[4] Derivative applications are for example the mobile RTV Oost application, that distribute news messages placed on the website to smartphone, I-phone or I-pad users.

4.1.2 Radio

Weekdays

Every hour, the whole day, two minutes news from NOS is broadcasted. In de news hours 06:00 – 09:00, 11:00 – 14:00 and 16:00 – 19:00 every half hour two minutes domestic and foreign news is given. This news is established in collaboration with the other public regional broadcasters of The Netherlands. At 08:15, 13:15 and 18:00 the most important regional news items from the public regional broadcasters of The Netherlands are combined in a report of 10 minutes. This is just like the domestic and foreign news broadcasted from Hilversum. These news reports are all purchased and therefore do not require manpower from RTV Oost and are also not included in table [3].

Normally at weekdays there is a presented radio broadcast from 6 a.m. till 6 p.m. The different programs that pass during these hours are mentioned in table [3] in the second Column. At 6 p.m. the evening at Oost begins, in which non-stop music is played from the computer and RTV Oost only makes updated regional news bulletins. From 11 a.m. till 12 a.m. Hilversum takes over the radio broadcast. After this the night session begins till 6 p.m., in which non-stop music is played from the computer of RTV Oost. So between 6 a.m. and 6 p.m. RTV Oost has a lot of tasks to fulfil for radio and from 6 p.m. until 10 p.m. RTV Oost only produces regional news bulletins. After this the radio broadcast is taken over by Hilversum or completely automated.

In the table below, the main output delivered by RTV Oost for radio is described. This includes the programs, the regional news bulletins, news about the weather, fixed times at which news reports from a reporter are given, fixed times in which the roaming reporter gives life report about a situation and the times at which often a guest or telephone interview is arranged to talk about a topic. After showing this, the table is explained in more detail. The information in the table is the standard output. Of course there is variation in the output sometimes, but displaying all these variations will lead to an unclear picture and much irrelevant information.

Table 3: Radio output during weekdays

Time	Program name	Regional bulletin	Weather	News Reporter	Roaming reporter	Guest
06:00	*Klaarwakker*	2,6				
06:15	"		Live	Repeat		
06:30	"	1,6	Live			
06:45	"					Telephone
07:00	"	2,6				
07:15	"			Repeat		(Telephone)
07:30	"	1,4	Live			
07:45	"				Live thesis	
08:00	"	2,7				
08:15	"					
08:30	*Goeiemorgen*	1,5	Quote			
08:45	"					
09:00	"	1,4				
09:15	"					
09:30	"					
09:45	"				Live	

10:00	"	1,1				
10:15	"					
10:30	"					EDNED
10:45	"				Live	
11:00	*Overijssels Hart*	1,2				(Guest)
11:15	"					Guest / telephone
11:30	"	1				
11:45	"			Live		Overuit/ guest
12:00	"	2,1				
12:15	"			Live/report		Guest / telephone
12:30	"	1	Live			
12:45	"					Guest / telephone
13:00	*Goeiemiddag*	1,4				
13:15	"					
13:30	"	1,4	Live			
13:45	"				Live	
14:00	"	1,2				
14:15	"					
14:30	"					
14:45	"				Live	
15:00	"	1,2				Guest
15:15	"					"
15:30	"					"
15:45	"					"
16:00	*Afslag Oost*	1,5				
16:15	"			Live/report		Overijssel Vandaag
16:30	"	1,3				
16:45	"					Telephone
17:00	"	2,3				
17:15	"			Studio Z/report		(Guest/telephone)
17:30	Rubric	1,7	Live			
17:45	"					
18:00	*Evening at Oost*	1,5				
18:15	"					
18:30	"	1,38	Quote			
18:45	"					
19:00	"	1,25				
19:15	"					
19:30	"					
19:45	"					
20:00	"	1,31				
20:15	"					
20:30	"					
20:45	"					
21:00	"	1,45				
21:15	"					
21:30	"					
21:45	"					
22:00	"	1,46				
22:15	"					
22:30	"					
22:45	"					
23:00						

The regional news bulletins are (semi) live presented every hour from 09:00 till 22:00 and every half hour during the hours 11:00 – 14:00 and 16:00 – 19:00. The bulletins between 06:00 – 09:00 are recorded the previous e vening. The regional news bulletins are explained in average amount of minutes. These bulletins are mostly one or two minutes. Every hour during the program 'Klaarwakker' and at 5 p.m. the regional news bulletins are significant longer and on average two and a half minute. The bulletins include 3 to 7 messages, dependent on the scope of news, and at 12.00 and 17:00 often one or two quotes are added. Quotes are audio recordings that are in support of a message. These quotes can be derived from different sources, which will be explained during the description of the process. life

The other forms of output are explained in the table as the kind of presence of it in the broadcast. The weather can be given during a live connection with the weatherman or by a quote derived from a reportage made by the weatherman.

A news reporter, roaming reporter and guest are all a form of giving additional information to a news item, during the news hours (06:00 – 09:00, 11:00 – 14:00 and 16:00 – 19:00) and other, more amusement or social information during other hours. A news reporter gives additional information at 11:45, 12:15, 16:15 and 17: 15. He or she can make a live connection to the studio, assembling a report in a editing studio and send it to the broadcast computer, make a connection from the studio in Zwolle, or a combination of a report and a (live) connection. The news reports at 6:15 and 7:15 are recorded and assembled the day/night before and are therefore called a repeat.

The roaming reporter always makes a live connection from a location somewhere in Overijssel. At 7.45 he asks people for their opinion about the thesis of that day. The other times, at 11:45, 12:15, 13:45 and 14:45 he visits events or people with an interesting story. If RTV Oost is reporting an event for television, such as 'mooiste dorp van Overijssel', carnival parades or the 'Batavieren race', the roaming reporter often does live report for radio of these events.

Guests are especially arranged during the hours (06:00 – 08:00, 11:00 – 13:00 and 16:00 – 18:00). These guests are all related to news items. Guests can come to the studio, called guest, or talk over the telephone, called telephone interview. The guest in the program 'Goeiemiddag' is always music-related and often an artist or band. Furthermore there are guests called EDNED, Overijssel Vandaag and Overuit. The first two are names of television programs of RTV Oost and the guest in the studio is an employee of RTV Oost talking about what will be discussed that day during the program. Overuit is an internet application about recreation opportunities in Overijssel. The employee coming from Overuit will talk about one of those recreation opportunities.

From 17:30 till 18:00 every day a theme is discussed during a so called rubric. These themes are: news & actualities, rural environment, sport, art & culture and economics. This rubric can have very different forms, like guests to the studio that discuss some topics or a reportage that is recorded and assembled somewhere during the week or a combination of those. This is determined by the presenter of the rubric and depends on the topics that will be discussed and which form is most appropriate.

Weekend

To get a clear picture of the output from the news detachment, It is good to understand the output of weekdays, because during the weekend the news detachment is producing far less and there are completely different processes working. In the weekend there is much more room for informative radio programs and sport. Some of the informative programs are made by volunteers. In the following table a short overview of the programs in the weekend are given.

Table 4: Weekend Radio programs

Time	Saturday	Time	Sunday
07:00 – 08:30	Klaarwakker	07:00 – 08:00	Religious music
08:30 – 10:00	Het ochtendhumeur	08:00 – 08:30	Hoogtij
10:00 – 13:00	Ziezo Zaterdag	08:30 – 10:00	Muziekpalet
13:00 – 16:00	Toppers van Toen, Treffers van Nu (TvT TvN)	10:00 – 13:00	Ziezo Zondag
16:00 – 18:00	Saturday sport	13:00 – 17:00	Overijssels glory
18:00 – 19:00	Even uitblazen	17:00 – 18:00	Sunday sport
19:00 – 20:00	Jetzt geht's los!	18:00 – 20:00	4 Rubrics of volunteers
20:00 – 23:00	De evening at Oost	20:00 – 23:00	De evening at Oost

During the weekend normally there is a presented radio broadcast from 7 p.m. till 8 a.m. Most of these programs are made by freelance employees, which get paid for several hours per presentation. RTV Oost does not have to prepare anything for those programs. The programs that have to be prepared are, TvT TvN, Even uitblazen, Hoogtij, Ziezo Zondag, Overijssels Glory for the informative detachment and Saturday and Sunday sport for the sport detachment. For these programs every presenter gets a few hours or days to prepare their program and are thus not scheduled for other tasks. This is about 1 day for TvT TvN, 2 days for Hoogtij, 1 day for Ziezo Zondag and Overijssels Glory is made by a music editor which does the preparation during his tasks as music editor. The other presenters are all program editors and can be scheduled for EDNED on the remaining days. Beside these preparation days an presentation hours, the editorial detachment has little to do with the informative programs in the weekend. Saturday Sport and Sunday sport is presented by employees of the sport detachment and will be discussed in a separate section, section 4.4.

4.1.3 Television

The main television programs that are currently made are 'Overijssel Vandaag' and 'En Dan Nog Even Dit' (EDNED). Overijssel Vandaag is a news and actualities program, oriented on the province Overijssel. This program belongs to the news detachment. EDNED is a talk show, about all kind of themes and also regional oriented. This talk show is produced by the informative detachment.

Overijssel Vandaag is presented in two versions, one of seven and one of seventeen minutes. The short version is presented by one presenter on 5 p.m. and repeated on 6 p.m. and 7 p.m. This version contains about four reportages or other video files, which has to be recorded and assembled by a reporter. Furthermore a weather reportage is presented and a live connection to

the studio of EDNED is made, in which it is shortly told what will be discussed during that program. The reportages last on average a little bit longer than one minute. The long version is presented by two presenters on 8 p.m. and repeated every hour until 8 a.m. the next day. The long version includes (a more extensive edition of) the news and weather reportages of the short version and some new topics. The long version contains on average six reportages or other video files, which have to be recorded and assembled by a reporter. Those reportages last on average two minutes. Half the times also a live connection is made with a reporter to discuss a topic. This is then often combined with a reportage. Moreover sometimes a guest comes to the studio where he or she will be interviewed by the presenters. At the end of all broadcasts the presenters look ahead to topics of tomorrow. In total about 10 or 11 messages are told.

EDNED is a talk show in which four guests and two presenters sit around a table talking about different topics. Three guests are invited because of a something they have experienced, achieved or another personal or professional story. One guest is a so called habitué and joins the conversation. The habitué often also has own topics that he or she likes to discuss. While talking about the different topics that the guests bring along, video files and images etc. are shown in order to make it more interesting to watch for the customers. EDNED is a live broadcast from 17:22 – 17:58.

Also other informative programs are produced. One of them is fixed: 'time for theatre'. Time for theatre is a weekly program of 18 minutes, presented on Thursday. Further programs are not fixed and are made when an good idea comes around. Currently there are several of those programs, but in the future these programs will mostly diminish, there will remain room for only one edition on the Saturday.

This will lead to the following programs for television:

Table 5: Continuing television programs

Program	Weekdays	Saturday	Sunday
Overijssel Vandaag	7 min 17 min	9 min	9 min
EDNED	36 min		
Time for Theatre			18 min
Other informative		18 min	
Sport (see section 4.4)		11 min 21 min	11 min 21 min

Furthermore RTV Oost is focusing more on live broadcasting of events that are interesting for a wide public in the province of Overijssel. These events are separately budgeted from the other output of the editorial department. For every event a budget is set for the needed resources to make television productions and commercial purposes and commercial revenues are determined. Events are broadcasted beside the other existing television programs and in place of scheduled repetitions of programs.

4.2 Currently used staff of the news and informative detachment

4.2.1 Staff of the news detachment

The main functions at the news detachment of the editorial department are: desk editor, reporter, bulletin editor, end editor, radio presenter and TV presenter. These are all elaborated below

Desk editor

A desk editor can have eight different shifts between which they rotate. These are mentioned below and summarized in table [6]:

- Morning shift (06:00 – 14:30): In this shift the desk editor supports the first radio program 'klaarwakker', reeds the messages in the reading list[5] and writes website messages for the important topics until the end editor and newsdesk 2 arrive, arranges a guest for 12:45 that will talk about the thesis of that day and if time is left helps the newsdesk 2 writing website messages.
    - If B1 is missing, the desk editor also focuses on the short edition of Overijssel Vandaag.
- Newsdesk 1 (08:30 – 17:00): Supports the radio programs 'Overijssels Hart' and 'Afslag Oost', if necessary arranges guests and introduction texts for the presenter of these programs. Helps newsdesk 2 writing website messages and makes productions[6] for news items of today.
- Newsdesk 2 (09:00 – 17:30): Writes messages for the website, decides which messages are most appropriate for the regional news bulletins and arranges a quote for the regional news bulletins of 13:00 and 17:00. Takes over the reading list if end editor is too busy.
- Newsdesk 3 (09:00 – 17:30): Makes productions, ordered by the end editor, for the next day. This happens sometimes in cooperation with a reporter.
- Newsdesk 4 (09:00 – 17:30): Makes productions, ordered by the end editor, for the long-term. Also this happens sometimes in cooperation with a reporter.
    - Sometimes an extra Newsdesk 4 is scheduled.
- Production 1 (09:00 – 17:30): Takes care of organisation around the short edition of Overijssel Vandaag. This shift is only scheduled about 25% of the time.
- Production 3 (12:00 – 20:30): Takes care of organisation around the long edition of Overijssel Vandaag.
- Evening shift (16:30 – 01:00): Supports the radio program 'klaarwakker': if necessary arrange guests and introduction texts for the presenter of this program. Prepares the thesis of the next day. Reed the messages in the reading list and write website messages for the important topics in the evening, when the end editors and newsdesk 2 have no time or are absent.

[5] The reading list is a database in which all kinds of news subjects are automatically collected. From this list most news messages and further productions are made.

[6] Productions are the organisation of report items. This includes making phone calls to potential interviewees, arrange the time and location where a reporter should be, think about the way things should be recorded etc.

Table 6: Desk editor shifts and associated abbreviations and scheduled times

Shift	Abbreviation	Time
Morning shift	MS	06:00 – 14:30
Newsdesk 1	ND1	08:30 – 17:00
Newsdesk 2	ND2	09:00 – 17:30
Newsdesk 3	ND3	09:00 – 17:30
Newsdesk 4	ND4	09:00 – 17:30
Production 1	P1	09:00 – 17:30
Production 3	P3	12:00 – 20:30
Evening shift	ES	16:30 – 01:00

Reporter

A reporter is scheduled as audio oriented or video oriented. Most of them are capable of reporting and assembling audio as well as video files, which creates flexibility. Reporters operate mostly from Hengelo and Zwolle. This is useful because of logistics reasons. It is therefore tried to put reporters at studio Zwolle on news items in the Head of Overijssel and reporters at Hengelo on news items in Twenthe and Salland. The studio in Deventer is hardly used. The shifts between which reporters rotate are mention below and summarized in table [7]:

- Roaming reporter (09:00 – 17:30): Makes productions for own reports if it is not already made by a desk editor. The thesis of the day is always made by the evening shift of the previous evening. Does live radio report at 7.45 with the thesis of that day, and at 11:45, 12:15, 13:45 and 14:45 he does live report of small events or people with an interesting story.
- Audio reporter (09:00 – 17:30): Makes productions for own reports if it is not already made by a desk editor. Does live report or makes audio reportages for news items that require some enlargement or deepening and also on more topical stories[7]. The reporter makes reports and afterwards writes or adjusts website messages and adds the audio file to it.
    - Every day two till four regular audio reporters are scheduled.
- Evening audio reporter (15:00 – 23:30): Does the same as a general audio reporter, but only starts later so news facts happening later that day can also be reported. Thereby this reporter records and assembles audio items for the radio program 'Klaarwakker' of the next morning.
- Video reporter (09:30 – 18:00): Makes productions for own reports if it is not already made by a desk editor. Does live report and/or makes video reportages for news messages that require some enlargement, deepening or a just visual support. For the purpose of video files for the television program 'Overijssel Vandaag' reporters should focus on making topical stories. These topical story reports generally require more time. After making a report the reporter writes or adjusts website messages about the topic and adds the video file to it.

[7] A topical story does not focus on facts happened today, but on something that's happening lately, on topics that surprises people and grabs their attention. For example, if a couple of times a news message came around that someone has been beaten, a topical story could be brutalisation of the society.

- Video reporters are scheduled on location, some work from Zwolle, others from Hengelo. Every day two till four reporters work from Hengelo and two till five from Zwolle. In total every day five till eight general video reporters are working for RTV Oost.

- Evening video reporter (12:30 – 21:00): Does the same as a general video reporter, but only starts later so news facts happening later that day can also be reported.

Table 7: Reporter shifts and associated abbreviations and scheduled times

Shift	Abbreviation	Time
Roaming reporter	RR	09:00 – 17:30
Audio reporter	AR	09:00 – 17:30
Evening audio reporter	EAR	15:00 – 23:30
Video reporter	VR	09:30 – 18:00
Evening video reporter	EVR	12:30 – 21:00

Bulletin editor

A bulletin editor prepares and presents the messages on the fixed times for regional news bulletins. . He or she composes the regional news bulletins for radio from the website messages and rewrites these messages to an adequate form for a regional news bulletin. Bulletin editors alternated in two shifts a day, but during this study a three shift schedule is introduced as experiment. A day with two shifts has the following times: 09:00 – 17:00 and 17:30 – 22:00. A day with three shifts has the following times: 09:00 – 13:30, 13:30 – 17:30 and 17:30 – 22:00.

Radio presenter

A radio presenter presents and prepares daily a radio program. During the program he also performs the technical operations, necessary to realize a radio broadcast, such as switching between music and a live connection. Furthermore he makes productions for parts of his program and makes suggestions for the content of his/her program. The following three programs are covered by the news detachment of the editorial department:

- 'Klaarwakker' (06:00 – 08:30): This presenter is scheduled from 05:00 till 09:50.
- 'Overijssels Hart' (11:00 – 13:00): This presenter is scheduled from 08:00 till 13:00.
- 'Afslag Oost' (16:00 – 17:30): This presenter is scheduled from 11:15 till 19:00.
- Rubric (17:30 – 18:00): The rubric themes made by the news detachment are news & actualities, rural environment and economics. The presenters working on one of these rubrics get several hours or days to spend on the program. This amount differs from half a day till a couple of days and depends on the kind of program.

Television presenter

A television presenter prepares and presents almost daily the short and/or long version of 'Overijssel Vandaag'. He or she writes or adjusts news messages and composes them into an adequate form for the television program and may produce parts of 'Overijssel Vandaag'. There are three shifts for television presenters, one for the short version of Overijssel Vandaag and two for the long version. The presenter scheduled for the short version is regularly also scheduled

for one of the two shifts for the long version. The shift for the short version is from 12:30 till 17:30 and the shifts for the long version are from 17:30 till 21:00.

End editor

The end editor is the operational manager of the news detachment. He reads the reading list and determines (in consultation with the departmental chefs) the subject choices for the website, radio and television and sets out productions. He allocates tasks and monitors the progress of productions and the contents of the site, radio reports and the television program 'Overijssel Vandaag'. And he evaluates and gives feedback to the news detachment staff. Every day there are two shifts for an end editor, an early one from 08:30 till 17:00 and the late one other from 12:00 till 20:30. At Tuesday, Wednesday and every other week on Friday there is an extra morning shift.

Daily occupation

In the following figure, figure 5, the average daily occupation of desk editors, reporters, bulletin editors and end editors for weekdays is graphically displayed in numbers at a certain time. As one can see, the news detachment is occupied from 06:00 till 01:00 the next morning.

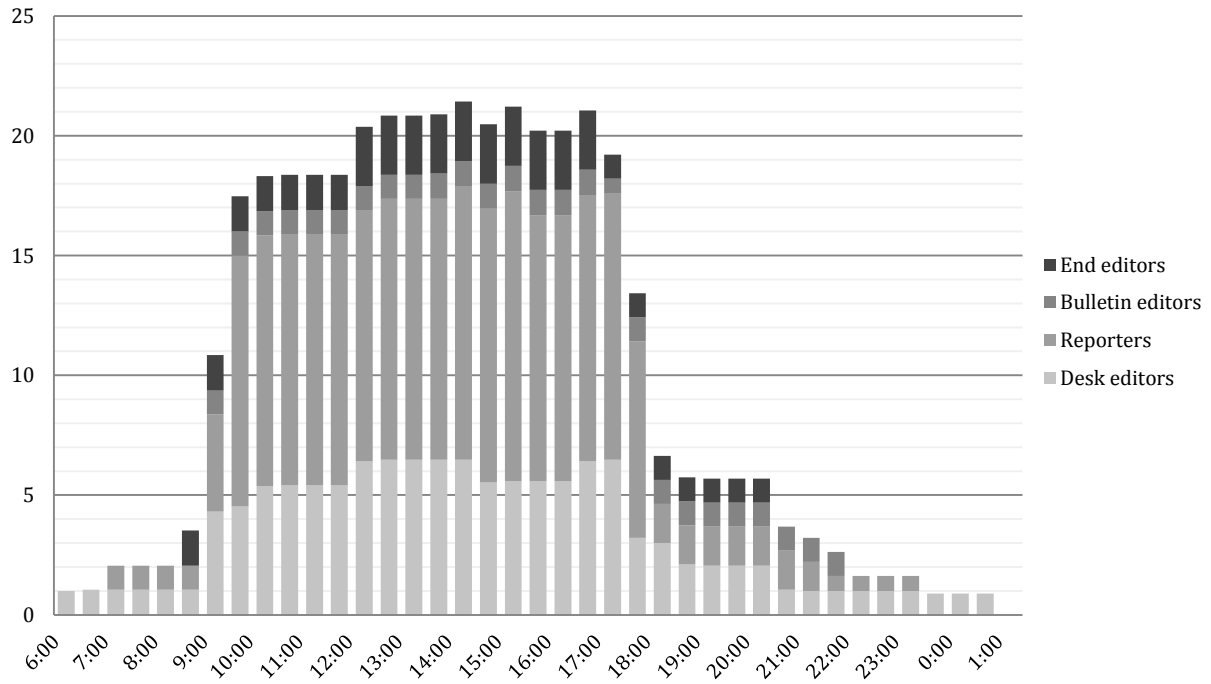


Figure 5: Daily occupation of the news detachment

4.2.2 Staff of the informative detachment

The main functions at the informative detachment of the editorial department are television presenter, desk editor, end editor, program maker, radio presenter and music editor.

Presenter

There are daily two presenters working for EDNED, from 09:30 till 18:00. They present the live broadcast and an EDNED promotion on radio during the program 'Goeiemorgen Overijssel' and on television during the news program 'Overijssel vandaag'. Their main preparation tasks are

reading the information about the guests, watching the video's and images, write texts for autocue and prepare questions for each guest.

Desk editor

A desk editor of the informative detachment can have three different shifts between which they rotate. These are mentioned below:

- Image editor (08:30 – 18:00): Every day one image editor is working for EDNED. Till 11:00 the image editor works on the script of the broadcast of that day. Then the meeting with the EDNED crew begins till about 12:00. After taking a break all the video files and images have to be loaded and together with video editor the program is assembled. During the rehearsal and broadcast the image editor is the assistant of the producer.
- Production editor (08:30 – 17:00): Every day one production editor is working for EDNED. In this shift a desk editor is responsible for arranging guests if there are not jet four guests arranged. Furthermore he or she must collect additional information and visual material if needed. Also the production editor is present at the meeting of eleven o'clock. If the broadcasting of that day is very good prepared, the production editor support the other editors.
- Guest editor (08:30 – 17:00): Every day one or two production editors are working for EDNED. They are arranging new guests with an interesting story for coming broadcasts. Schedule those guests and collect information and visual material about them and their story.

End editor

The end editor is the operational manager of the program EDNED. He or she makes decisions for guests and content of the broadcast. The end editor also consults with the end editors of the news department in order to collect actual topics and ideas for EDNED.

Program maker

A program maker focuses on own programs if they have one, this could be radio programs or television programs. Otherwise they are scheduled as a desk editor for EDNED or the news detachment. Producing a program includes making preparations of a program, recording video material, and assembling it. An television episode of 18 minutes requires on average a 40 hours of a program maker, one day a camera man and one day an assembling editor.

Radio presenter

A radio presenter presents and prepares daily a radio program. During the program he or she also performs technical operations, necessary to realize a radio broadcast, such as switching between music and a live connection. Furthermore he or she arranges guests for his or her program and makes suggestions for the content of the program. During weekdays, the following programs are covered by the informative detachment of the editorial department:

- 'Goeie morgen Overijssel' (08:30 – 11:00): the presenter of this program is paid 22 hours a week because she is a freelance employee, she is paid a fixed amount of hours for her program.

- ‘Goeide middag Overijssel’ (13:00 – 16:00): the presenter of this program is scheduled from 12:30 till 16:30.

Music editor

A music editor composes the music playlist and is often also a radio presenter or program maker.

4.3 The processes of the news and informative detachment

The process of a broadcast operation can be explained trough a number of phases in which a specific value is created (Rutten, 2006). These phases are called: creation, production, edition, distribution and consumption. The creation phase includes the collection of ideas and the elaboration of those. In the production phase these ideas are realized. The edition phase ensures the product is ready for distribution, here the total picture is examined and some final adjustments are made. Distribution, obviously, is the distribution of the product through the internet, radio or television. And consumption is a customer reading, hearing or seeing the news. Because of the digitization, however, these phases are extensively changed (Rutten, 2006) and therefore it has become very difficult or even impossible to structure the processes in the media industry around these value stages. The digitization has had an enormous impact on the media industry, which among other things may cause business processes to become ineffective, inefficient and/or less transparent.

In this paragraph in is tried to give a clear representation of the current broadcasting process of RTV Oost. These practices are described by first giving a macro description of the processes at the news detachment and then describe in more detail the sub processes. The macro process look like the creation phase and the sub processes describe more in detail the production, edition and distribution phase. After the description of the news detachment, a process description of producing informative programs is given.

4.3.1 News editing

The broadcasting process begins with the collection of news. Of course it is expected of all employees from the news detachment that they are aware of the daily news and current affairs, but most news topics are gathered trough an automatic system called Newsroom, into a database called the Reading List. In this Reading List, news from all kind of sources is displayed. Normally the end editor reads the messages in this Reading List and determines which ones need to be used for website messages and which ones also need to be added to the regional news bulletin on radio. Furthermore the end editor decides which messages need some additional information or (live) reports for radio or television. Moreover the end editor thinks about current affairs that could form a base for a topical story. After deciding what he wants with a news message from the reading list, he allocates tasks to the desk editors, reporters, bulletin editors and radio and TV presenters.

The news messages from the reading list could also be a message of something not happening today, but somewhere in the future. In this case the end editor could decide to put the item in the agenda in Newsroom. At the beginning of the day therefore, besides handling the reading list, the

end editor also reads the agenda, makes subject choices and allocates tasks to the appropriate editorial staff.

Furthermore some news needs to be addressed again sometime in the future, for example a conflagration. At the time the conflagration takes place, it is big news. However, after a few weeks one want's to know how the conflagration could happen. By calling the organisation investigating the fire sometimes in the future one can succeed in knowing the cause of the fire at first and thus bringing the news first, which is very important in the broadcasting industry. Therefore for such news a reminder is put in the newsroom system by the ND2. These reminders also need to be read and allocated to someone.

> The above process of news collection was the general one. However, it is often the case that an end editor does not have the time to keep up the reading list. In these cases the Newsdesk 2 is in charge of the reading list and decides in consultation with the end editor which messages to use for internet, radio and television and whom to allocate a specific task. As can be seen from the daily occupation graphic is there only an end editor available from 8:30 till 20:30. Before and after these times the morning and evening desk editor is in charge of the reading list. They need to make choices and write website messages for the interesting subjects. They are not really charged with the allocation of tasks to other editorial staff because the (roaming) reporter available in the morning has already been allocated to the thesis of that day and the evening reporter has generally already been assigned to tasks by the late end editor of that day. Other staff arrive at the time an end editor is already available. Besides the desk editors, reporters that are not already assigned to jobs, often look in the reading list to come up with own topics. In consultation with the end editors, they are allowed to make a report about a topic. Messages in the reading list read by others, not charged with the reading list, such as reporters, will remain marked as unread.

This process of collecting news, making subject choices and allocate tasks to the appropriate employees is displayed in figure 6. As can be seen in this figure there are several ways a news items can be produced and distributed to the customer. These are divided into website (and derivative applications) messages, radio bulletins, additional radio items, television items and production for tomorrow or longer-term. These five ways of production and distribution of news are described in more depth below.

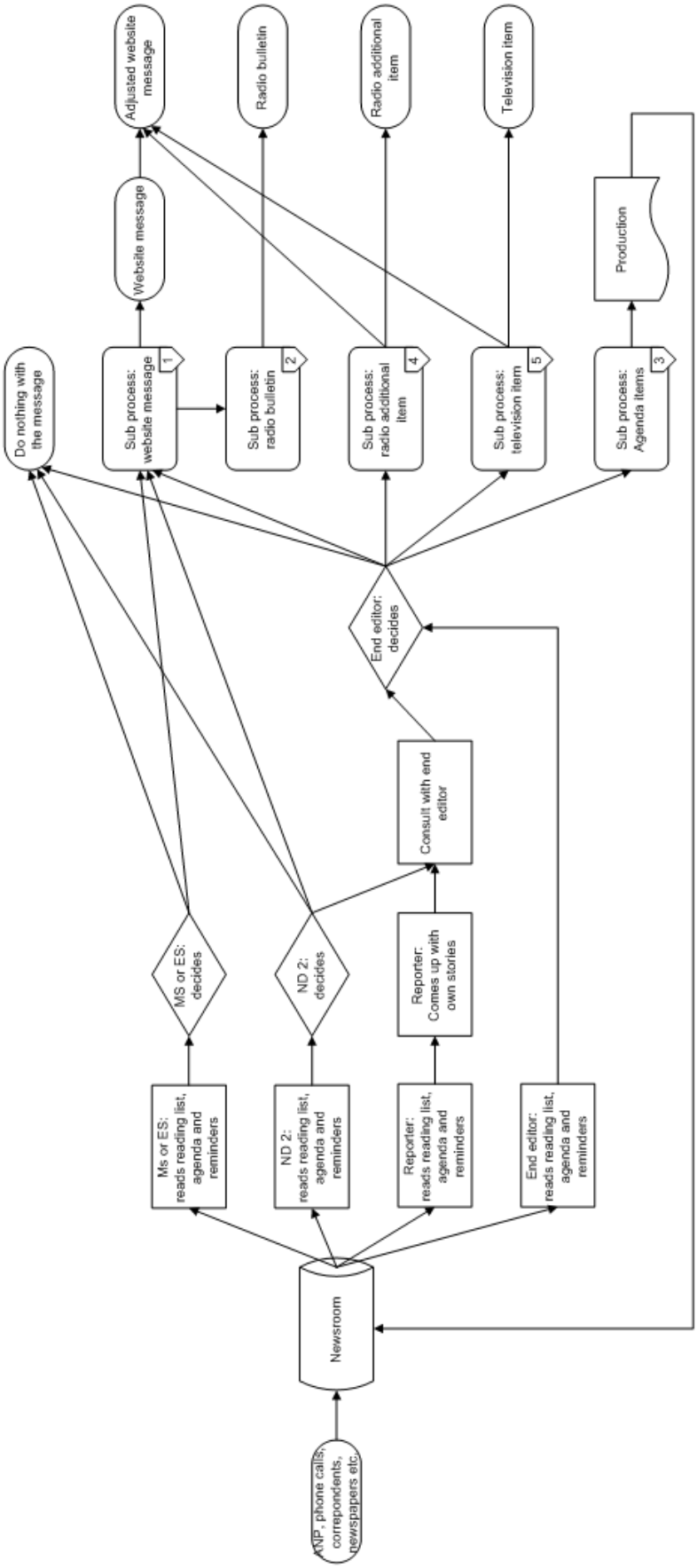


Figure 6: Flowchart news editing

Sub process: website messages

The first step in producing and distributing a website (and derivative applications) message is verifying the news message, allocated by the end editor, on reliability. This is done by the ND2 and before 09:00 or after 17:30 by the morning shift or evening shift. If the desk editor thinks the news is reliable, he or she writes a website message in newsroom. If desired, the ND2 searches for images, video and/or audio material and adds it to the message. Sometimes files are already enclosed to the news message in the reading list. In this case the ND2 always adds the files of which he/she thinks it has an added value, which will be almost always the case. If a teletext message is also desired, the ND2 rewrites the website message for teletext, which is also done in newsroom. In the end the ND2 places the message(s) online. This process is displayed in figure 7. Every day about 24 messages are written. If other desk editors or reporters have time left while the ND2 is very busy, they help in writing website messages.

Sub process: radio bulletins

The bulletin editor rewrites the website messages from which the end editor decides it has to be added to the regional news bulletin. Then the bulletin editor composes the bulletin again and presents it on the appropriate hours. A regional news bulletin is presented live every hour from 9:00 till 17:30 and from 17:30 till 22:00 they are presented semi live. During news hours (06:00 – 09:00, 11:00 – 14:00 and 16:00 – 19:00), every half hour a regional news bulletin is presented. At the hours 12:00 and 17:00 a quote is added to the bulletin. Which message this quote must support is decided by the ND2 and end editor. The ND2 arranges the quote, mostly by calling a person from a studio and recording the phone call, but other possibilities are existing audio and video files. From the recorded conversation or existing audio or video files a quote is cut and added to the right bulletin item. The bulletin editor checks the quote and adjusts the bulletin text to it. Most bulletins last about one or two minutes. See for the bulletin process also figure 7.

Sub process: production for tomorrow and longer-term

News messages from the reading list can also be messages of something not happening today, but somewhere in the future. Some of these news facts are put into the agenda and productions for these items are made. Currently these news items are divided into productions for tomorrow or the day after and productions for longer-term. Another kind of agenda item is a topical story. These stories generally take more time for investigation and are often separated from the general process at the news detachment. The ND3 makes productions for tomorrow or the day after and the ND4 makes productions for the longer-term. Sometimes these production are made in cooperation with a reporter. But because of different shifts and the fact that not everyone is working full-time it is almost impossible to work together with the reporter also recording and assembling the report in the future. So the situation is often that the reporter working on the production is not the reporter executing it. Tasks regarding productions include arranging interviewees location, time, background information etc. This can sometimes take a day and other times take several weeks. For example if information from the governance is needed it can take long before response is given and even longer until the appropriate information is provided. The process of making agenda productions again displayed in figure 7.

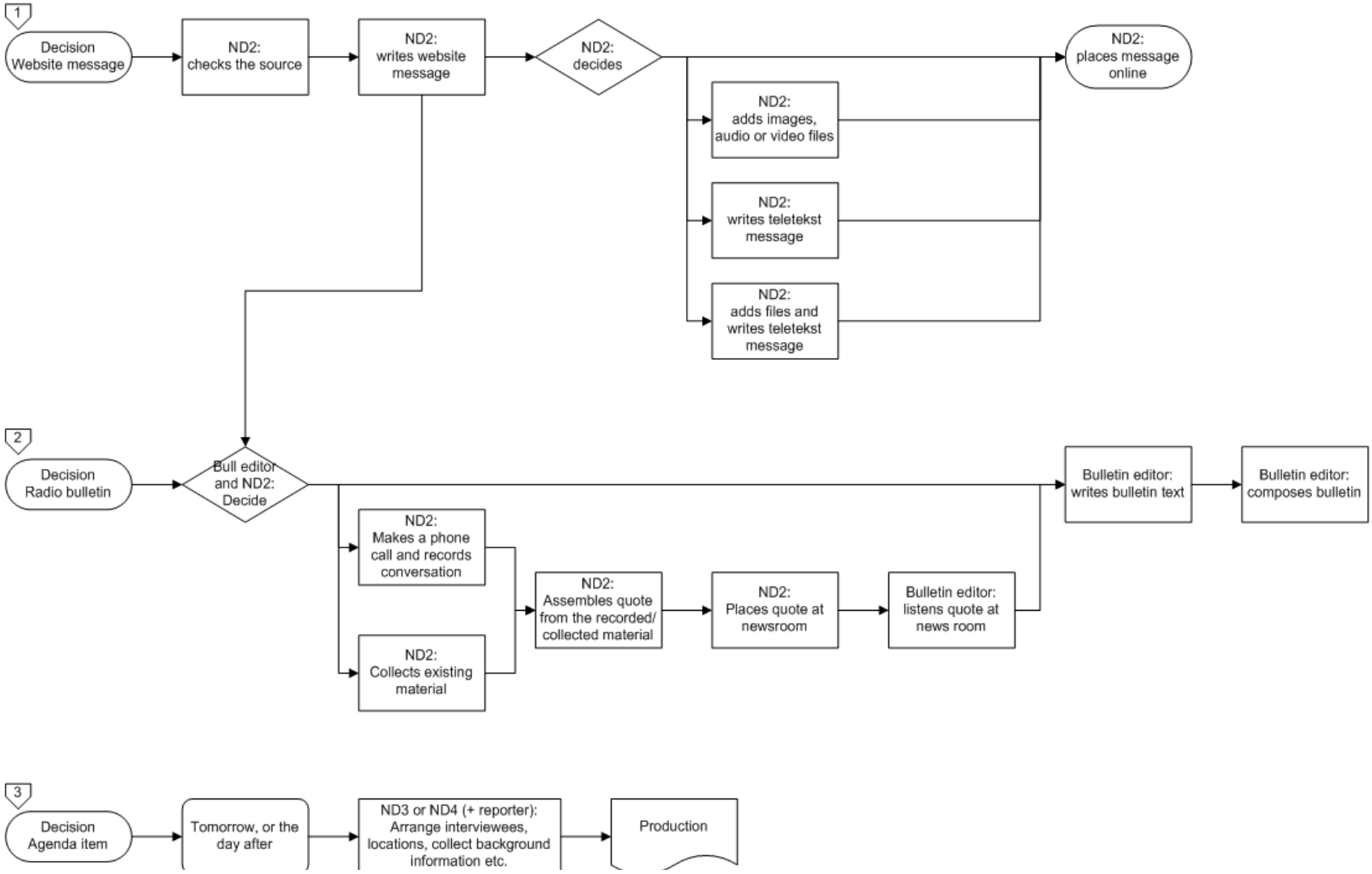


Figure 7: Flowchart sub processes: website message, radio bulletin and production

Sub process: additional radio items

An additional radio item can be presented in the form of a speaker over telephone, a guest in the studio, a live report, a reportage, or a combination of those. Which form to use is determined by the end editor whether or not in consultation with the presenter of the program, a reporter or desk editor. In table 3 in section 4.1.2 one can see approximately how often and on which times a live report or reportage is made, or a telephone speaker or guest is arranged every day. The four forms of bringing an additional item on radio will be separately elaborated below. The sub process additional radio items is displayed in figure 8.

First a reportage. This can be made through two main processes. One the reporter can assemble an audio reportage from recorded video material and writes an introduction text for the radio presenter. The ND1 or morning shift checks the reportage and intro text. If the reporter hasn't written an introduction text the desk editor does this. The reportage is placed on the right database system by the desk editor. The radio presenter reads the introduction text and switches to the reportage. In the second way, the reporter can record audio material by himself and then assemble it into an audio reportage. In this case, a production must be made. Unless it is already prepared by the ND 3 or ND4, the production is mostly made by the reporter self. If it is prepared already, the reporter must deepen himself into the subject and production terms. After making a production or deepening, the reporter drives to the location(s), records audio material, makes pictures and drives back to the studio, where he/she will assemble the material intro a reportage. Then the reporter writes an introduction text for the radio presenter. The ND1 or morning shift checks the reportage and intro text. If the reporter hasn't written an introduction text the desk editor does this. The reportage is placed on the right database system by a desk editor. The radio presenter reads the introduction text and switches to the reportage. In either reportage processes, the reporter (re)writes a website message and adds the reportage and images.

Second a live report. Unless it is already prepared by the ND 3 or ND4, the production is mostly made by the reporter self. As mentioned before, productions are documented preparations around the report, including arranging location, time, interviewees, background information for the reporter etc. and for a live report this also includes an intro text and questions for the presenter. If it is prepared already, the reporter must deepen himself into the subject and production terms. After making a production or deepening, the reporter drives to the location. At the location, the reporter, sometimes together with a technician, makes preparations for the live connection. The ND1 or morning shift takes care of the live connection and informs the presenter. The presenter reads the intro text and switches to the live connection with the reporter. Also this live connection can be recorded and afterwards added to a (existing) website messages or used for quotes.

Third the guest. Unless it is already prepared in previous days, the ND1 or morning shift takes preparation regarding the guest. These preparations include arranging a guest and discuss with him the time and the topic of the conversation with the presenter and write introduction text and questions for the presenter. The presenter prepares himself to the conversation. At the time the guest arrives the ND1 or morning shift welcomes the guest and guides him or her to the

studio. The guest will have his/her own microphone in which he/she can speak over the radio. The presenter can switch from music to the microphones and start the conversation. These conversations can be recorded and afterwards added to a (existing) website messages or used for quotes.

Fourth a speaker over telephone. Unless it is already prepared in previous days, the ND1 or morning shift takes preparation regarding a telephone speaker. These preparations include arranging a speaker and discuss with him the time and the topic of the conversation with the presenter and write introduction text and questions for the presenter. The presenter prepares himself to the conversation. At the confirmed time that the item will be broad to the customer, the responsible desk editor arranges the telephone connection. For the program 'Klaarwakker' this is the morning shift, for the programs 'Overijssels Hart' and ' Afslag Oost' this is the ND1. At the time the connection is made, the presenter switches from music to the telephone and starts the conversation. These conversations can be recorded and afterwards added to a (existing) website message or used for quotes.

Sub process: television items

An additional radio item can be in the form of a message told by the presenter, a guest in the studio, a live report and a reportage. Which form to use, is determined by the end editor whether or not in consultation with the television presenter, a reporter or desk editor. The processes prior to broadcasting the four forms of a television item will be separately elaborated below. After this, the jobs during the recording of 'Overijssel Vandaag' will be described. The sub process television items is displayed in figure 9.

First a reportage. Unless it is already prepared by the ND 3 or ND4, the production is mostly made by the reporter self. If it is prepared already, the reporter must deepen himself into the subject and production terms. After making a production or deepening, the reporter drives to the location(s), records video material, makes pictures and drives back to the studio, where he/she will assemble the material into a reportage. Then the reporter writes an introduction text for the television presenter. The B3 checks the reportage and intro text. If the reporter hasn't written an introduction text the B3 does this. Then the reportage is placed on the right database system by the reporter or B3. The reporter also (re)writes a website message and adds the reportage and images. Dependent on the time the reportage is ready, this happens after the reportage is ready, or after the reportage is approved and placed in the database for 'Overijssel Vandaag'.

Second a live report. Unless it is already prepared by the ND 3 or ND4, the production is mostly made by the reporter self. As mentioned before, productions are documented preparations around the report, including arranging location, time, interviewees, background information for the reporter etc. and for a live report this also includes an intro text and questions for the presenter. If it is prepared already, the reporter must deepen himself into the subject and production terms. After making a production, the reporter drives to the location. At the location, the reporter together with a cameraman/technician makes preparations for the live connection. In the meantime, the presenter rewrites the introduction text and questions and adds the right

introduction text to autocue. Previous to the broadcast, a live connection to RTV Oost is made and it is easily to switch that live connection into the studio.

Third a guest in the studio. Unless it is already prepared in previous days by the ND 3 or ND4, the B3 takes preparations regarding the guest. These preparations include arranging a guest and discuss with him the time and the topic of the broadcast and write introduction text and questions for the presenter. The presenter rewrites the introduction text and questions and adds the right introduction text to autocue. The B3 also collects images or video files that support the message and places it in the right database. At the time the guest arrives B3 welcomes the guest and guides him or her to the studio.

Fourth a message told by the presenter. Such messages stem from the website and are rewritten by the presenter. The presenter adds the right text to autocue[8]. In the meantime, the B3 collects images or video files that support the message and places it in the right database.

The recording of 'Overijssel Vandaag' requires: Two presenters, a producer, a producer assistant (which will be the end editor), a switch technician, a sound technician, a display technician, four camera man and a flour manager.

[8] Autocue is a display inside the studio from which presenters can read their presentation text.

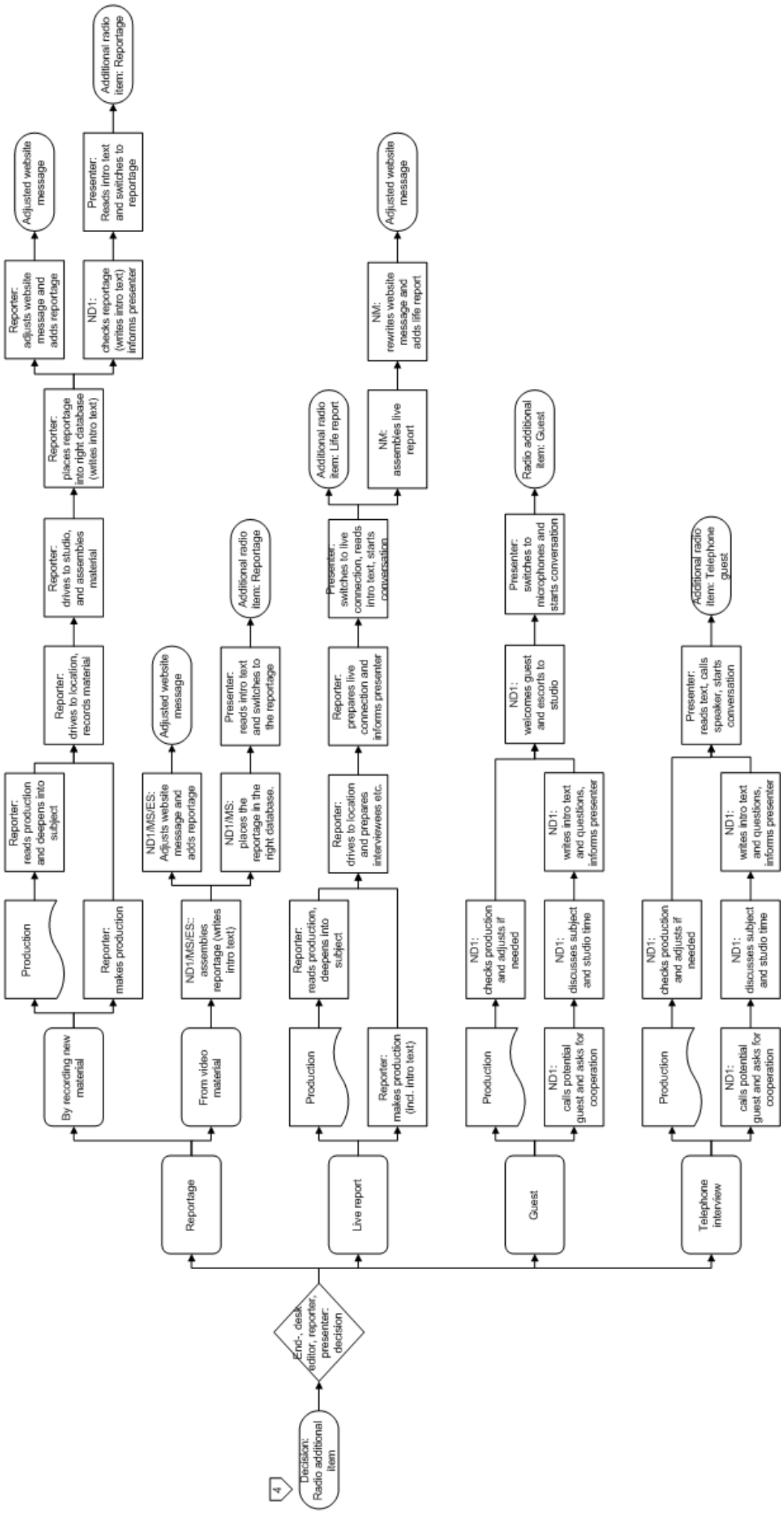


Figure 8: Flowchart sub process additional radio item

Figure 9: Flowchart sub process additional television item

4.3.2 Editing of informative programs

The informative detachment produces one main permanent program called 'En dan nog even dit' (EDNED), which lasts about 35 minutes. Besides some other programs of 18 minutes are produced. In the future there will be room for one permanent program on Sunday called Time for theatre and one temporarily program on the Saturday. This temporarily program can be made by program editors of RTV Oost but can also be outsourced. As mentioned before, an episode of 18 minutes for a temporarily program requires on average a full time program maker, one a day a camera man and one day an assembling editor. The full time program editor of Time for theatre produces also this program for radio. How these programs are produced is variable for every kind of program and a process description does not add value. The actions taken for the program 'En dan nog even dit' are described below.

The program 'En dan nog even dit'

The program 'En dan nog even dit' (EDNED) exists of a crew of six to seven employees. Currently for every broadcast four guests are arranged, of which one is a habitué that is scheduled a couple of times during a month. This guest has some own topics which he or she likes to discuss and further talks about the topics that other guests bring along. For every day, thus three guests need to be arranged. Along with these guests background information, video files, images etc. must be gathered. All this information is then on the day of the broadcast assembled into a program. The process of the EDNED program is displayed in figure 10. Below each step in this process is elaborated.

The process begins with information from the environment. This can be a reading list in newsroom, newspapers, information heard on birthday parties and so on. End editors and guest editors search for information in the environment and think about possible topics and guests for EDNED. An end editor decides whether a guest and topic is appropriate or not. Therefore if a guest editors thinks she has a good idea, she must consult with the end editor first. If a guest and topic is appropriate the guest editor calls the potential guest. During this phone call the guest editor tries to find out what the story of the person exactly is and whether the person is appropriate or not. If not, the guest editor consults with the end editor whether they should proceed with the potential guest. If the guest editor does have a good feeling about the potential guest and topic, or the end editor decides after consultation that they should proceed with the potential guest, an appointment is made. Then the guest editor searches for background information. During the appointment the guest editor does preparing conversations with the guest and again tries to find out whether the guest is appropriate or not and asks for additional information, images and video's. After the conversation the same decision whether the person is appropriate takes place. If the guest still seems to be appropriate, the guest is scheduled in outlook. The guest editor collects all information, video's, images etc. and places these into a production. This production is placed in the EDNED database in outlook. From this database the presenters, image editor, production editor and end editor pull out the productions made for that day. The presenter read the information about guests and prepared for the radio promotion of EDNED in 'Goeiemorgen Overijssel'. The image editor reads the productions and produces the script of that evening. The production editor looks into the productions and thinks about missing things. The end editor reads the productions and thinks about how the show should look

like. At eleven O'clock the meeting of the EDNED crew takes place. During this meeting the script is discussed and tasks are divided. After the meeting the presenters read all information an watch video and images. Then they rewrite the texts for autocue and go to the beautician. The image editor loads all material into the right database and then works together with the video editor. First they make a short EDNED 'conversation' of the previous broadcast and then they assemble the broadcast of the day. The production editor arranges a guest or collects additional material if needed. Otherwise she supports the guest editors. At four O'clock the rehearsal takes place. During the rehearsal the whole broadcast is tested. Afterwards everybody works on last adjustments. The presenters make a promotions of the broadcast in the news program Overijssel Vandaag around five O'clock. At 17:20 the live broadcast of EDNED begins. During the rehearsal and live broadcast a producer, a producer assistant (which is the image editor), a switch technician (which is the video editor), four cameramen, an image technician, a sound technician, a light technician, a floor manager and two presenters are present.

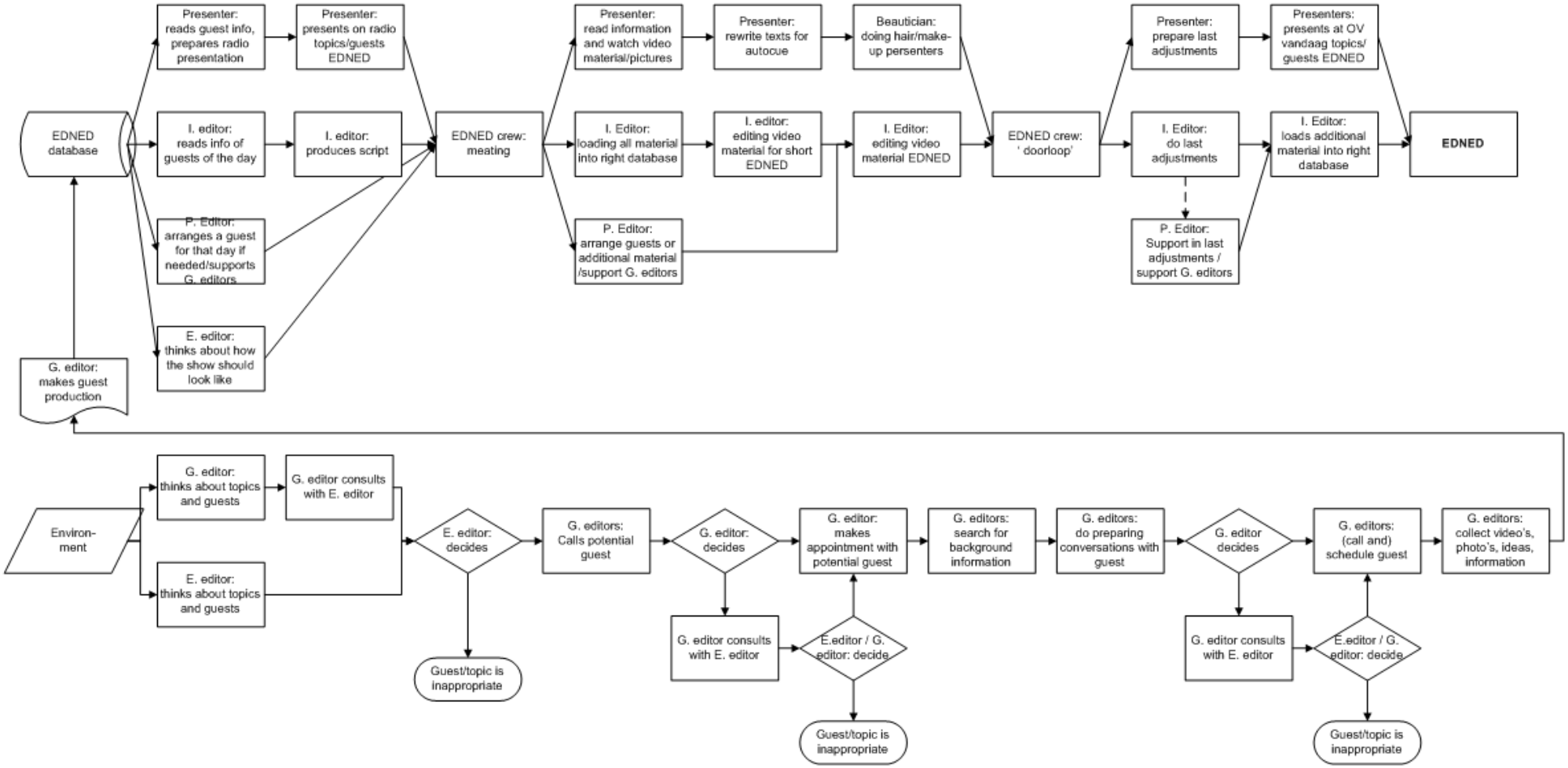


Figure 10: Flowchart EDNED

4.4 The sport detachment

Just a for the news and informative detachments, for the sport detachment first the output is described, then the input and finally the processes are elaborated and displayed in a flowchart.

4.4.1 Output sport

Below the sport output is described by the three main distribution channels of RTV Oost: internet, radio and television. The radio and television reports of sport are however less segregated than those for news. The reason for this will become more clear in the process description of the sport department in section 1.4.3.

Internet

The sport detachment produces on average eight messages during weekdays and sixteen during the weekend (Saturday and Sunday). This amount lies between one and seventeen during weekdays and seven and twenty-six during the weekend. This difference between the weekend and weekdays is quite logical, because most sport event take place in the weekend. All those internet messages are almost always also placed on teletext. If reporters have made video or audio material these reports are placed along with the message on the internet. The distribution of amount of internet messages wrote during a day is displayed in figure 11. One can see that the amount of messages wrote during weekdays concentrate around the 5 till 10 messages a day. The amount of messages wrote during the weekend is higher and the variation in this amount is much bigger.

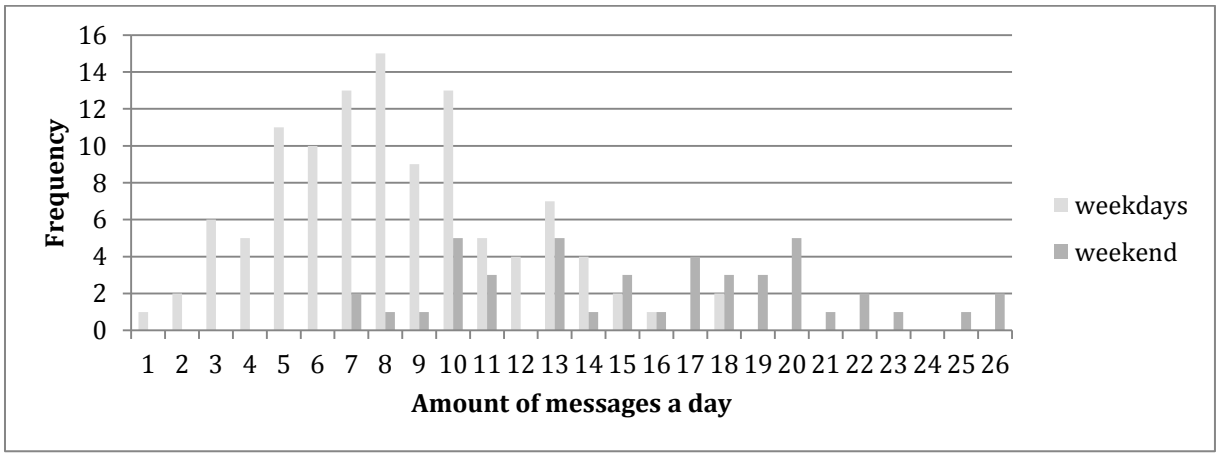


Figure 11: Distribution of the amount of written sport news messages for internet

Besides putting messages on the internet and teletext, the website and teletext pages are used to bring competition results of soccer, for professional but also of all non-professional games. Moreover competition ranks of all other sports are given.

Radio

The sport detachment is responsible for three radio programs, the sport rubric on Wednesday called 'Binnenkant Paal', and the programs 'Saturday sport' and 'Sunday sport'. The programs last respectively 30 minutes, 120 minutes and 60 minutes. During the program on Wednesday the presenter discusses several sport subjects with two panel guests. During the programs on Saturday and Sunday some reporters do report about mostly a regional soccer game, but also sometimes other sports come along. On average about six reports (live or recorded) are made

for radio every week. This can be seen in table 8, under R live and R & TV. R live means a live report for radio. R & TV means a reporter does live report for Radio and a cameraman reports the game also, afterward from these video files a summary is assembled. Another form of R & TV could be live report for radio and recorded interviews after the game for television. Besides the reportages some phone calls are arranged with guests and game results are presented by the presenter. In the meantime the presenter plays music.

If a live radio report is made during weekdays after 18.00 and on Saturday and Sunday after 20:00 an extra presenter must be scheduled to switch between music and live connections. During the observation weeks, week 1 till 14, 29 times an extra radio presentation was required. This radio presentation must last about two hours. Which means that every week about 4 hours a week (29/14*2=4,14) an extra presenter must be scheduled. The amount of live radio presentation outside the regular presented radio hours was among other so high because of the Europe cup games of FC Twente and the Dutch Cup final of Heracles.

Television

The sport detachment is responsible for four television programs, a short and long version of sport on Saturday and a short and long version of sport on Sunday. The short versions of both programs last about 11 minutes and the long version about 22 minutes. For the short version mostly two reports are made and in the long version mostly four reports are presented. Some on those reports are delivered by other regional public broadcasters in The Netherlands. On average about seven television reports (live or recorded) are used for the sport programs on Saturday. The programs on Sunday contain some new reports and often some shortened reports of the Saturday broadcast. Not all reports are recorded by RTV Oost, sometimes video files are delivered by other regional public broadcasters. In this case an assembling editor assembles a summary from those files, and a reporter/presenter from sport does a voice over.

In table 8 the amount of reports for radio and television made in de first 14 weeks of 2012 are presented and categorized to the type of report. Two categories require some explanation. An R & TV reportage means and live radio report and a summary of the game for television or some interviews after the game for television. These interviews or summary are made by the same reporter that gave the life radio report. Delivered material means video files delivered by other regional public broadcasters which RTV Oost may use. This material must be assembled into a summary and a voice over of a reporter/presenter from RTV Oost is required. The amount of reporters needed for an item is mostly one. Only a live TV reportage requires two reporters. This live TV reportage is often a live soccer game. The amount of hours an reporter needs per item is based on travel time, duration of a game, preparation time, time after the game for interviews or the like and assembling time.

Table 8: Amount of and time spend on sport reports

	TV reportage	TV interview	TV live reportage	R Live reportage	R & TV reportage	Delivered material	Total
Total	39,0	5,0	14,0	39,0	65,0	5,0	167,0
AVG p.w.	2,8	0,4	1,0	2,8	4,6	0,4	11,9

# reporters	1,0	1,0	2,0	1,0	1,0	1,0	
# hour p. reporter	5,2	3,7	5,6	6,3	7,5	2,0	
# hour p. item:	5,2	3,7	11,2	6,3	7,5	2,0	
AVG # hour p.w.	14,4	1,3	11,2	17,5	34,7	0,7	79,8

** The hours include only the hours needed from the sport department. Of course also a lot of technical people are needed. (Source: production reports of the detachment Sport from week 1 till week 14, 2012)*

4.4.2 Input sport

The sport detachment exists of 5,83 fte permanent staff. From which 4,33 fte is reporter/presenter, 1 ft is end editor and 0,5 fte is production assistant. These employees are not scheduled in prompt and it is therefore not known when and how long they work. To perceive an understanding of the effectiveness and efficiency of the sport detachment it is tried to subtract this information from the production documents. Furthermore on average every week about 5,8 times a freelance reporter is hired, 8,8 times a freelance desk editor and 3,1 times a result editor. These are all hired per job/shift.

Every Saturday and Sunday two freelance result editors are available, both from 13:30 till 17:30, unless soccer games are cancelled or the like. Also two freelance desk editors are available, one from 12:00 till 18:00 and one from 16:00 till 22:00 and during weekday one (mostly) freelance desk editor shift is planned of six hours. They write website messages and support the radio and television program on Saturday and Sunday. Then a producer is available from 12:00 till 18:00 on Saturday and from 13:00 till 19:00 on Sunday. Furthermore an end editor is available in the weekend from 13:00 till 20:30 and on unknown times during the week. Presenters for the radio program require about one hour preparation time and work therefore on Saturday from 15:00 till 18:00 and on Sunday from 16:00 till 18:00 a presenter is scheduled. Television presenters also require one hour preparation time and start at 17:00 until 21:30. From table 8 in the previous section one can see that on average about eleven items are made during a week. Of which on average 1 is a live television reportage, which requires two reporters, thus twelve times a week a reporter must be scheduled. On average about five to six times a week a freelance reporter is scheduled. These do not have fixed times and work on project base, for every job they receive a fixed amount of money. The remaining six to seven times a week a permanent reporter must be scheduled. For the producer, end editor, radio and television presenter and (several) report tasks, also the permanent staff of RTV Oost is scheduled. Sometimes, when the permanent staff cannot handle these jobs, someone from the informative or news department takes over the radio presentation.

4.4.3 Process sport

The process starts with information arrived from the RTV Oost mailbox, the reading list in newsroom, the environment and correspondents and social media. Desk editors mostly achieve their information from social media, the reading list and the mailbox. After reading the information they go with interesting topics to the end editor and consult on whether the desk editor should write a message, should call a reporter for confirmation or do nothing with the topic. When calling a reporter, the reporter can give confirmation after which the desk editor can

write the website message, can reject the information and prohibit a website message or can do research about the topic. This research can then result in a confirmation or rejection and thus also in a website message or prohibition of a message.

The assistant mostly receives information from the mailbox of RTV Oost and also the reading list. She collects this information in structures it. The end editor then makes a production list and decides where reporters should make reports of. In the meeting on Monday he discusses this with the permanent sport reporters and allocates tasks. The assistant then updates the production list. The reporters prepare their jobs for that week(end). In the mean time they also try to be up to date of sport news and make messages. Most messages are however wrote by desk editors. Reports of the sport detachment can be in the form of a RTV report, a live radio report, a live television report, a reportage, an interview or a quote. For a RTV report, one reporter goes to location with a cameraman. A RTV report is common with soccer games of the 'Eredivisie' and 'Jupiler league'. The reporter does in this case live report for radio and afterwards some interviews for television, together with a video editor a reportage for the television broadcast Saturday or Sunday sport is made from these interviews. After the broadcast, the material is placed on the website alongside with the message. RTV reports are also made of soccer games of the 'Topklasse' and 'Hoofdklasse'. In this case the reporter does live radio report and in the meantime, the cameraman records the game. Afterwards the reporter makes together with a video editor a summary of the game, which will be presented in the television broadcast and on the website. Of course RTV reports are also made of other sport events, but the above two situation are the main ones. For a live radio report a reporter does live report of a game or other event for radio, often in fragments. These fragments are recorded and afterwards assembled into a reportage an placed on the website, alongside with a message. For a television live report, among other two reporters and a camera crew are busy. Take for example a soccer game. One reporter does the comments by the game and another reporter does the presentation on television, with a preview and evaluation of the game. For a live television report several cameras are required that are operated and controlled by a whole camera crew. For these reports, therefore, a lot of technicians are present. Furthermore sometimes reportages are made, for example of a soccer training or a darts tournament. For these reports a reporter and cameraman go to location and record video material. Afterwards this material is assembled into a reportage by a video editor together with the reporter. The same is true for interviews, but instead of recording events, conversations between the reporter and interviewee are recorded and assembled. Sometimes quotes are arranged to support messages told by a television presenter of the programs Sunday or Saturday sport. These quotes are video files made by a cameraman. There is no reporter required to arrange such quotes. In the weekend a sport reporter often informs a desk editor about the current situation of the event he or she is making a report about, so a website message can already be written. During weekdays there is not always a desk editor present. The sport process is displayed in figure 12.

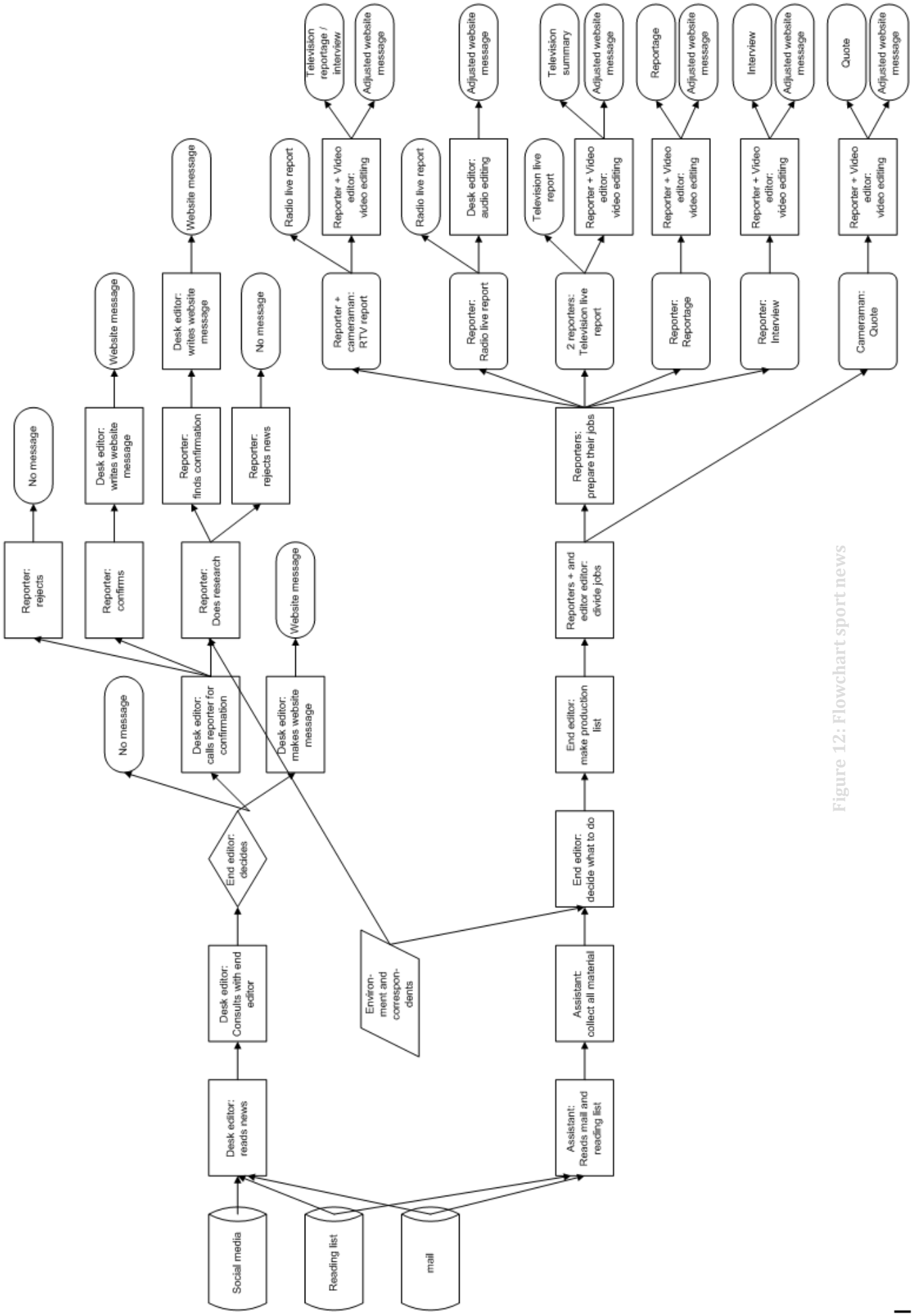


Figure 12: Flowchart sport news

4.5 The planning system

In this paragraph the planning process is shortly elaborated. An understanding of the planning process is important because it may provide insight in possible restrictions of the flow between processes. Because the editorial processes are performed by employees and employees are not robots, scheduling cannot always induce the desired schedules. Labour rights and private circumstances must be taken into account. Besides, people do not have the same qualities which might cause a difference in quality of products produced by different people. The process of the planning system is shortly described below

Prompt is de planning system of RTV Oost. It is filled with four data streams. The first two come from the departmental goals and experiences, which form the base of the needed occupation and shifts that are determined by the editorial chef. The planner puts these shifts and occupation in prompt. Furthermore he makes a rotation sheet for the reporter and desk editor shifts. This is done because the shifts are planned from 06:00 till 01:00 and employees do not always want to work in the morning or evening. Moreover shifts have different associated tasks and some variation in jobs makes the work more exciting over time. These rotation schedules are used to make a basic occupation in prompt. In this rotation sheet someone has a specific shift for one week. This is also entered into the planning system prompt. The third data stream comes from the labour contracts, which are entered into prompt by the HR manager. The fourth is determined by the environment and mainly by the private circumstances of employees. This can for example lead to the desire of an employee to have a standard day off, because he or she has become a parent. In this case the employee has to consult with the chef and ask for permission. The chef will immediately disapprove it or will consult it with the planner. In this consultation it is decided if it is possible to miss that employee that specific day, if so, there is agreement if not, a compromise will be made. After this the changes will be communicated to the HR manager, which will adjust the labour contract and enter the new data into prompt.

After entering all this information into prompt, the planner looks for bottlenecks, which will be automatically detected by prompt. These bottleneck need to be solved. One of these bottlenecks are for example that an employee is scheduled while he or she is that day off. Because of the basic rotation system an employee is scheduled for a shift a whole week. The planner tries to fill the days he or she does not work with other permanent employees, but mostly these day are filled with freelance employees. This information is then entered into prompt. When all bottlenecks are solved or discussed with the editorial chef, the prompt schedules are secured and printed. Basic schedules are monthly or two monthly presented and secured schedules are weekly printed. This planning process is presented in figure 13.

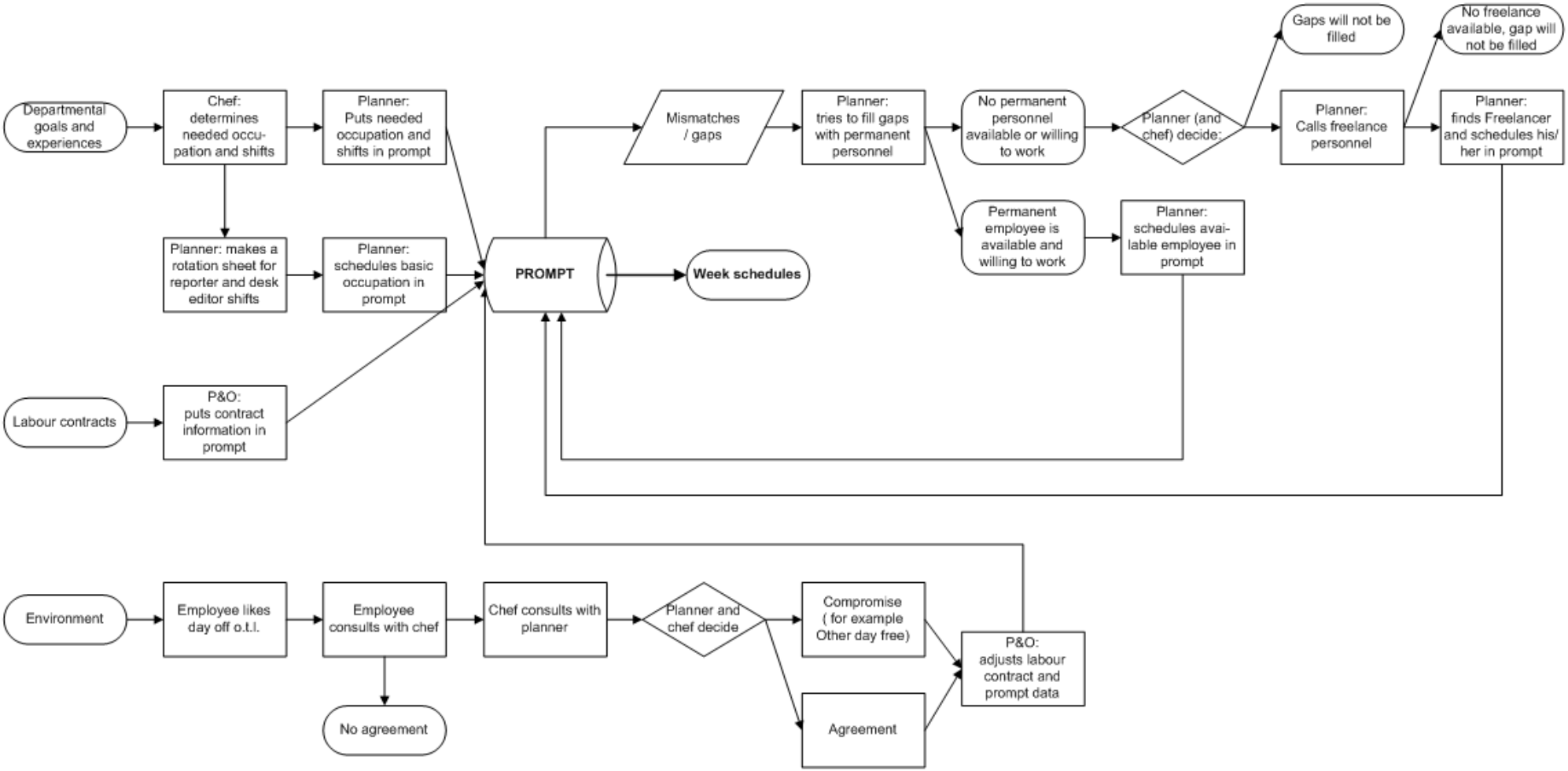


Figure 13: Flowchart planning

CHAPTER 5: ANALYSIS OF THE EDITORIAL PROCESSES

In order to give a understanding of the needed production processes at the editorial department of RTV Oost, first the recently developments in the broadcasting and media industry are elaborated. These developments force organizations to change their way of working and are therefore of importance to understand the value stream of the editorial department of RTV Oost. Secondly the current input vs. desired output is described. After this, (other) wastes and bottlenecks that showed up inside the current processes of RTV Oost are described. In the next chapter change proposition will be presented, with the aim of improving the efficiency and effectiveness of the editorial processes and achieve or improve control of the labour costs.

5.1 Recently developments in the Dutch broadcasting industry

In the last few years, the broadcasting industry has undertaken revolutionary changes, because of the digitization. Digitization has led to a different way of saving information and distributing it. Digital information is far more flexible than analogue, because she is barely restricted to specific storage media or distribution networks and can relatively simple be transferred from one to another medium. This flexibility makes the digital information also more efficient and therefore less expensive than analogue (Rutten, 2006) Another big consequence of the digitization is that civilians can acquire information that is exclusively aimed for them, while others are being excluded from it. One can imagine that this is quite impossible for information provided by radio or television. An important result from the digitization is that the confines between different forms of media become obscured, because the foundations of it, the distribution channels, diminish. There is an inevitable convergence that manifests itself in particular by the rise of the Internet as an important distribution channel and the World Wide Web as a publishing platform (Rutten, 2006). The power of civilians and consumers is increasing because of several developments. They are able to conduct the flow of information to their own ends. Besides they are increasingly active as a producer of information and distributer of information produced by others, for example through Facebook or Twitter. According to a study by TNS (2010), 68% of the Dutch population is every day online, 64% watches television every day and 52% listens every day to radio and 40% reads daily the newspaper. People that are interested in news will read it somewhere on the internet and not wait until the television broadcast in the evening (adjunct chief editor, 2012). Besides a change in storage and distribution and a shift in power for consumers, digitization of the cable has also led to an increased competition. Regional stations are fading away from the zap list of customers (adjunct chief editor, 2012).

Besides the digitization, also individualism has risen. People have disposed their solid and collective norms and values. Involvement stays, but collective bands vanish (Schnabel, 2004). The focus group of RTV Oost is: Overijssel's civilians with an age of 35+, secondary educated and of an average wealth class. It is expected that these people have solidarity in high esteem and want to belong. They probably like sociability and homeliness and are settled. Besides they have interest in their surroundings and enjoy everyday things, like going to the playground with their children. These people are not adventurers and trendsetters, but followers. They use media to

stay informed about news, sport and the weather and as a form of communication, relaxing and sociability (RTV Oost financial plan, 2012). With the increasing individualism the importance of the regional public broadcaster decreases. However, media that respond in an appropriate way to the individualising community, have increased their significance (Schnabel, 2004).

From a report of the Boston consulting group (2011) about efficiency in the Dutch public broadcasting, it seems that fragmentation of broadcasting programs leads to decreasing visibility and findability. Short programs have a significant lower audience than longer programs have. And also on the internet fragmentation leads to a decreasing findability. Moreover shorter television programs have significant higher costs than long ones, because of relative more format and setup costs and more downtime. Other advantages of fewer but longer programs are that contracts with third parties are often characterised with volume discounts by continuity. administration and justification needs to be performed less frequently, promotion and marketing activities can be reduced and the programming process gets less complex (BPC, 2011). Also fragmentation in the radio programs lead to significant higher costs. At RTV Oost, this is illustrated by the relative high costs for (freelance) presenters because their contracts are mostly based on a higher amount of hours than the presenter is really working. This is necessary to attract a presenter to the organisation: 'Nobody goes working five days a week, for less than twenty hours' (adjunct chief editor, 2012).

5.2 Produced output vs. desired output

The developments described in the previous paragraph have an influence on the way people like to retrieve information. Therefore RTV Oost has to adjust their services in order to fulfil the changed needs of their customers. This change is largely included in the documented visions and department plan of the editorial department. These documents describe among other the desired output from the perspective of the adjunct chief editor, the editorial chefs and the end editors. In order to identify the value added, business value added and non-value added activities within a process, it is important to know what the desired output is. All output produced that does not correspond to the desired output is a form of waste, called overproduction. All output that is desired but not produced could be seen as a loss of quality.

In this paragraph the produced output is compared against the desired output for each of the three distributions channels: website and derivative applications, radio and television.

5.2.1 Website and derivative applications

The website and derivative applications are because of the digitization the primary news distribution channel. Here the hard news facts are presented. These news facts will be regional focussed but must address to a wide audience. News must be presented on the website and derivative applications as soon as possible and 24 hours a day. Currently the news desk editor shifts begin at 06:00 and end at 01:00. According to the SCP (2005), between 01:00 and 5:15, 95% of the Dutch civilians is asleep. Based on these numbers, one could state that if RTV Oost tries to create a 24 hour updated website for its customers, it should at least have desk editors working on the website from 5:15 un till 01:00. A desk editor starting from 05:15 will probably have its first message placed on the internet about half an hour later. This because the computer must be started, in the meantime a cup of coffee will be consumed, then the reading list must be

read (this will not take long because little messages will enter the reading list at night), the message must be written and eventually additional material must be collected before the message will be placed online. Therefore, RTV Oost will probably be more effective if a desk editor shift ends earlier than 01:00 than that it will start later than 05:15.

Whereas the news detachment tries to keep the website updated all the time and has a clear vision about the importance and purpose of the website, the sport detachment seems to lack such a vision. Besides sport news doesn't seem to be updated as quick as the general news. According to the adjunct chief editor it is also important to be up to date with the sport news. And also for this category of news one can make a separation between first-line news and additional news items. However there is no budget for an extra desk editor so more up to date sport messages on the website should be effectuated with the current amount of fte.

Besides being 24 hours a day updated, the website must in the new vision also create interaction with the public and display additional material existing from images, video and/or audio files. This additional material must be added to the message as soon as possible. The desire is to do this way quicker than that's currently the case. Items or topical stories that will be presented on television may not be placed on the internet before the broadcast of television has taken place, otherwise the television programs will become useless. However it is the desire to put a shortened version on the internet and use this as a teaser to look at the television program. This shortened version is currently almost never made. Also life reports must be assembled and placed online, this is often forgotten. In particular life reports of Overijssel Vandaag are often forgotten, because the new media editor is than not available anymore. As a consequence the live report is placed online the next morning, which is way too late.

5.2.2 Radio

Radio has to bring news facts in the regional news bulletins, in an appealing form. These bulletins must be to the point. Regional news bulletins are now live presented from 09:00 till 17:30 and semi live until 22:00. In the new vision on news it is written that the morning news has to be up to date. This will be more important than an up to date evening news bulletin. Therefore bulletin hours will be changed to a live presentation from 06:00 till 17:30. Hence a bulletin editor must be available from at least 05:45 until 17:45. Of course these times must be aligned with the desk editor availability, because they write website messages, which the bulletin editor rewrites for their radio bulletins.

Additional radio items are given quite often during the day. The vision of 2011 on news states that additional news items must be given during news hours (7 a.m., 1 p.m. and 5p.m.) at .15 and .45. Some more extra social information can be given outside those hours. This is currently done in the form of a roaming reporter during the day and a music related guest at 3 p.m. By strictly taken this vision into practice, a lot of guests that are arranged daily can be removed. This will save a lot of work and will align the current radio output more to the desired radio output and therefore to the alleged customer's needs. According to the adjunct chief editor, an additional item must last as long as it is interesting. Besides the total number of items must be as many as the number of interesting subjects. Therefore employees must dare to take the responsibility of making decisions about not using additional item times and also about creating extra time on

radio to discuss an extra subject. Currently it seems that employees do strictly as they (think they) are told and make little use of this creative space.

Studies of the SCP (2005) demonstrate that real peaks around the news hours do not exist anymore, they diminished around 1990. Furthermore 95% of the time people that listen to radio they do this as a sideline, in 1975 this percentage was only about 85%. Most activities people listen radio at are during (paid) working hours or while driving, and the percentage of people listening to radio during these activities is also increasing.

These facts partially support the thought of shifting live radio bulletins to the morning, as most Dutch people are working between 08:00 and 17:00 (SCP, 2005) and every they are driving on average half to their work in the morning and half an hour back in the end of the noon. However the facts do not support the vision of giving special attention to the news hours. It seems that civilians are not especially interested anymore in the news hours. Perhaps this has to do with the emergence of the internet. So it can be questioned if RTV Oost should still stick to those news hours. The adjunct chief editor also questions this and in his new, not jet official vision, he states that fixed times for additional radio items have to diminish and radio must present news items as they are occurring. However, one must take into account that specific hours with additional news related information does bring clearness and findability to the customer.

5.2.3 Television

Television programs at weekdays include nowadays a short and long version of 'Overijssel Vandaag', EDNED and various informative programs. In the new vision, this will be reduced to a one hour carousel production existing from about half an hour news (Overijssel Vandaag) and half an hour talk show (EDNED). The adjunct chief editor likes to move informative television programs, other than EDNED to the weekend. One program will be broadcasted on the Saturday, this will be a temporary program, made by program editors of RTV Oost, or will be outsourced. On Sunday the program 'Time for theatre' will be broadcasted, made by an program editor of RTV Oost. Besides the broadcasting of the programs sport on Saturday and Sunday and a short version of Overijssel Vandaag will continue during the weekend. Other programs will disminish. According to the Adjunct chief editor fixed times for program broadcasting in carousel form will be easier to remember and lead to increasing clarity and a higher hit rate by the customer. This vision is in line with the findings of the Boston Consulting Group (2011), which state that fragmentation leads to decreasing visibility and findability. Besides according to the BCG, shorter programs have significant higher costs and lower audience. According to the Boston Consulting Group (2011), structured broadcasting times and a standard output will reduce organizational complexity and variability. Standardizing the programs EDNED and Overijssel Vandaag more will also reduce complexity and variability. However, there must remain room for creativity.

Another alteration will take place in the content of the program EDNED, in order to adapt better to the growing interest and application of social media by customers. Instead of three guests and a habitué, there will be now two guests, a habitué and a social media editor present in the

broadcast. The social media editor works for the news department and prepares during the day some interesting topics. This means that the EDNED crew has to arrange two guests and a habitué instead of three and a habitué, which means a lower workload for the guest editors. However there must be some communication between the social media editor and the EDNED crew, which of course takes time. Besides the whole EDNED crew must adapt to the new situation which may require some training. This alteration in the program content may request a new approach and task distribution.

5.2.4 Conclusion

As can be derived from the above analysis, the produced output and desired output does not fully correspond. The main mismatch for the distribution channel website an derivative applications lies in the fact that additional material is regularly not or too late placed upon the messages. This is in particular the case with life reports. Furthermore a desk editor must possibly start earlier than 06:00. The latter will for two reasons be more appropriate for RTV Oost. One, most people are sleeping from 01:00 till 05:15, a desk editor starting on 06:00 will place the first message about half an hour later on the internet. This means that there will be no update until 06:30. The second reason is that in the new situation bulletin editors will present a live bulletin from 06:00 un till 17:30. The logic sequence is that a desk editor writes website messages and (in consult with the bulletin editor) decides which messages are appropriate for the regional radio bulletins. A desk editor starting at 06:00 is too late to give advice for the first bulletin. Another remarkable thing is the lack of a vision about well updated sport news. For this category of news the discrepancy between first-line news and additional items seems to be missing, while for other news this discrepancy has a quite strong presence.

The main discrepancy for radio is the above mentioned shift of presented radio bulletins and the amount of additional items on radio. In particular the guests that are arranged are more than the vision describes. This leads to a waste of overproduction and perhaps a loss of quality. Besides the chief adjunct editor likes his employees to make better use of their creative space and adapt the radio output more to the news supply of that day. Additionally, studies of the SCP do not support the vision of giving special attention to the news hours, these news hours seem to be diminished.

The television output changes from several programs to a one hour carrousel. This change is supported by several studies. A one hour carrousel will lead to less fragmentation which will cause a better visibility, findability and therefore higher audience and more efficiency, which lead to relative lower costs. The alteration in the program content of EDNED may request a new approach and task distribution.

5.3 Wastes and bottlenecks in the current process

After identifying the inconsistencies between the produced and desired input, wastes and bottlenecks in the value stream can be identified and analysed, which will be done in this paragraph.

This paragraph is structured among the three different detachments, because the processes are most interrelated inside a detachment. There is communication between the three detachments,

but they all have their own employees and work structures. For the identification of wastes and bottlenecks, the process flowcharts of the editorial department are analyzed from begin to end. First the wastes and bottlenecks of the news detachment are described. Then those that occur during the production of EDNED are elaborated. And finally the sport detachment is analyzed.

5.3.1 News detachment

The processes of the news detachment start with news going into newsroom and filtered into a reading list. Furthermore newsroom contains an agenda and reminders. The reading list, agenda and reminders are read by different employees at times that the end editor is not available or too busy with other tasks, which leads to the first bottleneck. Having many different people reading the reading list in newsroom leads to an unclear responsibility and confusion. The regular process is currently that the end editor is reading the reading list and decides whether to make a message or not and if an additional item for radio or television must be produced or if an item comes into the agenda. This leads to several wastes, one the end editor is too expensive to read incoming messages all day. Desk editors have a high education and should be able to make decisions about whether to write a website message or not. Comment on this was that if desk editors had to make the decisions, they were still asking the end editors if they should put the message on the internet or not. However, this could be a management fault. Desk editors need to learn to be independent, and responsible. Important is that operational managers (currently the end editors) support them well in this learning process. From the study on employee satisfaction (Centraal Beheer Achmea & Samhoud, 2012) it seemed that responsibilities are unclear and managers are not very complimentary, this could be a cause of desk editors not taking responsibilities. Type two waste is that the current situation leads to much consultation which is wasted time. The third waste is not one of efficiency but quality. The website and radio bulletins are seen as the primary news provision channels, or first-line channels. These must provide a quick and continuous flow of information to the customer. In the current process news subjects for these distribution channels flow through a couple of persons and/or consultations which makes the process slow. One person reading the subjects and deciding which one to distribute among the first-line channels will make the process much quicker.

In the above bottleneck already three desk editor shifts are involved, namely the ND2, MS and ES. Besides these desk editor shifts RTV Oost has four other desk editor shifts, namely ND1, ND3, ND4 and P3 (and occasionally also a P1) . Currently there are thus six (or seven) different shifts for desk editors between which they rotate. This leads to a lot of transmission of tasks during the week, which means unnecessary transportation of digital information and knowledge. People are complaining about the current situation, the desire is to create more continuity in the tasks. So that constant transmission of knowledge and information can be reduced. The current situation seems to be unnecessary complex. Confusion exists because it is not clear who's working on what task.

Website messages

Now in more detail the wastes that occur during the phases in the five sub process will be discussed. The first sub process is writing website messages. The issue here is that too many people can make website messages. This leads to several wastes: defects/rework, confusion and

unnecessary transportation of information. First defects and rework occur because of unclear responsibility and task distribution. Employees do not exactly know who is working on what task en so the chance of producing a subject double (rework) or forgetting a subject is relative high. This leads immediately to confusion which causes in general not only a loss of time, but also is a great source of frustration. Furthermore unnecessary transportation of information is lying in the fact that when multiple employees are writing website messages, one does not know what is written already by another person which makes it more difficult to compose messages for a radio bulletin without consulting or reading messages wrote by others. The main reason that others help writing website messages is that people have time left, while the ND2 has a lot of work in progress. This means that in the current situation there is an uneven distribution of workload, which is a symptom of underutilization of people.

Radio bulletins

Radio bulletins are currently made by the ND2 and bulletin editor. The end editor seems to interfere less with this process. This is a good thing, the website message writer and the bulletin editor can decide well what messages to use for the bulletins, because the ND2 knows what messages are interesting and the bulletin editor must present them on radio. It is a non-value-added activity that a bulletin editor rewrites messages for the bulletin, but necessary because it is much more pleasant to present your own words. This kind of rework could however partly be prevented when the bulletin editor also writes website messages.

A quite illogical thing is that the ND2 makes (sometimes) quotes for the radio bulletins. This should be done by the bulletin editor. Because:

1. ND2 writes website messages, she must deviate from her task when arranging a quote, which causes start up waste and unnecessary transportation of information when others have to take over her tasks.
2. The bulletin editor has more time to do this. Besides letting bulletin editors arrange the quotes makes responsibilities and tasks also more clear. Additionally in the current process the bulletin editor listens to the quote to adjust the message and prepare to what is coming during the broadcast. This is a form of waste called rework.

Furthermore unnecessary movement exists when arranging a quote, because of technical shortcomings. A phone call must be recorded from the studio, therefore a desk editor must call someone, ask if she may record the conversation, walk to the studio, call back, start the conversation again, walk to the assemble room and assemble the quote from the recorded phone call and place it in the right database.

Productions

The decision if and how to produce an additional item is made in consultation with too many employees. The end editor should make this decision, because it is a more difficult one and the end editor knows who fits best to certain topics and therefore can assign tasks to the appropriate people.

Productions are hard to schedule because the time spend on different productions differ a lot. This can lead to an uneven distribution of workload. Because of the rotation between desk editor shifts the production of items can often be transferred from one to another person. This leads to

unnecessary transportation of (digital) information and knowledge and brings a risk of rework, if things aren't right registered. Besides the rotation between shifts makes it even more difficult to couple a desk editor to a reporter for producing an item which can cause rework later in the process. This rework exists when a production for a (live) report is already made by someone else than the reporter executing it. In these cases the reporter has to deepen himself into the subject while otherwise he already knew what the topic was about.

Additional radio item

Reporter times are unpredictable (if it is news happening the same day) which makes it hard to schedule reporters. Reporters therefore often have time before and after making reportages. This time they can spend making productions together with a desk editor, waiting, or helping for example desk editors. The first one is a proper solution. The second one it waste of time. The last will also lead to wastes, occurring when too many employees are responsible for one task, as described earlier. Maybe some more room will lie in a further cooperation with the informative program EDNED. Reporters can make video material for this informative program.

If production for a radio guest is already made, the ND1 has to control it and adjust if necessary. This is also the case for reportages and productions for telephone interviews. This control is non-value-added but possibly necessary.

Guests or telephone interviews are arranged by the ND1, morning/evening shift, or ND3/ND4. Maybe some presenters can arrange their own guests (especially when the number decreases). This will lead to a better utilization of people. Besides when the presenter arranges its own guests, he has already deepened himself into the subject, which could lead to a higher quality of conversations and thus a higher quality radio broadcast.

Another problem that arises at the radio presentation is that sometimes subjects aren't treated or messages are treated two times, because presenters do not know what other presenters did in their programs and no one is responsible for all programs. Maybe a desk editor should be connected to presenters or the like to prevent this.

Additional television item

A first waste occurring in the sub process additional television item is, just like in additional radio items, that reporter times are unpredictable (if it is news happening the same day) which makes it hard to schedule reporters. Reporters therefore often have time before and after making reportages. This time they can spend making productions together with a desk editor, waiting, or helping for example desk editors. The first one is a proper solution. The second one is waste of time. The last will also lead to wastes, occurring when too many employees are responsible for one task, as described earlier. Maybe some more room will lie in a further cooperation with the informative program EDNED. Reporters can make video material for this informative program.

If production for a television guest is already made, the P3 has to control it and adjust if necessary. This control is non-value-added but possibly necessary. Other tasks of the P3 are

welcome guests, which is seldom the case, and collecting additional visual material. These seem rather few tasks for an eight hour shift. Perhaps a television presenter can do these tasks.

More topical stories are desired according to the vision of the editorial department. These reportages are better to plan, but require often some kind of investigation and therefore much time. Besides time spend on different topical stories will be very variable. It is practical that one person or one desk editor and one reporter work on an item, but all the different shifts make this very difficult.

Emergencies

A last general note, from the chef new media (2012), is that in emergencies the editorial department does not work well. According to the chef new media, desk editors who should be busy keeping radio bulletins and website messages up to date spend their time answering phone calls. He thinks this should be done by other employees and the first-line news provision channels may never be interrupted.

5.3.2 Informative detachment

Currently the main bottleneck in producing the program EDNED lies in the transmission of tasks between desk editors. Most employees work part-time and employees rotate between shifts, which causes a lot of task transmission. Employees desire more continuity of tasks. However, employees do not like to have one shift all the time, because it makes their work more boring. Besides the chef of the informative department thinks it is important that the employees rotate between shifts, to ensure flexibility. Flexibility is needed in case of illness, but also in case of events. According to the detachment chef, employees often like to work on events and therefore he wants to use his permanent staff to organize an event when these are occurring and hire freelance employees to take over the EDNED jobs. In order to be more flexible at these times, the EDNED desk editors need to understand all tasks.

5.3.3 Sport detachment

Wastes and bottlenecks in the sport processes

At the beginning of the process, three separate databases are used, the mailbox, the reading list and social media. This leads to ambiguities. At the news detachment one primary news source is used: the reading list in newsroom. In this reading list, the mail is included. Social media should also be used in order to be informed about for example transfer gossips of soccer players. Social media is currently possibly the quickest source of news, if you have the right connections. Maybe there are ways to integrate social media and the reading list also. Besides having different news sources, news is read at different times a day, by different people at different locations. Therefore no one knows exactly who's doing what. This lead to confusion and brings a high risk of rework, defects and underutilization of employees.

Further in the process of writing website messages, the desk editor consults with the end editor, this is just like in the new detachment unnecessary. It makes the process slow and requires unnecessary actions. Desk editors can decide by themselves what messages to place on the website. After consulting with the end editor, sometimes the desk editor also have to consult with a reporter. This also causes slow processes and requires unnecessary actions. And if the

reporter has to do extra investigation this causes a unnecessary transaction of knowledge and even more delay in the process. Another problem in this way of working is that it seems that reporters often reject the news, because it is not confirmed by the right sources and they do not want to damage their relationship with certain clubs. However also important gossips may and, according to the adjunct chief editor, should be placed on the website. In then confirmation does take place later, the message can be adjusted.

Every week a new production list is produced. Is this really necessary? Most sport event are competition games and tournaments, which are known weeks or month in advance. Principles that form the base of the production lists are unknown. This creates confusion and rework/defects. Confusion exists because it is not exactly known what must be added to the production lists. Rework occurs among other when things are double checked. This could be the case when for example last week the assistant checked the basketball competition and this week she does it again. When it is clear what must be added, the assistant can check one time and save all the games that are important to the province Overijssel. Defects occur when topics are forgotten or when thing aren't right registered etc.

When the assistant can collect more systematically information and elaborate a production list, the end editor can focus on important events and the games/tournaments he likes to have additional audio or video reports of. Every Monday the production list is discussed in the sport meeting and tasks are allocated to reporters. Probably the planning of sport can be made on a longer term. In this way, tasks can be better distributed among the sport employees and production times can be planned in a more proper way. This could prevent underutilization of people.

The absence of planning in prompt

While studying the processes of sport, another bottleneck came up: the employees of the sport detachment are, in contrast to the other editorial employees, not planned in prompt. According to the chef sport, the absence of planning in prompt is not a problem at all, because they all work very hard and there is never mutual dissonance about work. Because it is a small department, they are able to 'control' each other. Furthermore he states that planning in prompt would be difficult because the sport reporters work at very variable times and time spend on reports will differ a lot between certain items. Additionally the employees make a lot of overtime and a planning in prompt will lead to a huge increase in cost for RTV Oost (chef sport, 2012). These arguments are discussed separately.

The sport reporters seem very satisfied about their work and there is also not a sign of dissonance, which supports the first argument. However, because the reporters are not scheduled it is unknown if some employees work harder/longer than other ones. This problem of relative working times could probably be solved by themselves because it is a small group of employees, but then the problem would arise that it is not known how much they work with respect to employees of the other editorial detachments. Also this does not seem to be an issue from the perspective of editorial employees, there are no negative attitudes against the sport detachment observed. However from an accountancy perspective the financial department is unable to control the payment of sport employees (reporters), like for example residual vacation

days or overtime, in a proper way. Because of the absence of a planning in prompt or newsroom, this is now based on faith and subjective arguments.

Unlike news items of today all other reports of for example, sport games, tournaments etc are often known weeks, if not months in advance. Therefore much sport reports could well be planned in advance. Of course sometimes games are cancelled and rescheduled, which requires some flexibility of sport reporters. Besides some events could take place for which reports are required immediately, like soccer player transfers. This also requires some flexibility of sport reporters. The biggest problem now with a planning in sport seems to lie in the fact that reporters also have variable times for desk editing tasks and possibly do not fulfil the time spend on these tasks efficiently. Besides, because the output of these tasks are just partially controllable the lack of control will still exist. Desk editing tasks include writing website message, which is controllable, but also preparing reports in the form of collecting background information, arranging interviewees etc. These last tasks are less controllable. By reclassifying tasks and where possible arranging fixed working times, these desk editor tasks could become more controllable and a planning in prompt would be feasible.

The assumption that a planning in prompt will increase labour costs is unethical. If the sport employees are indeed making a lot of overtime, they should be rewarded for it. However, analysis of the sport output, based on production reports of the sport detachment, suggests that the sport reporters are not making on average 36 hour a week (this is further analysed in section 6.3 and table 13). And this suggests that sport reporters were paid for hours they did not spend working for RTV Oost, or did spend working but did not lead to output, which will mean a lot of waste is occurring somewhere during the process. Both issues need to be solved and therefore, among other, a planning in prompt is important so data will become available to control these concerns.

5.3.4 Summary

The above mentioned bottlenecks and wastes that occur in the current processes of the editorial department are summarized in the following table.

Table 9: Summary of the identified bottlenecks and the wastes they cause

Where	Cause	Effect
News editing	Too many different people read the reading list, agenda and reminders in newsroom.	Underutilization of people, Unnecessary consultations and slow processes
News editing	Too many desk editor shifts	Unnecessary transportation of information and confusion
Website message	Uneven distribution of workload causes many employees writing messages	Defect/rework, confusion and unnecessary transportation of information
Radio bulletin	Bull editor rewrites message	Rework (but necessary)
Radio bulletin	ND2 makes quotes	Unnecessary movement and transportation, underutilization of people and rework by bulletin editor.

Radio bulletin	Technical shortcomings	Unnecessary movement for arranging a quote.
Production	Hard to schedule productions	Underutilization of people.
Production/ topical story	Many reporter and desk editor shifts	unnecessary transportation of information and rework.
Additional radio/TV item	Unpredictable reporter times	Underutilization of people.
Additional radio item	ND 1 controls productions	Rework (but necessary)
Additional radio item	Different desk editors arranging guests	Confusion Rework because presenter must read intro text, quality can be improved if presenter arranges own guests
Additional radio item	Not one person responsible for radio broadcasts	Rework or defects.
Additional television item	P3 has few tasks	Underutilization of people
Emergencies	Unclear task responsibilities	Underutilization of people and defects.
EDNED	Rotation between desk editor shifts	Unnecessary transportation of information and rework.
Sport	Ambiguities because of different news sources and news is read at different times, locations and by different sport employees	Confusion, rework, defects and underutilization of employees.
Sport	Desk editor consulting with end editor and reporter	Slow processes (causing a loss of quality), waiting, unnecessary transaction of knowledge
Sport	Reporters seem to find their relationship with clubs more important than the speed of news	News or gossips are rejected by reporters and are not placed on the website. Loss of quality.
Sport	No specified output description	Confusion, slow processes, defects, underutilization of people. Lack of control
Sport	Planning every week	Underutilization of people
Sport	Absence in planning system	Lack of control

CHAPTER 6: CHANGE PROPOSITIONS

The above identified bottlenecks were discussed with the editorial management team (EMT), existing from all the end editors, detachment chefs, adjunct chief editor and the chief editor. The main advantage of this discussion was the achievement of a deeper understanding of the bottlenecks and their root causes. In this chapter change propositions are investigated with the aim of improving the effectiveness and efficiency of the editorial processes at RTV Oost and achieve or improve control in labour cost. Therefore this chapter will provide an answer to the central research question: *"How should the editorial processes of RTV Oost be changed to improve the efficiency and effectiveness of the editorial department of RTV Oost and achieve or improve a control of the labour costs?".* The changes will focus on the internal structure of the editorial department, the flow of activities, job design, desired occupation at certain times, appropriate shifts and planning in prompt.

First change propositions are discussed in order to eliminate or reduce the misalignment between produced and desired output. These change propositions will mostly result in an improvement of effectiveness, as effectiveness is the extent to which organisational goals are met (or in lean thinking, to which extent activities are produced that people are willing to receive). Second change propositions are studied with the aim of eliminating or reducing the other wastes and bottlenecks that were identified inside the editorial processes. These change propositions will focus on effectiveness as well as efficiency improvements. An increase in efficiency can be described as doing the same (more) with less (the same) amount of people. Finally this chapter will concentrate on change propositions with the aim of achieving or improving labour cost control of the editorial department.

6.1 Aligning produced and desired output

6.1.1 Website and derivative applications

RTV Oost likes to create a 24/7 updated website for her customers. This desire could however impossible be implemented because of the high costs of a desk editor being available 24 hour a day to update the website. Therefore a proper solution could be one which requires less men power, but does give the customer the idea that the website is 24/7 updated. According to the SCP (2005), 95% of the people is sleeping between 01:00 and 5:15. Therefore a website being updated between 5:15 and 01:00 will give in any case at least 95% of the population the idea of being updated the whole day long. It will take several minutes for a desk editor to produce the first message and therefore following this perspective, a shift should start at least at 5:00. Because someone reading website messages at one a.m. that are latest updated at twelve o'clock at night is reading a more up to date website than someone reading website messages at five a.m. that are latest updated at one a.m., RTV Oost will be more effective if an desk editor shift starts early, say 05:00 than that it ends late, say 01:00. Therefore the first change proposition is to start the first desk editor shift one hour earlier than that's currently the case, thus at 05:00. If this gives troubles with the current end of the evening shift, the shift could end one hour earlier, thus at twelve o'clock at night.

Besides being updated with the website messages, RTV Oost also desires to have additional audio or video material uploaded on the website as soon as possible. And to create more often teasers for the television program 'Overijssel Vandaag' and place these upon the news messages on the website. From different conversations and the meeting with the editorial management team, it seemed that being somewhat late with additional material was not such a big issue. The main problem with this was that life reports of Overijssel Vandaag were often forgotten, because then the new media editor was not available anymore. Furthermore shortened versions of reportages for Overijssel Vandaag that could be used as teasers were often not made. These two issues could probably be improved by making one person responsible for these tasks. The desk editor P3 supports the television program Overijssel Vandaag and would therefore be the most obvious person for these tasks. Moreover, the P3 seemed to have little tasks. From conversations and the EMT meeting it became clear that the P3 has an important role in producing the television program Overijssel Vandaag, because this desk editor is only responsible for this program and could therefore focus on the details, which, according to the EMT, determines for a great extend the quality of the program. For that reason these tasks cannot be taken over by someone else. Assigning extra tasks to this person would therefore be a proper solution to increase an even distribution of the workload which could improve efficiency and the same time improve the effectiveness by making one person responsible for adding these 'Overijssel Vandaag' related video items. These tasks are related to Overijssel Vandaag and would hence not damage the focus of the P3 on this program.

Where the general news on the website is quite well updated, the sport news lacks in this. Besides, there is no clear output description for sport news. In the EMT meeting this output seems however to be known by the sport employees and consists from all the news of the sport (competitions) for which also results are kept up on the website. The main focus lies on news of the professional Overijssel's soccer clubs. The chief adjunct editor stated that also for sport news, the website must create an actual and continuous source of information. Currently the website messages are written by a desk editor or reporters. During weekdays the reporters are usually responsible for an up to date website. But this does not lead to a desired output. Therefore possibly a fixed desk editor shift every day may be more appropriate. This issue will be more deeply elaborated in section 6.2.3, because some other bottlenecks that occur in the flow of activities influence this output misalignment and therefore need to be included in the exploration of proper change propositions.

Table 10: Change propositions regarding produced output for the website

Bottleneck	Change proposition	Goal focus
The website should be earlier updated	Start the first news desk editor shift at 05:00	Effectiveness
Some additional video items are often not added to website messages	Make the P3 responsible for adding 'Overijssel Vandaag' related video items	Effectiveness and efficiency
Sport website lacks continuity and timeliness, namely during weekdays.	No change proposition. Issue will be further discussed in section 6.2.3	-

6.1.2 Radio

The start of the bulletin editor shifts already moved from 9:00 to 5:15 and the end shifted from 22:00 to 17:45. This change is (partially) in alignment with the times people listen to radio and the activities at which people listen radio at. Most people listen radio during paid working hours or driving a car and most Dutch people are working between 08:00 and 17:00 (SCP, 2005) and they are driving on average half an hour to and half an hour back from work. Therefore one could state that at least a regional news bulletin should be live presented from 7:30 till 17:30. However according to the SCP (2005) people also listen radio during housekeeping, diner or recreation activities. Between seven a.m. and eight p.m. five per cent of the Dutch people listens to radio. Based on this information one can state that a (semi) live regional news bulletin must be given between 7:00 and 20:00. Moreover, following this information, one could even doubt the current presented broadcasting times from 6 a.m. till 6 p.m. But because of scope limits of this thesis, quality aspects are not deeply studied and therefore change propositions regarding broadcasting times should be given with caution. Arguments of starting early the day with presented broadcasts and live regional news bulletin could be that people like to be informed of news at the beginning of the day, in the evening they already know most news facts. In other words, effects of changed broadcasting times are not known. Therefore the decision of broadcasting times will be left to the chief adjunct editor, and no change proposition will be done regarding this issue, the only statement that can be made is that the chief adjunct editor could keep the above mentioned times in mind.

The main discrepancy between desired and produced output for radio is the amount of additional radio items. In particular there are way more guests and telephone interviews arranged than the vision describes. After a few more conversations with the adjunct chief editor, it seemed that even fixed times for additional radio items were outdated. This is also supported by the outcomes of the SCP (2005) about spend time on activities, which showed that the amount of people listening to radio does not increase during the so called news hours, while this was the case in the ‘80’s. The adjunct chief editor likes his employees to make more use of their creative space and adapt the radio output more to the news supply. Therefore the change propositionsis to let the ‘news hours’ diminish and present the news in an appropriate form when it is available. It is of course not the intention that additional items are presented all around the same time. An even distribution through the day would be appropriate. Therefore it will be important to have a person responsible for these additional radio items to take care of a proper amount, content, time distribution and combination of additional items. This task would be appropriate for the end editors, because they currently also determine to a great extend the additional radio items. Besides, they have the right experience and capabilities for this job. In section 6.2.1 it will become clearer that in the proposed job description there will be more room for end editors to focus on the additional radio items and pay attention to the output of RTV Oost, instead of controlling the input as is currently the case. The change in additional radio items will lead to more effectiveness as only those things of which the end editors think that customers are willing to receive will be presented.

Table 11: Change propositions regarding produced output for radio

Bottleneck	Change proposition	Goal focus
Possible misalignment in the times at which people like to receive and RTV Oost produces a presented regional news bulletin and radio broadcast.	No change proposition, because a deeper investigation into this issue will be necessary to give proper conclusions.	-
Lack of creative space for editorial employees and worthless news hours	Let news hours diminish and present only the interesting news in an appropriate form when it is available. Make an end editor responsible for the coordination of the additional radio items.	Effectiveness

6.1.3 Television

The television output will change from several programs to a one hour carrousel. This change is supported by several studies, such as the study of the Boston consulting group (2011) about efficiency of the national public broadcasters. According to the chief editor a one hour carrousel will lead to less fragmentation which will cause a better visibility, findability and therefore higher audience. This is supported by the BCG (2011) besides the BCG explains that less fragmentation will induce less complexity inside the organisations which will cause an increased efficiency and thus relative lower costs. This change means among other, that there will become more staff available from the informative department. Most of this staff will work on the talk show EDNED. Moreover the program content of EDNED will change. The desire is to make this program more actual and get a better affiliation with the program Overijssel Vandaag. Therefore an actuality related guest must be present every episode. Furthermore, to stay modern RTV Oost also has to adapt to the increasing importance of social media in people's lives. Therefore a social media editor will be present in the talk show and act as a special presenter/guest. Besides these two people a habitué will be present, which was already the case during this program and a diverse guest will be invited every broadcast. With this change RTV Oost will adapt to the current needs of the customers and will therefore be more effective. These changes will cause a new task distribution and job description, which is further elaborated in paragraph 6.2.2.

Table 12: Change propositions regarding produced output for television

Organisational changes	Change proposition	Goal focus
Implementation of a one hour carrousel program.	Informative staff will become available which can be deployed for the talks show EDNED	Efficiency
Implementation of a social media guest/presenter in EDNED	Distribute tasks again (section 6.2.2)	-

6.2 Eliminate or reduce other bottlenecks and wastes

6.2.1 News detachment

News editing

In the analysis it became clear that too many people read the reading list in newsroom. This leads to an unclear responsibility and confusion. The EMT did no really saw this as an issue, but after explaining the different ways information can flow through the current process and the complexity and confusion this can cause, it became clear that the current way of working is perhaps not efficient. Furthermore the analysis pointed out that end editors are actually too expensive to read the reading list the whole day. They should focus on the output and content of messages and reportages. On the question which tasks the end editor spends most of his time and which tasks he'd like to focus on, they answered that reading the reading list, agenda and reminders and decide which messages should be placed on the website takes a lot of time and were not the tasks they like to focus on. End editors like to focus on decisions regarding additional items and topical stories and providing feedback to reporters and desk editors. The logic solution for this bottleneck would be: assigning the task of reading the reading list and deciding which message to place on the internet to the employees writing the website messages, because of several reasons. The first reason is that the desk and end editor capabilities will be used more to the fullest. Employee's competencies must not be underestimated. Desk editors all have a higher education and should be able to make decisions about whether to write a website message or not by themselves. By assigning this task to the desk editor, their capabilities are better utilized. This also applies to the end editors which are now spending a lot of time reading the reading list and deciding which messages to use, through which they have less time for other tasks that are actually more important. By shifting this task to a desk editor, end editors can focus on more difficult decisions regarding additional items and think about topical stories. Besides they will have more time left for providing feedback and therefore could improve the quality of reports. The second reason is that if the desk editor reads the reading list, decides whether to make a website message and writes the website message, the sequence of activities for producing website messages will be the shortest. Besides there will be no transportation of information and digital documents and consultations between different people. Therefore the process will be quicker and chance of wastes occurring in the process will decrease. Making the process quicker will improve the effectiveness, as the vision describes that news must be brought immediately to the customers by the website. Making the process shorter will increase the timeliness of the website. Decreasing the chance of wastes will ensure the continuity of the website and makes the process more efficient. According to the end editors, this solution does not seem to be so perfect. Because of previous experiences, they think that not all desk editors will be capable of handling the reading list. In previous times, desk editors continuously asked if they should write a website message about a subject or not and therefore end editors took this responsibility. However, this could be a managem ent fault. According to the study on employee satisfaction (Centraal Beheer Achmea & Samhoud, 2012) it seemed that responsibilities are unclear and managers are not very complimentary, this could be a cause of desk editors not taking responsibilities. End editors must support desk editors to be independently. Let them make mistakes and give feedback. In the feedback the end editors should make clear why

another solution would have been more appropriate. They should make the link between desk editor's daily tasks and the organisations vision and strategy clear and ensure that the choice's they make are always consistent with this strategy and vision. In this way employees can learn what is expected from them and why certain choices are not right while others are. It is important to keep in mind that this learning process will take some time and benefits from shifting the decision making tasks regarding website messages to desk editors will not become visible immediately after implementing it.

Another point of attention from the analysis was that there are a lot different desk editor shifts with different task descriptions. This system of shifts seems to be quite complex from several viewpoints. First it is stated that not every freelance desk editor can work immediately as a desk editor for RTV Oost, because the shifts are difficult to understand. Second there is a strong desire from the desk editors to ensure more continuity in tasks. Third, the current task distribution leads to several employees working on website messages, when they have time left. This leads to confusions. In the current way of working it is not clear who is working on what task and who is responsible for which output. The situation seems to be unnecessary complex. Therefore the desk editor shifts and job descriptions are reconsidered. In the same time the desired occupation for certain jobs on certain times is tried to determine. Based on this a planning is suggested with changed desk editor shifts. This is displayed at the end of this section in table 10 and 11.

Website messages

Because of an uneven distribution of the workload, many desk editors write website messages during a day. This causes unnecessary distribution of information, confusion and may even cause defect and rework. Therefore the task distribution must be reconsidered and more hours should be given to write website messages. Currently only one person has this task as main job, the ND2, this should be extended. The proposed desk editor shifts and job description are displayed at the end of this section in table 14 and 15.

Regional news bulletins

In the analysis a suggestion is made regarding the quotes for regional news bulletins for radio. These are now often arranged by desk editors and should be gathered and edited by bulletin editors. The bulletin editor has more time for this and therefore tasks will be better distributed. Besides the bulletin editor must know what the quote is, to adjust the messages in the bulletin. If the bulletin editor does not arrange the quote, rework exists. Therefore it will be more efficient to assign this task to a bulletin editor. According to the EMT, bulletin editors should all be able to arrange quotes and the EMT did not foresee any issues with this change proposition.

A note at arranging quotes is that this can be assembled from existing material, but also sometimes quotes are arranged from phone calls. In the process of arranging quotes from phone calls some wastes occur due to technical shortcomings. These wastes could be eliminated if a quote could also be recorded and edited from the desk of the bulletin editor. This is currently not possible, but perhaps somewhere in the future some techniques will become available that makes this possible.

Productions

The main problem in productions is that reporters cannot always be coupled to a desk editor for certain stories. Moreover, reporters cannot always produce the topic that he will also make reports about. This lead to rework. The main cause for this issue is that reporters are often on the road and desk editors rotate between shifts. A more ideal situation would be that some desk editors would be assigned to only a production shift. Then RTV Oost can work like the principle of an internal account manager and external account manager. The internal account manager is the production desk editor, preparing recordings and the external account manager is the reporter, executing the recordings. If a desk editor is (almost) always available for productions, transportation of information and document will decrease a lot. This will lead also to less 'start-up' time, meaning time to get acquainted with the subject. Besides, the chance that a reporter can work with the same desk editor on the same subject will be a lot greater. This production desk editor should then try to prepare and plan reports in such way, that a reporter can work efficient and effectively and does not have a lot of time between recording and assembling and another recording etc. The desk editor should therefore not only be capable in arranging interviewees and collecting background information, but also in planning. He or she must be able to make appointments on appropriate times and in a logistically suitable sequence. In this way, reporter times of items that can be scheduled could be better planned. Newsroom could be well used for such schedules and plans. Of course there must always be at least one reporter available for the unpredictable reports, such as traffic accidents.

The main issue with a fixed desk editor for production will be that the production shifts can be scheduled during office hours, while for example a shift for website message writers can be scheduled between 05:00 and 01:00. This will make the production shift much more attractive, as most prefer to work during office hours. This could for example be compensated by trying to schedule production desk editors for the weekends and not the desk editors that are often scheduled for website message shifts. Another approach could be that desk editors will be scheduled for all shifts, but will be scheduled more for those shifts that they are specialized in. Tis approach will ensure more flexibility and task variability, but also less task continuity and more transportation of information and digital documents. The most preferable situation will be one in which some desk editors will be scheduled for productions shifts only and as a compensation for the other editors, those desk editors will have to work (more often) in the weekends.

Additional radio items

Guests or telephone interviews for radio broadcasts are arranged by a lot of different people, namely the ND1, morning shift, evening shift, ND3 or ND4. This seemed very confusing and complex. According to the EMT, however, this is not a problem at all. Everything for news is kept by in newsroom, which makes these kind of variability clear. Furthermore the issue of not having one person responsible for all radio broadcasts does not have priority for RTV Oost. The EMT believes that it does not harm the quality of a broadcast that at 6 p.m. the same message as at 10 a.m. is told. It would perhaps be worse if two times at one day the same person is called for an telephone interview. But the implementation of newsrooms has made these kind of mistakes almost impossible, because all additional items are made in newsroom and placed in certain lists

which are available to everyone from the news detachment. Therefore no change proposition is made regarding this issue.

Emergencies

Finally a comment was made by the chef new media, that in emergencies the editorial department does not work well. According to him, the first-line news may never be interrupted and therefore in emergencies other employees than those working for the first-line news channels must answer telephone calls etc. In this research, the editorial department was not studies during emergencies and so there is no empirical information about these situations. As a consequence no well-funded change propositions and conclusions can be made. It does seem logical that first-line news distribution may not be interrupted, because the vision/strategy of RTV Oost makes the importance of these news channels explicit. The more general proposition that can be made here is to discuss the current protocol with work floor employees and the EMT and brainstorm about ways to improve this. Perhaps, due to changes that occurred over the years, the current protocol is outdated and requires some adjustments.

The above discussed change propositions are summarized in the table below:

table 13: Change propositions news detachment

sub process	Change proposition	Goal
News editing	Assigning the task of reading the reading list and deciding which message to place on the internet to the employees writing the website messages.[9]	Quicker process (effectiveness) Decreasing transportation and defects/rework (efficiency)
News editing	Reconsidered task distribution and desk editor shifts (table 10 and 11).	Less complex desk editor shifts
Website messages	Assign more hours to shifts for writing website messages.	Better workload distribution (efficiency)
News bulletins	Let the bulletin editor always arrange the quotes for his/her own bulletin	Better workload distribution (efficiency)
News bulletins	If techniques come available in the future, make it possible to arrange quotes from the desk.	Less transfers and start-up times (efficiency)
Productions	Schedule some desk editors only for production shifts. (as these shifts have more preferable times, production editors could be scheduled more often in the weekends).	Decreasing transportation of information, less defects/rework, more easily collaboration with reporters (efficiency & effectiveness)
Additional radio items	No change proposition, having a lot of people arranging guests/interviews and having not one person responsible is no problem.	-
Emergencies	No change propositions, because of lack of data. General proposition is to discuss the current emergencies protocol with work floor employees and the EMT.	-

[9] End editors must support desk editors to be independently, which will require some additional time in the first weeks/months after implementing the change proposition.

From the above analysis some shifts needed to be changed and tasks redesigned. Therefore a schedule proposition is made with new shifts and times. This displayed below. Furthermore the a new task description is made for every shift. This is presented on the next page.

Table 14: Schedule proposition news detachment

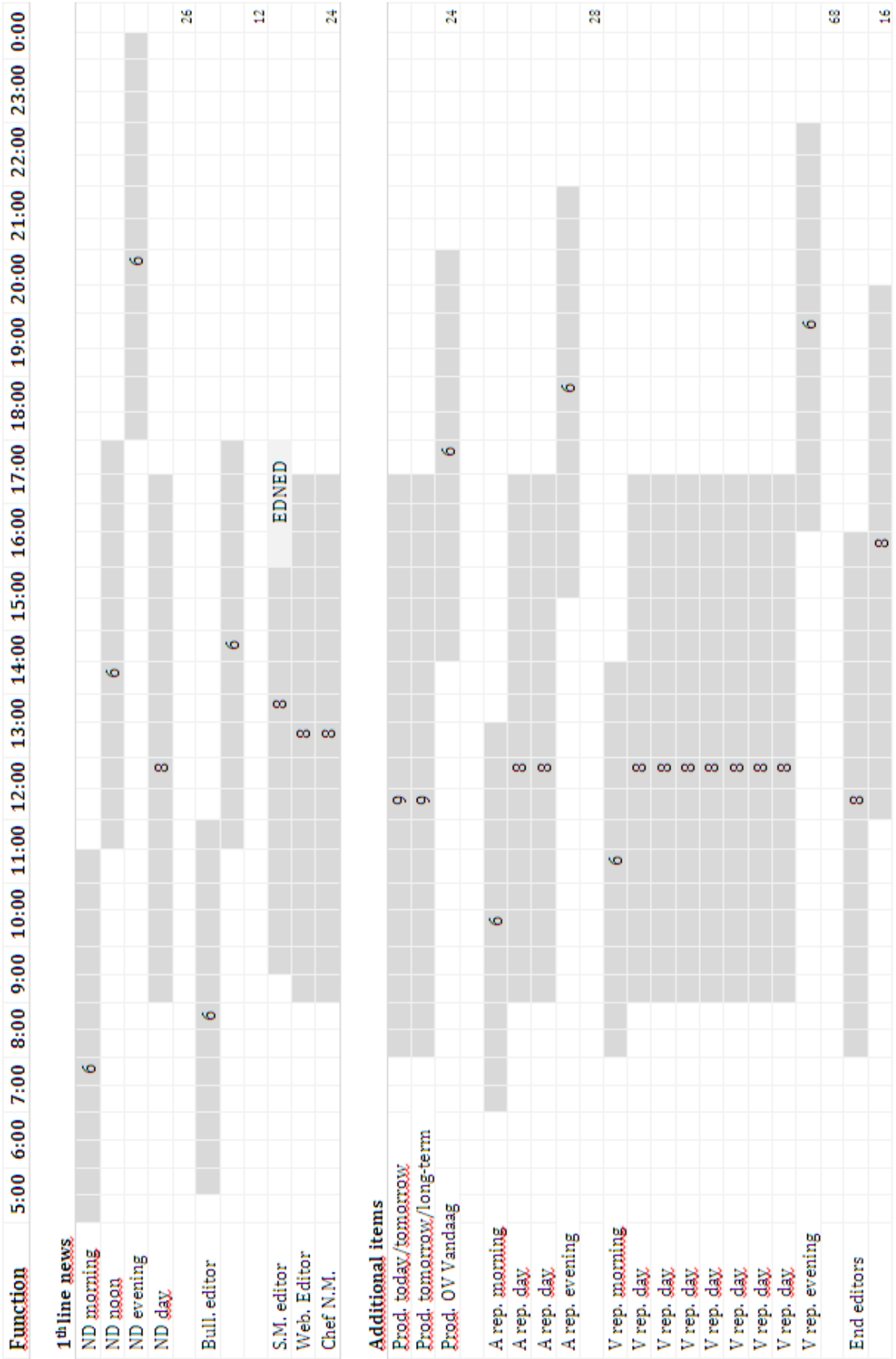


Table 15: Proposed shifts and associated task descriptions

Shift	Task description
News desk editor	All read the reading list (also of sport), decide whether to write a website/teletext message, write website/teletext message and adjust available images etc. Decide (in consultation with bulletin editor) which messages to use for the regional radio bulletin.
Morning	In case of interesting news occurring before 8:00, write text for radio presenter of KW and/or arrange additional items.
Noon	-
Evening	In case of interesting news occurring after 17:30, write text for radio presenter of KW and/or arrange additional items. Make thesis for the next day.
Day	-
Bulletin editor	Decide in consultation with news desk editor which messages to use for the regional radio bulletin, if necessary arrange quote, rewrite messages, present the regional news bulletin on radio at the appropriate hours (see table 3).
Social media editor	Supports and complements the website messages. Is mostly busy with searching for news and/or additional material on social media. He also will appear as a 'guest' in the informative program EDNED and does preparations for this.
Website editor	Guards the website and derivative applications. Adds links and other material to the messages and thinks about ways of improvement.
Chef new media	Operational manager of the first line news channel. Gives feedback on the content and titles of the messages. Focusses on ICT opportunities and external contacts.
Production editor Short-term	Makes productions for today and tomorrow for radio as well as television. Most productions of the day will be made by reporters executing it.
Production editor Long-term	Makes productions for tomorrow and longer term for radio as well as television. This also includes the topical stories.
Production editor OV Vandaag	Supports the production of the long version of Overijssel Vandaag. Searches for additional images, produces teasers for reportages and adds the full (live) reportages after the broadcast of the program to the website message.
Audio reporter	Makes productions (if not made by a desk editor), does live report or makes reportages, adjusts the appropriate website message and adds reports.
Morning	Begins with the thesis of the day.
Day	-
Evening	Makes reportages for the radio program of the next morning
Video reporter	Makes productions (if not made by a desk editor), makes (live) reportages, adjusts the appropriate website message and adds reports.
Morning	Mostly news occurring that day.
Day	Focus also on topical stories. This shift can be performed earlier or later if desired.
Evening	Mostly news occurring that day.
End editor	Operational manager of the additional news items and content of radio and television programs. Decides for which news messages additional material is desired, and allocates production and report tasks to appropriate employees.
Early	Focusses on a proper amount, content, time distribution and combination of additional radio items.
Late	Focusses on the television program Overijssel Vandaag.
Radio/TV presenters	These are not included in the proposed schedule and task distribution because no change proposition were made regarding these employees.

6.2.2 Informative detachment

There are two points of attention in the processes of the informative detachment. One, the content of the television program EDNED will change or the coming season. Instead of three guests and a habitué, there will be a social media presenter, two guests and a habitué. These two guests will contain one actual person and one person that does not necessarily have an actual story. This last person could for example be a singer, actress, business man, volunteer, criminal etc. Two, the rotation between desk editor shifts seems to cause a lot of transmission of tasks and therefore also of information and (digital) documents. Another cause for this is that a lot of people work part-time. The desire is to increase the continuity of tasks, but to remain flexible. Flexibility is important, because in case of for example events, the detachment chef likes to schedule his permanent employees for organizing those events. The tasks of that employee organizing the event need then to be carried out by other (freelance) employees. Besides jobs must retain some variability to keep employees motivated.

The main issue of transportation of information and digital documents occurs among other to a great extend at arranging guests, when someone has prepared a guest and another one has to finish the arrangement, or that the guest editor does not know what guests are already arranged at what days, so the agenda must be read all the time etc. A possible change proposition to eliminate these wastes is making one person responsible for certain guests. In the future content of EDNED, there have to be arranged two kind of guests. By making one person responsible for one kind of guest, responsibilities will be explicit and tasks will be more clear, which will reduce the risk of confusion. Furthermore that person will know what he/she has already discussed before and what kind of guests he or she has already arranged. Therefore also wastes due to transportation of information or digital documents will decrease a lot. This makes the process much more efficient.

Currently every day tree guests and one habitué was present during the program. For arranging these guests everyday one guest editor was present. Furthermore every day one (and sometimes two) production editor was available, for supporting the broadcast of that day and arranging guests. Together thus about 100 hours a week (40+40+20) guest and supportive editors are working for EDNED. In addition every day an image editor is available. Hence in total 140 hours a week desk editors are working for EDNED.

In the coming season two guests have to be arranged, and one habitué and a social media editor of the news department will be present. These last two have their own stories and require little preparations of a desk editor, but there has to be some communication to align topics and the habitués must also be planned into the agenda. The two guests, one actuality related and one cultural related, require probably on average as much time as was spend previously on arranging a guest.

As described above, arranging a habitué requires little preparations, therefore probably maximal eight hours every week is spend to plan the habitué and align their topics to the other part of the program. The support tasks of the current production editor exist of arranging a guest when one is missing, searching for additional material and support the image editor. Arranging a guest on the day of broadcast may in the future content of EDNED not be possible anymore. The editors

responsible for arranging guests must have a fixed amount of time to arrange a guest for every day a broadcast will take place and must provide these guests no matter what. This because if someone else is supporting in this task, the benefits of having one person responsible will decrease. Supportive tasks will then consist of searching for additional material and other tasks at emerging issues. At the time that guests are prepared well and a lot of information an material is gathered by the guest editors, the supportive editor does not have a lot of work anymore, but from interviews it seemed that an editor available to support the broadcast of that day and help at suddenly emerging problems is important and it is thus necessary to have one available every day. Therefore a proper solution would be to have one supportive desk editor available every day, but for only about four hours.

Currently 100 hours a week were spend to arranging guests en support the broadcast of the day. About 30 hours were spend on arranging the habitué and supporting the broadcast of the day. Then 70 hours remain for arranging 3 guests, which is about 23 till 24 hours per guest. Therefore it is assumed that in the future situation also about 24 hours is required. Keeping in mind the efficiency benefits of having one person responsible for one guest, retaining the same amount of hours per guest will actually lead to an increase of hours effectively spend on arranging guests. Therefore this may even improve quality.

Finally an image editor must be available every day. The tasks of an image editor consist among other of producing the script, editing a short version of the episode of the previous day and loading and editing video material for the broadcast of that day. It is required that an desk editor is available at the video editing (which is done by a video editor), because he or she has more experience and knowledge of how the content of a program should look like. Image editors can also not do the video editing by themselves, because this kind of video editing seems to be quite specific and difficult. Therefore the tasks of the image editor will remain quite the same. One difference will be that the image editor has to communicate with the social media editor of the news detachment, about his topics and role in the program.

These changes will lead to other shifts and task distribution (table 16). The proposed shifts and amount of hours to spend on certain shifts are shown in the first row in the following table. In the first column the permanent informative employees that are available as desk editor for EDNED and the amount of hours they can spend on this program are shown. In the other columns a proposition is made of the amount of hours a certain person could spend on the different shifts. The choices to assign certain persons to certain tasks is made based on conversations and interviews. However, this is just a proposition, the chef of the informative detachment is more able to assign the right person to the right shifts. What however should be seen as ‘fixed’ in this proposition, is that one desk editor must have room to spend 24 hours every week to arrange a topical guest and another desk editor to arrange a cultural guest. Furthermore, the persons assigned to the support shift, all have other tasks which can be performed at all times, namely arranging a guest. DO has another program she must prepare which she can also do at (almost) all times. Therefore these persons can choose to work a full day when they have a support shift, because they can schedule their other tasks also that day. This makes it easier to adjust the shifts to private circumstances.

Table 16: Proposed shifts and occupation for desk editors of EDNED

	Topical guest editor (24h)	Cultural guest editor (24h)	Image editor (40h)	Habitué editor (8h)	Support editor (20h)
SS (24h)			24		
JB (36h)		24	8		4
IB (16h)				8	8
ER (32u)	24		8		
DO (8u)					8
Shift times	Negotiable	Negotiable	09:30 – 18:00	Negotiable	11:00 – 15:30

6.2.3 Sport detachment

In contrast to the news detachments, sport makes use of three separate news databases, which leads to ambiguities. Besides, news is read at different times, by different people at different locations. Therefore it is not known who is doing what at certain times. This leads to confusion. Besides this brings a high risk of rework, like two people working on the same kind of news, and defects, like missing news messages because it is thought somebody else would do it. Furthermore, just like the process at news detachment, before writing a website message, the desk editor consults with the end editor. This is unnecessary, see section 6.2.1. Moreover, at the sport detachment the desk editor also consults always with a reporter if it is a message about a professional Overijssel's soccer club. This makes the process slow an requires unnecessary actions. Besides, it seems that those reporters often reject the message, because it is not confirmed by the club. However, important gossips may and even should be placed on the website, so it also leads to some kind of defects. For improving the above mentioned wastes, the processes of the news detachment (which are at some point more efficient or already discussed in the previous sections) are used as an example. Besides the issues are discussed with the EMT.

First of all it is agreed by the EMT that one primary database will be clearer and the sport detachment should, just like the news detachment, make use of newsroom. This would not only improve efficiency of the news detachment, but will also make cooperation with the news and informative detachment easier.

Secondly, the process of writing sport website messages is now vague and confusing. The process of writing website messages on the news detachment on the other hand is much more clear and is therefore used as an example. The important question that rises is, is it practical to use for sport messages the same process as for general news messages? The main difference between sport and general news is that sport news mostly comes in the weekend. Therefore there will be not enough news during weekdays to put a full time desk editor on this task. A solution here may lie in a cooperation with the news detachment. According to some of the EMT all desk editors must be able to write also sport messages. Currently they are able of writing messages of all Overijssel's news, economic, cultural, educational, environmental etc., while they are not specialized in most of those subjects. So why shouldn't they be able to write sport messages? These kind of messages are not necessarily more difficult than others. If a desk editor likes to have more specific information about a topic which he or she is unable to collect, he or she can first write a short message, so the website is timely. Then the desk editor can call a

reporter or other desk editor who has more knowledge about the subject and ask for additional information. In the case a reporter does not have an immediate answer but must do some investigation, the reporter could adjust the website message by him/herself. Other members of the EMT seemed to be disagreeing in first instance, but could not reject the above reasoning.

A specified output description could be of great help for these desk editors. Besides based on this output description the reading list could be well specified and only those messages of clubs, sports and people that the sport end editor thinks are important will be filtered into this reading list. Therefore the change proposition is to let a general news desk editor write also sport news messages during weekdays. This will lead to a much faster process, making the process more effective and will decrease the complexity and vagueness which will decrease wastes like confusion, rework and defects. Having a separate sport news desk editor will lead to underutilization of people, because writing only sport news messages during weekdays will not provide enough tasks to fill a full time job. General news desk editors will also have to write messages for all other news items, this can be well combined with sport messages

Thirdly the unnecessary consultations with an end editor and/or reporter should be eliminated. Desk editors should be able to make decisions regarding website messages themselves this does not have to be determined by end editors, this is already discussed for general news desk editors in section 6.2.1.

During the meeting with the EMT the consultation of a desk editor with a reporter about website messages is discussed. Besides the sport end editor, everybody seems to agree that desk editors should not discuss first with a reporter about whether or not to place a message on the internet. First of all this makes the process slow and requires unnecessary actions. Secondly news is often rejected by those reporters because their sport clubs did not give confirmation, but one of the purposes of the website is to bring important gossips. Because of these reasons, consultation of a desk editor with a reporter should be eliminated. The desk editor should write a website message of those subject he or she thinks are important and fit into the organizational vision. After placing the message on the website, the desk editor can call a reporter for support when the desk editor likes to have additional information which he or she is unable to collect.

table 17: Change propositions Sport detachment

sub process	Change proposition	Goal
Begin process	Use one primary database: newsroom.	Decrease complexity/ rework/ confusion (efficiency) and increase cooperation with other detachments
Website message	Let a general news desk editor write also sport news messages during weekdays.	Faster process (effectiveness) decrease confusion/ rework/ defects/ underutilization of people (Efficiency)
Website messages	Let desk editors read the reading list and decide which message to put on the internet (see 6.2.1.) Let them also not discuss with reporters before writing a website message.	Quicker process and more messages (effectiveness) Decreasing transportation and defects/rework (efficiency)

6.3 Achieve control in labour cost

The financial department is unacquainted with the editorial processes and does not know where people are spending their time on. Provided information by end editor or editorial chefs is often subjective or not specific enough and thus not debatable. Therefore there is little insight in the efficiency and effectiveness of the editorial department and this makes it very difficult for the financial department to control the labour costs. The output, input and process description in the fourth chapter gives much insight in the editorial department and therefore solves a part of this control problem. In the analysis and above change propositions insight is given in the effectiveness and efficiency of the current situation and improvement opportunities for the future. This solves another part of the control problem. An high level of control, such as in many manufacturing companies, can however never be achieved. This because there is a constant variation in input, output and processes. Of course input, output and processes are globally seen quite standard, as described in chapter four, but in more detail they vary a lot. Employees differ from each other, they all have different capabilities. The output of the editorial department is difficult to measure; 10 different people judging the quality of a report will probably give 10 different grades. And detailed processes are carried out in a different way. The processes of different reports will differ from each other. For example: a reportage about a car accident will require other actions than a reportage about a criminal case. The global process will be as described in section 4.3.1, but detailed actions and time spend on those actions will vary a lot. The second reportage will probably require much more time than the first one and it is possible that the time spend on making the reportage per minute broadcast will be much higher for the second reportage as for the first one. This does not necessarily mean that the reporter making a report about the car accident did a better job than the reporter working on the criminal case. This problem also occurs between two different criminal cases. Because of these difficulties, effectiveness and efficiency measurements like KPI's or PI's, which are often very useful in control problem, are not used in this research. The change of misinterpretation of measurements is simply too big, and negative consequences could occur.

Besides an absence of insight in the editorial processes and the efficiency and effectiveness thereof by the financial department, the financial department lacks the most control for labour cost at the sport detachment. This because the employees of this detachment are not planned in prompt, the planning system of RTV Oost. It is assumed by editorial chefs that these employees make a lot of overtime and have such variable working times that this is impossible to plan, but the financial department strongly doubts that. The absence in the planning system causes an uncontrollable labour payment like for example residual vacation days. This is currently based on faith and subjective arguments. A planning of sport employees can, however, not be executed without describing the desired output in more detail. This is necessary because reporters are often on the road. Without clarifying what must be done exactly it is uncontrollable to verify if the worked hours were indeed needed to perform a certain output. In other words a lot of overproduction could be realized, which will lead to a lot of overtime, while this was not necessary to fulfil the customer's needs. Therefore output description for reporters must be detailed. This now partly already the case, because in the production reports it is mentioned among other which soccer games a reporter must report about, which cameraman will be

present, when the game begins and where the game takes place. What could be added is the estimated time a reporter needs to fulfil the job. In particular by soccer game reports, this time could be well estimated by taking into account the time spend travelling, preparation before the game, the game, interviews after the game and video editing. This could then be planned in prompt. In cases that the estimated time does not match the actual spend time on a report, the hours in prompt can be adjusted and verified by the chef. This can also be done by planned interviews, games of other sports, tournaments, reports about trainings etc. Things that can't be planned are suddenly occurring news for which video files are desired, like a suddenly soccer player transfer. These reports require some flexibility of reporters. Much reporter tasks can only be planned at the beginning of the week, on Mondays, because the previous results of games and tournaments will play a role in decisions for that week. However, there will be some kind of reports that will almost certainly be performed no matter what or are at least known longer than one week in advance. Such reports are for example RTV reports of certain professional soccer games. Shifts for these reports should be planned as much in advance as possible. In this way reporters know better what is expected from them and can prepare themselves for the reports they have to make. There are also tasks that will be performed every week, such as those of results editors, desk editors, producer, presenters for radio and television and end editing tasks. These can be planned in the form of fixed shifts. For certain shifts people can be scheduled more than one week in advance, such as those of a desk and result editor. Others will be assigned to people on Mondays.

In summary, in order to achieve a sufficient control, the output of the sport detachment must be described in more detail. Based on this output an expected amount of hours spend on producing that output must be estimated. Based on this amount a desired occupation can be determined and planned in prompt. The shifts and needed occupation for the sport detachment, based on currently made reports and used shifts, are summarized in table 18.

Table 18: Needed occupation for the shifts of the sport detachment

Shift	Weekdays	Saturday	Sunday
Desk editor	News detachment	12:00 – 18:00 16:00 – 22:00	12:00 – 18:00 16:00 – 22:00
Result editor	-	13:30 – 17:30 13:30 – 17:30	13:30 – 17:30 13:30 – 17:30
End editor	Monday: 08:30 – 17:00 Wednesday: 09:30 – 14:00 14:00 – 18:00 (rubric) Friday *: 13:00 – 17:00	13:00 – 21:30	13:00 – 21:30
Producer **Extra broadcast**	 On average six hours a week**	12:00 – 18:00	13:00 – 18:00
Radio presenter **Extra broadcast**	 On average six hours a week**	15:00 – 18:00	16:00 – 18:00
Television presenter		17:00 – 21:30	17:00 – 21:30
Reporter	On average 12 times and 80 hours a week for reports *** 2 x 4 = 8 hours a week for the meeting on Monday		

** It is not known how much time an end editor needs during weekdays to organize things. The estimation is made that about two full days, 16 hours, will be enough, because the detachment is small. Mondays and Tuesdays the end editor will certainly be present because of the meeting and rubric. Friday will be a useful day to be present also, because then lasts things for the weekend can be prepared.*
*** Outside the hours in the weekend, there is on average about two times a week an extra radio presentation, which requires about 3 hours per broadcast.*
**** Based on production reports of the sport detachment. See for a summary of these productions table 8.*

Desk editor, result editor and producer shifts are almost always executed by freelance employees. Other shifts are performed by both, freelance and permanent employees. If the end editor can organize all sideline activities within 16 hours in weekdays, he can also be available as end editor for the sport programs on Saturday and Sunday and prepare his radio rubric on Wednesday. Than there remains 6+3+2= 11 hours for a radio presenter, 4.5+4.5=9 hours for a television presenter and 88 hours for a reporter.

Normally BvL present the standard radio and television programs on Saturday and Sunday. He can do this both in sequence because of his experience he doesn't need extra preparation time for the television presentation. This saves 1 hour of preparation time. However, when BvL must present a live television report, someone else will do the radio and television presentation. In these cases two different employees are needed, one for radio and one for television. This is on average one time a week the case, so actually instead of 20 hours p.w. of presentation for radio and television, 19 hours are needed.

Every week one or two freelance reporters are scheduled for the sport detachment. For such a report they are scheduled six hours, so about 9 hours every week a freelance reporter will make a report for RTV Oost.

This means that (19+88-9=) 98 hours must be divided among 4,33 fte permanent sport employees of RTV Oost. BvL (0,33 fte) does only radio and television presentation, for which he spends on average 12 hours a week. This means that the permanent sport reporters must spend on average about 86 hours to reporting and presentation. A full time work week contains 36 hours. Multiplying 36 with 4 becomes about 144 hours. The full time sport reporters will have then according to these calculations about (144–86)/4=14.5 hours left to spend on preparations or other tasks, like making connections to sport clubs or support the end editor with organizational tasks.

Following these calculations there is no reason to expect much overtime for sport reporters. This will be caused for a great extend to a much more efficient process of desk editing tasks and making the process more transparent and less complex.

CHAPTER 7: RECOMMENDATIONS

In the previous chapter an extensively answer to the research question is given. This has led to several change propositions for RTV Oost. These change propositions are below transformed in recommendations. Reasons behind these recommendation can thus be found in the previous chapter. First the recommendations for the news detachment are given, then those for the informative detachment and finally the recommendations regarding the sport detachment.

News detachment

These changes are more simple and can be implemented quite easily:

- Start the first desk editor shift one hour earlier than that's currently the case, thus at 05:00. If this gives troubles with the current end of the evening shift, the shift could end one hour earlier, thus at twelve o'clock at night.
- Assign the responsibility for uploading Overijssel Vandaag related items to the website to the desk editor shift P3. Such items are teasers for the program's reports that cannot fully be uploaded jet and after the program has been broadcasted on television all full (live) reports.
- Assign the task of gathering and editing quotes for a radio bulletin to bulletin editors.
    - If techniques become available, make it possible for bulletin editors to arrange a quote from their desk. This does not have priority.

The following recommendation will be more difficult and requires real adjustment of employees. Therefore it is important to do these recommendations not all at once but in the given sequence:

1. Make the end editor responsible for the organisation of a proper amount, content, time distribution and combination of additional radio items.
2. Give end editors in the mean time the task of supporting desk editors to become independently and able to make own decisions, so they can fulfil the task of reading the reading list and deciding which message to put on the internet.
    - Important herein is that end editors should make the link between their daily tasks and the organisations vision and strategy clear and ensure that the choice's they make are always consistent with this strategy and vision. Be positively critical, meaning feedback may be critical but must always contain some element that gives a desk editor opportunities to learn from and improve its capabilities.
3. When this works well, let the 'news hours' diminish and present the news in an appropriate form when it is available.

The proposed schedule for the news detachment (excluding the radio and television presenters) is displayed on the following page. The task description for the different shifts can be found in the previous chapter, section 6.2.1 table 15. Different shifts means different working times, therefore management must first carefully inform the concerning employees and give them time to make arrangements in their private circumstances before implementing new schedules.

Table 19: Schedule proposition news detachment

Function	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	0:00	
1th line news																					
ND morning			6																		
ND noon										6											
ND evening																6					
ND day								8													
																					26
Bull. editor				6																	
										6											
																					12
S.M. editor									8				EDNED								
Web. Editor									8												
Chef N.M.									8												24
Additional items																					
Prod. today/tomorrow								9													
Prod. tomorrow/long-term								9													
Prod. OV Vandaag													6								24
A rep. morning						6															
A rep. day								8													
A rep. day								8													
A rep. evening														6							
																					28
V rep. morning							6														
V rep. day								8													
V rep. day								8													
V rep. day								8													
V rep. day								8													
V rep. day								8													
V rep. day								8													
V rep. day								8													
V rep. evening															6						
																					68
End editors								8													
												8									16

Informative detachment

Recommendations that come forward from this research regarding the informative detachment include:

- Ensure more continuity at desk editor tasks for the program of EDNED by assigning the responsibility for arranging certain guests at one person. The following task distribution is proposed for the EDNED desk editors. These task distribution among the employees may be adjusted, but there must remain one person responsible for arranging a topical guest and one for arranging a cultural guest.

Table 20: Proposed shifts and occupation for desk editors of EDNED

	Topical guest editor (24h)	Cultural guest editor (24h)	Image editor (40h)	Habitué editor (8h)	Support editor (20h)
SS (24h)			24		
JB (36h)		24	8		4
IB (16h)				8	8
ER (32u)	24		8		
DO (8u)					8
Shift times	Negotiable	Negotiable	09:30 – 18:00	Negotiable	11:00 – 15:30

Sport detachment

The first task that must be accomplished is:

- Ensure one primary database for the sport news detachment: newsroom. And enter good filters for which messages must come into the reading list.

After this the following change propositions should be carried out:

- Assign the task regarding decisions and writing of sport news messages during weekdays to general news desk editors.
- Eliminate consultation of a desk editor about whether to write a website message with the end editor or reporter of the sport detachment.
    - In cases the desk editor desires some extra information which he/ she is unable to collect, the desk editor can call a reporter for support after writing a short message.

In the mean time the sport detachment can also begin with implementing the planning in prompt by following these actions:

1. Describe the output of the sport detachment in more detail. Estimate based on this output an expected amount of hours spend on producing that output.
2. Determine based on this amount a desired occupation and plan this in prompt.
    - Shifts for reports and preparation thereof should be planned as much in advance as possible. Shifts for results editors, desk editors, producers, presenters for radio and television and end editing tasks can be planned in the form of fixed shifts for the whole year.
    - For certain shifts people can be scheduled more than one week in advance, such as those of a desk and result editor. Do this as much as possible. Others must be assigned to people on Mondays.

3. Only suddenly occurring events can cause a deviation from this planning. This will require some flexibility of the sport detachment. If a shift took longer than planned, because of a plausible explanation, this can be adjusted in prompt and verified by the chef sport.

Below the shifts and needed occupation for the current output are summarized

Table 21: Needed occupation for the shifts of the sport detachment

Shift	Weekdays	Saturday	Sunday
Desk editor	News detachment	12:00 – 18:00 16:00 – 22:00	12:00 – 18:00 16:00 – 22:00
Result editor	-	13:30 – 17:30 13:30 – 17:30	13:30 – 17:30 13:30 – 17:30
End editor	Monday: 08:30 – 17:00 Wednesday: 09:30 – 14:00 14:00 – 18:00 (rubric) Friday *: 13:00 – 17:00	13:00 – 21:30	13:00 – 21:30
Producer **Extra broadcast**	On average six hours a week**	12:00 – 18:00	13:00 – 18:00
Radio presenter **Extra broadcast**	On average six hours a week**	15:00 – 18:00	16:00 – 18:00
Television presenter		17:00 – 21:30	17:00 – 21:30
Reporter	On average 12 times and 80 hours a week for reports *** 2 x 4 = 8 hours a week for the meeting on Monday Variable time to do some extra preparation for reports.		

** It is not known how much time an end editor needs during weekdays to organize things. The estimation is made that about two full days, 16 hours, will be enough, because the detachment is small. Mondays and Tuesdays the end editor will certainly be present because of the meeting and rubric. Friday will be a useful day to be present also, because then lasts things for the weekend can be prepared.*

*** Outside the hours in the weekend, there is on average about two times a week an extra radio presentation, which requires about 3 hours per broadcast.*

**** Based on production reports of the sport detachment. See for a summary of these productions table 8.*

General notes

Furthermore two general notes came forward from the analysis of the previous chapter. One, the chief adjunct editor could keep the times that more than 5 per cent of the people listen to radio, from 07:00 till 22:00 in mind for the broadcast of (semi) live regional news bulletins and presented radio programs. Two, comments were made by some employees that the first line news channels may never be interrupted but at times of emergencies, they often are, which was a bad thing according to those employees. Perhaps, due to changes that occurred over the years, the current protocol for emergencies is outdated and requires some adjustments. The more general proposition that can be made here is to discuss the current protocol with work floor employees and the EMT and brainstorm about ways to improve this.

REFERENCES

Scientific literature:

Aguilar-Savén, S. R. (2004). *Business process modelling: review and framework*, International Journal of Production Economics, vol. 90, iss. 2, pp. 129-149.

Alwaer, H. & Clements-Croome, D. J., (2010). *Key performance indicators (KIPs) and priority setting in using the multi-attribute approach for assessing sustainable intelligent buildings.* Building and Environment, vol. 45, pp. 799-807

Bandara, Wasana, Alibabaei, Ahmad, Aghdasi & Mohammad (2009) *Means of achieving Business Process Management success factors*. Proceedings of the 4th Mediterranean Conference on Information Systems, Athens University of Economics and Business, pp 1-17.

Bartel, A., Ichniowski, C. & Shaw, K. (2007). *How does information technology affect productivity? Plant level comparisons of production innovation, process improvement and worker skills.* Quarterly journal of economics, vol 122, iss 4, pp 1721-1758.

Baxter, P., & Jack, S. (2008). *Qualitative case study methodology: Study design and implementation for novice researchers*. The Qualitative Report, vol 13, iss 4, pp. 544-559.

Boer, H. & Krabbendam, J.J. (1996). *Processen in organisaties*. University of Twente, Enschede.

Boston Consulting Group (August, 2011). *Efficiëntie onderzoek landelijke publieke omroep*, The Boston Consulting Group Inc., Amsterdam.

Castellanos, M., Casati, F., Sayal, M. and Dayal, U. (2006). *Challenges in business process analysis and optimization,* Lecture Notes in Computer Science, vol. 3811, pp. 1-10.

Cheng, Y.T., Chuang, H.M & Pei, C., (2010). *Risk management of developing assistive devices for eldery.* Archives of Gerontology and Geriatrics, vol. 52, iss. 3, pp. 145–151.

Coad. P. & Yourdon, E. (1991). *Object-Oriented Analyses*, 2nd ed. Prentice-Hall, Englewood Cliffs, NJ, USA.

Daft, R.L. (2003), *Management*, 6th ed., Thomson South-Western, Mason, OH

Damij, N., Damij, T., Grad, J. & Jelenc, F. (2008). *A methodology for business process improvement and IS development,* Information and Software Technology, vol. 50, pp.1127 – 1141.

Deming, W.E. (1986). *Out of the Crises*. Cambridge. Mass: M. I. T. Press.

George, M. L. (2003). *Lean six sigma for service: How to use lean speed and six sigma quality to improve services and transactions.* McGraw-Hill, US, e-book retrieved on 10 May 2012 from: http://www.fcrm.ir/mads/ebk1040.pdf

Goldstein S. M. & Schweikhart, S. B. (2002). *Empirical support for the Baldrige Award framework in U.S. hospitals*, Healthcare Management Review, iss. 27, vol. 1, pp. 62–75.

Grünberg, T. (2007). *Performance improvement.* Royal institute of technology, Stockholm, Sweden.

Guo, L. & Hariharan, S. (2012). *Patients are not cars and staff are not robots: Impact of differences between manufacturing and clinical operations on process improvement*, Knowledge & Process Management, published online, DOI: 10.1002/kpm.1386.

Hammer, M. & Champy, J. (1993). *Reengineering the corporation; a manifesto for business revolution*. Nicholas Breadly Publishing, London.

Holt, A.W., Ramsey, H.R. & Grimes, J.D. (1983). *Coordination systems technology as a programming environment,* Electrical Communication, vol. 57, iss. 4, pp. 307 – 314.

Indulska, M., Green, P., Recker, J. C. & Rosemann, M. (2009). *Business process modeling: perceived benefits.* 28th International Conference on Conceptual Modeling, pp 1-15.

Jensen, K., Kristensen, L.M. & Wells, L. (2007). *Coloured Petri Nets and CPN Tools for Modelling and Validation of Concurrent Systems*, International Journal on Software Tools for Technology Transfers, vol. 9, pp. 213 – 254.

Jimmerson, C. (2010). *Value stream mapping for healthcare made easy,* CRC Press Taylor & Francis Group, New York, US.

Keyte, B. & Locher, D. (2004) *The complete lean enterprise: Value stream mapping for administrative and office processes.* Productivity Press, New York.

Kim, S. H. & Jang, K. J. (2000). *Designing performance analysis and IDEF0 for enterprise modelling in BPR,* International Journal of Production Economics, vol. 76, pp. 121-133.

Kim, Y. U. & Moon, S. (1992). *Object-relationship diagrams for object-oriented modelling with concurrency feature,* Microprocessing and Microprogramming, vol. 33, pp. 207-2021.

Lakin, R., Capon, N. & Botten, N. (1996). *BPR enabling software for the financial services industry,* Management services, vol. 40 no. 3, pp. 18-20.

Liker J. K. (2004). *The Toyota way*, McGraw-Hill, New York, US.

Liker, J. K. & Morgan, J. M. (2006). *The Toyota Way in Services: The Case of Lean Product Development*. The Academy of Management Perspectives, vol. 30, iss. 2, pp. 5-20

Mendling, J., Reijers, H.A. & Van der Aalst, W.M.P. (2010). *Seven process modeling guidelines (7PMG)*, Information and Software Technology, vol. 52, pp. 127 – 136.

Merchant, K. A. & Van der Stede, W. A. (2007). *Management control systems: Performance measurement, evaluation, and incentives.* Third Edition, London, Prentice Hall.

Moghdeb, A. F., Green, P. F. & Indulska, M. K. (2009). *Achieving higher levels of business process improvement: a case study*. PACIS 2009 Proceedings, 13th Pacific Asia Conference on Information Systems, vol. 26, pp 1-12.

Muthu, S., Whitman, L. & Cheraghi, S. H. (1999). *Business process reengineering: A consolidated methodology.* Proceedings of The 4th Annual International Conference on Industrial Engineering Theory, Applications and Practice November, San Antonio, Texas, USA.

Picchi, F.A. & Granja, A.D. (2004). *Construction sites: Using lean principles to seek broader implementations*. Proceedings of the 12th IGLC conference, Elsinore, Denmark.

Regus (November, 2009). *Too long… I'm gone: what effect are commuting times having on key employee loyalty?* Retrieved at July 10, 2012, from: http://www.regus.nl/images/Commuting_Defection%20study_FINAL_designed_tcm45-21552.pdf

Rutten, P. (April, 2006), *De toekomst van de regionale publieke omroep: verkenning van maatschappelijke, culturele en journalistieke betekenis*. Stichting regionale omroep overleg en samenwerking, Hilversum.

Sarkar, D. (2008) *Lean for service organisations and offices: a holistic approach for achieving operational excellence and improvements,* American Society for Quality, Milwaukee, USA.

Scepanovic, S., Devedžić, V., Kraljevski, L. (2011). *E-learning benchmarking: A review of approaches, models and tools in higher education*, ICERI2011 Proceedings, pp. 3064-3073.

Schnabel, P. (september, 2004) *Individualisering en sociale integratie*, Sociaal en Cultureel Planbureau, Den Haag.

Siha, S. M. and Saad, S. H. (2008) *Business process improvement: empirical assessment and extensions,* Business Process Management Journal, vol. 14, iss. 6, pp. 778 – 802.

Slack, N., Chambers, S., Johnston, R. (2007). *Operations management,* Pearson Education Limited, Edinburg, England.

Sociaal en Cultureel Planbureau (2005), *tijdsbesteding*, retrieved at June 20, 2012, from: www.tijdsbesteding.nl

Talib, M. R. (2011). *Agent Assignment for Process Management: Resource Management Support for Skill Intensive Applications of Workflow Technology.* University of Bayreuth.

Thawesaengskulthai, N. & Tannock, J.D.T. (2008) *A decision aid for selecting improvement methodologies*, International Journal of Production Research, vol. 46, iss. 23, pp. 6721-6737.

TNS (2010) *Digital life,* Kantar group company, retrieved at 1 June 2012, from: 2010.tnsdigitallife.com

Tsai, Y. & Cheng, Y. (2011). *Analyzing key performance indicators (KPIs) for e-commerce and internet marketing of elderly products: A review*. Archives of Gerontology and Geriatrics, pp. 1-7.

Vonderheide-Liem, D. N., & Pate, B. (2004). *Applying quality methodologies to improve healthcare: Six sigma, lean thinking, balanced scorecard, and more*. HCPro, Inc.,

Wentink, T. (2005). *Kwaliteitsmanagement, bedrijfsvoering en organisatieontwikkeling*. Lemma BV, Utrecht.

Womack, J. P., & Jones, D. T. (2003). *Lean thinking*, 2nd ed., New York: Free Press.

Yeung, J.F.Y., Chan, A.P.C. & Chan, D.W.M. (2009). *A computerized model for measuring and benchmarking the partnering performance of construction projects.* Automation in Construction, vol. 18, pp. 1099–1113.

Yin, R. K. (2003). *Case Study Research: Design and Methods*. Third edition, Applied social research methods series, Thousand Oaks, Sage Publications.

Internal documents:

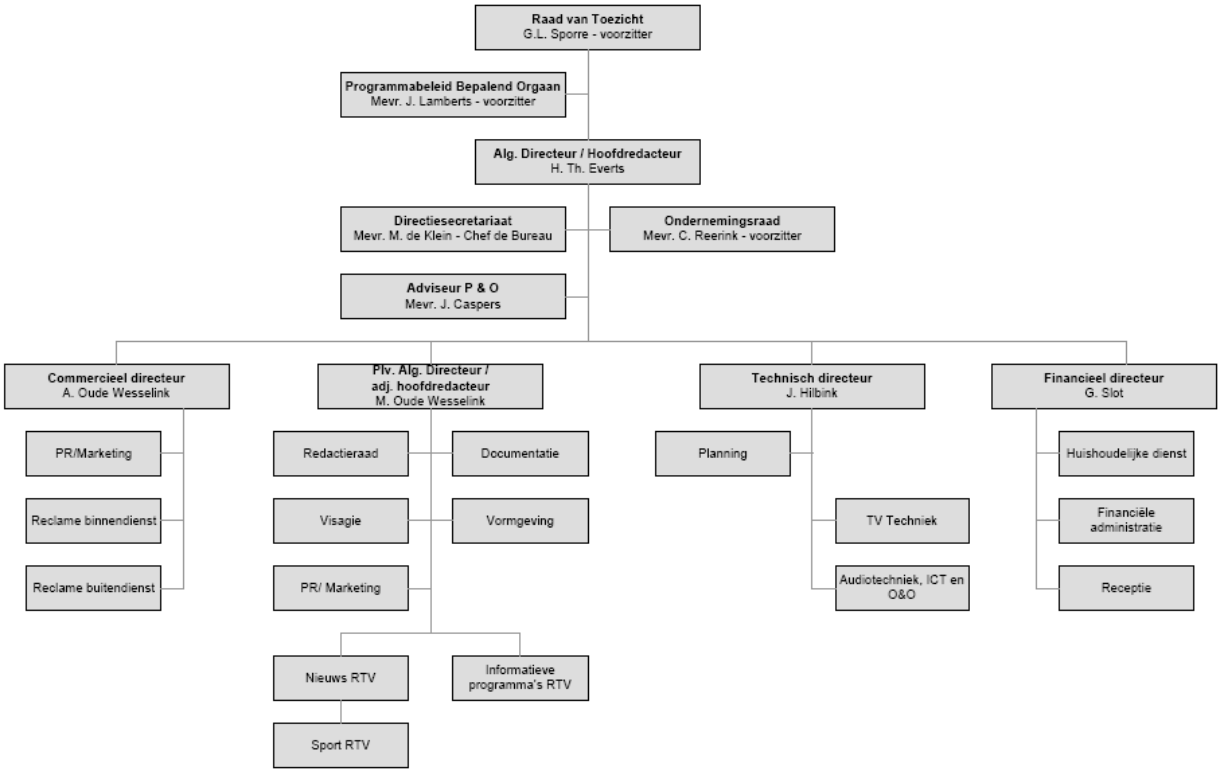
Benchmark report 2010: prepared in partnership with all Dutch public regional broadcasters.
RTV Oost annual account 2011
RTV Oost technique, department plan
RTV Oost redaction, department plan
Planning schedules of editorial and technical departments
RTV Oost, HRM plan
Other HRM documents like function descriptions and (anonym) employee information

Internal interviews:

Adjunct chief editor (M. Oude Wesselink)
Financial manager (G. Slot)
Technical manager (J. Hilbink)
Chef news and sport (K. Metternich)
Chef / end editor informative programs (B. Treffers)
Chef new media / radio presenter (G. Veenstra)
Chef financial administration (S. Munsterman)
End editor informative programs (M. Sleiderink)
End editor news (H. Bellert)
End editor news (J-E. Plettenburg)
End editor news (M. Van Santen)
End editor sport (F. Leushuis)

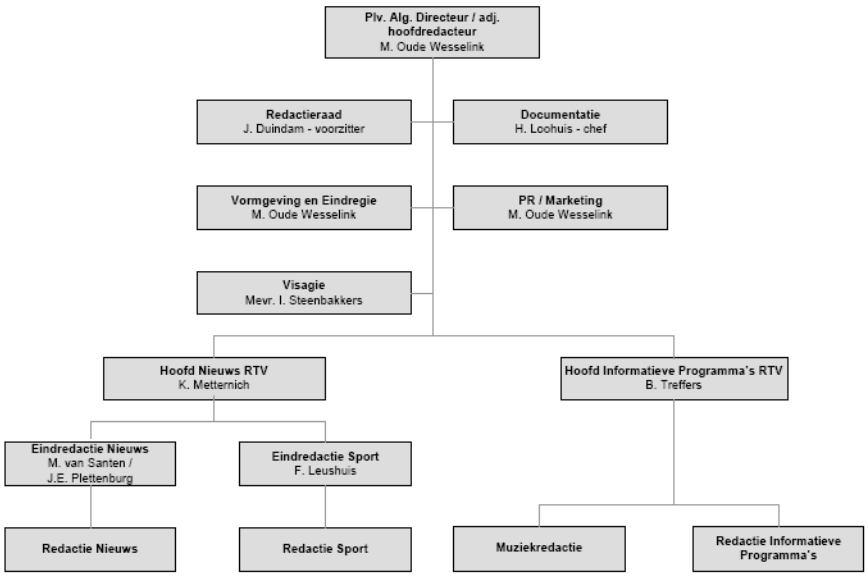
ANNEX

1. Organisation chart of RTV Oost



The department New Media is not yet included in the organisation chart.

2. Organisation chart of the editorial department of RTV Oost



The department New Media is not yet included in the organisation chart. This department comes next to "informatieve programma's" and "Nieuws".

3. Organisation chart of the technical department of RTV Oost