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Stefan Seidel

Queensland University of Technology, s.seidel@qut.edu.au

Michael Rosemann

Queensland University of Technology, m.rosemann@qut.edu.au

Arthur ter Hofstede

Queensland University of Technology, a.terhofstede@qut.edu.au

Lindsay Bradford

Queensland University of Technology, l.bradford@qut.edu.au

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Developing a Business Process Reference Model for the Screen Business – A Design Science Research Case Study

Stefan Seidel
Michael Rosemann
Arthur ter Hofstede
Lindsay Bradford
Queensland University of Technology

Faculty of Information Technology
Queensland University of Technology
Brisbane, Queensland
Email: s.seidel@qut.edu.au
m.rosemann@qut.edu.au
a.terhofstede@qut.edu.au
l.bradford@qut.edu.au

Abstract

Recent technologies such as High Definition Television (HDTV), digital production and new distribution channels such as iPods are having a deep impact on the screen business. Companies in this industry are facing new competition from globalising markets and are forced to combine sound business principles with their classical focus on creativity and flexibility. Reacting to these new demands requires a comprehensive understanding of the industry's value chain and processes. This research project contributes to this area of knowledge by developing a business process reference model for the screen business and thus aims at converting tacit knowledge into explicit process knowledge. The reference model can serve as a starting point for process improvements and, in a second step, for process automation. Special attention will be paid to the highly agile nature of the processes in this industry and how they may be appropriately modelled. We outline our research method for the development of this process reference model and introduce the set of initial case studies along with first results.

Keywords

Reference Modelling, Business Process Management, Design Science, Case Study, Screen Business

INTRODUCTION

Recent technologies such as High Definition Television (HDTV), digital production and new distribution channels (e.g. iPods) are having a deep impact on the screen business and its value chains (Gross and Ward, 2004). The screen business comprises all creative and business related aspects and processes of film, television and new media content from concept to production and finally distribution. The increased value-share of visual effects in film and television has contributed to increasingly globalised competition which is accelerated by emerging technologies. An industry that has traditionally relied on the creativity and flexibility of its resources is now forced to increasingly apply contemporary business approaches, such as process management, in order to stay competitive. Reacting to these new demands first requires an understanding of the value chain and processes of the industry.

The domain of the screen business is characterised by processes with high demands for flexibility, fuzzy requirements (for example, an “*exciting* ad”) and specific demands for tolerance by the domain's highly skilled knowledge workers. Though these characteristics provide a pool of countless research questions, this domain has not been subject to an in-depth analysis by the Information Systems discipline. With this paper, we not only want to explore this industry from a process-oriented viewpoint, but also wish to encourage a wider analysis of this domain by IS researchers.

Interviews with managers and teaching professionals from the screen business have shown that many companies are aware of the importance of process management but do not consciously deploy it. Reference models have the potential to provide a convenient guideline in such a situation as they offer off-the-shelf solutions, which can be re-used and contextualised for specific scenarios. A reference model is a generic conceptual model that formalises recommended practices for a certain domain or a class of domains (Frank, 1999; Fettke and Loos, 2003). We aim to develop such a business process reference model for the screen business based on evidence collected from multiple case studies (Yin, 2003). The development of this model is guided by a research methodology that

follows the Design Science Research paradigm (Hevner *et al.*, 2004). The reference model will include a business process framework that gives an overview over the industry's value chain and relevant processes. This project aims at facilitating the transfer of tacit knowledge to explicit process knowledge. The reference model can serve as a starting point for the identification of process improvements and, in a second step, for process automation. Special attention will be paid to the creative nature of the processes and how it can be considered in extended process modelling techniques. Consequently, we aim to identify what we call "pockets of creativity".

May defined creativity in 1959 as "the process of bringing something new into birth" (May, 1959, p. 57). Similar to this definition is that of DeGraff and Lawrence who in 2002 defined creativity as "a purposeful activity (or set of activities) that produces valuable products, services, processes, or ideas that are better or new" (DeGraff and Lawrence, 2002, p. 4). Both definitions stress that the production of something "new" is at the core of creativity. There are different approaches to defining the creative process. One of the most popular is the so-called Creative Problem Solving (CPS) process (Osborn, 1957). This process describes three procedures: fact finding, idea-finding and solution finding. Osborn stresses that each of these steps "calls for deliberate effort and creative imagination". Kristensson and Norlander refer to creativity as "a unique and complex human capability that, on the group level, is tightly interwoven with communication" (Kristensson and Norlander, 2003). They point out that many problems in creative processes can be traced back to failures in communication. As our research has shown, this also holds for creative processes in the screen business. Processes in this industry are characterised by the fact that in many cases different creative people are involved (e.g. director, editor).

This work makes an important *theoretical contribution* by examining how the particular requirements of an industry, that is characterised by the creative nature of its processes, influence process modelling. It also is of high *practical applicability* as it aims at providing explicit process knowledge that can be used by companies to improve their processes, introduce process improvements and implement workflow systems for process automation. Furthermore, the Australian Film, Television and Radio School (AFTRS) aims at using these process models within their curriculum.

In this paper, we outline our research method for the development of a process reference model, introduce the set of initial case studies as well as some first results. In the next section we give a short overview of related work on reference modelling and business process reference models. We then introduce our research method and present some first results along with the case studies we are currently conducting. The paper concludes with a summary and the proposed future research agenda.

RELATED WORK

The benefits of reference models for information system and organisational design are widely accepted (Frank, 1999). The main objective is to streamline the development of individual models based on the reuse of complex and well-designed artefacts (Rosemann and v.d.Aalst, 2003; Frank, 1999).

Reference models have been created for a vast amount of industries and purposes (Scheer, 1996; Becker and Schütte, 2004). Widely accepted examples are the Supply Chain Reference Model (SCOR) comprised of descriptions of typical supply chain processes, mainly in manufacturing industries, the enhanced Telecom Operations Map (eTOM) for the telecommunications industry, and the Information Technology Infrastructure Library (ITIL) for the delivery of high quality information technology (IT) services. Furthermore, there is a high number of vendorised models for specific industries available which have been developed, maintained and distributed by large consulting companies.

However, there is no comparable reference model for the screen business although previous attempts have been made that come close to the concept of a reference model. Gillezeau, for example, introduces the "Cyclical Production Model" for managing film projects and film companies (Gillezeau, 2004). In the centre of this model are the key creatives and partners of the process. Surrounding these are the different phases that have to be conducted (such as concept, development, pre-production). This is due to the fact that in every phase the project's requirements have to be checked against every phase of the production. However, this cannot be seen as a reference model but more as a guideline to filmmaking since explicit reference processes are missing. Furthermore, rudimentary flow charts of isolated processes can be found in the literature (cf. (Gillezeau, 2004; Clark and Sphor, 1998)). In summary, there is no overall accepted business process framework for this industry and no complete set of process models.

RESEARCH METHOD

This research follows the guidelines for Design Science Research in Information Systems (Hevner *et al.*, 2004; March and Smith, 1995) (Table 1). Our goal is to develop a relevant IT artefact in the form of a business process reference model for the screen business. Artefacts are innovations like new ideas, practices or products that

facilitate the analysis, design, implementation and use of information systems (Hevner *et al.*, 2004; Denning, 1997).

As a process modelling language Configurable Event Driven Process Chains (C-EPC) (Rosemann and v.d.Aalst, 2003) was chosen. C-EPC is an enhanced version of Event Driven Process Chains (EPC) that supports configurability of process models. EPC has been found appropriate in different domains and is a widely accepted notation for process modelling (Scheer, 1999). There is also comprehensive tool support for modelling. One finding from the initial interviews (facts about case studies and interview partners within this research can be found in the next section) was that the experts expect many process variations, mainly dependent upon the technology used and the deliverable of the process (film, tape, DVD). Therefore, a reference model for the screen business should support configurability. Consequently, C-EPC was chosen as a process modelling language of this research.

Guideline	This Research
Guideline 1: Design as an Artefact	This research aims to construct a purposeful IT artefact in the form of a business process reference model for the screen business. The organisational problems that are addressed by this artefact have been identified in interviews with managers and teaching professionals as well as a literature review.
Guideline 2: Problem Relevance	The business process reference model addresses a number of business problems that have been identified as relevant to the screen business (see research questions later in this section). In a number of presentations, interviews and case studies, strong evidence was collected for such a reference model being in high demand.
Guideline 3: Design Evaluation	The design evaluation is done through interviews to validate relevance, understandability and appropriateness. We aim to apply the artefact in an actual business environment (introduction of process improvements) and thus within case studies. Our research method comprises several iterative evaluation steps that provide feedback to the preceding construction phases (Figure 1). Furthermore, we aim at introducing a prototypical workflow implementation.
Guideline 4: Research Contributions	The artefact being designed in this research is a contribution to the IS body of knowledge. It has been identified as potentially valuable for the screen business. The Australian Film, Television and Radio School is committed to include the reference model into its curriculum. To our knowledge no such business reference model for this domain exists. We do not aim to evaluate and validate the research method used here. This will be subject to future research. Methodologically, we focus on how creativity can be modelled and thus contribute to the development of conceptual modelling languages.
Guideline 5: Research Rigor	The artefact being designed will contribute to the further development of a human-machine problem-solving system. Consequently, empirical work is undertaken both for construction and evaluation of the artefact. Here, expert interviews and the application of the artefact in actual business situations will play a crucial role. The model construction follows the Guidelines of Modelling (GoM) (Becker <i>et al.</i> , 1995). For process modelling, a technique (Event-Driven Process Chains) is being applied that has been successfully applied to construct reference models in other domains (Becker and Schütte, 2004; Scheer, 1996).
Guideline 6: Design as a Search Process	Our research method supports the iterative nature of Design Science Research through several iteration steps. We understand the development of a reference model as a <i>search process</i> that has to be undertaken in different case studies followed by a cross-case analysis. Both within the different case studies and within the cross case analysis there have to be several iteration steps. We do not search for objectively best solutions but for satisfactory solutions based on a consensus-oriented search process.
Guideline 7: Communication of Research	Both technology-oriented and management-oriented researchers and industry representatives are involved in the research process. Models are used for communication purposes between the different stakeholders. Thus, the resulting models are expected to be understood by both technology-oriented and management-oriented audiences. The used modelling language holds a degree of formality that allows for using the models for actual system implementation. Through the explication of our research method we help audiences to understand the process through which the artefact is constructed.

Table 1: Design-Science Research Guidelines based on Hevner *et al.* (Hevner *et al.*, 2004)

Fig. 1 shows our research plan. This includes the different tasks and the order in which we plan to fulfil them. Our research does not aim to evaluate the research method itself, which is based on the Design Science Research paradigm. This research focuses on the development of an IT artefact in the form of a business process reference model for the screen business.

To solve the identified practical problem as stated above we identify the following requirements for the screen business reference model:

(R1) create transparency that facilitates a common understanding about the value chain in the film industries and the involved processes along with stakeholders, roles and resources. The reference model has to contain a business process framework that is broken down into a set of well-specified and interrelated processes. Whereas the business process framework provides an overview of the value chain, the processes incorporate best practices.

(R2) serve as a starting point for process improvements. This can be done through the comparison of a company's as-is processes with the relevant sections of the reference model (Rosemann and v.d.Aalst, 2003).

(R3) serve as a starting point for process automation. Hence, process models must hold a degree of formality that is sufficient to transfer the models into an executable workflow language.

(R4) consider the domain-specific requirements due to the processes' creative nature. That means so-called "pockets of creativity" have to be identified and how the relevant processes can be modelled adequately must be established.

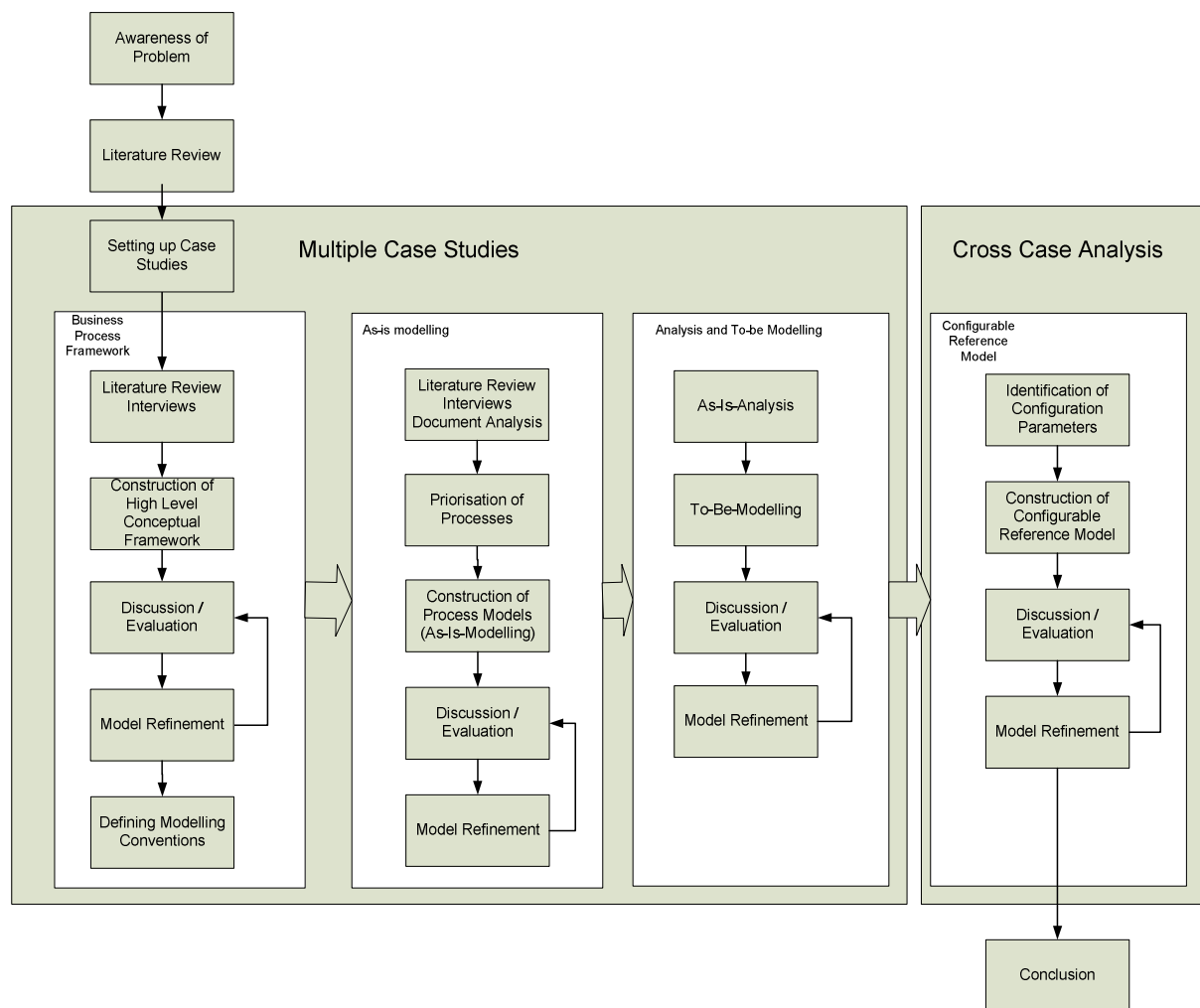


Figure 1: Research Method

The research method consists of four main phases (construction of business process framework, as-is-modelling, analysis and to-be modelling, construction of a configurable reference model) that can be broken down into certain activities. We next give a short overview of each of these phases and activities.

The research started with the awareness of a problem (Takeda et al., 1990) that became apparent in interviews with teaching professionals and managers from the screen business (inductive reasoning). This is supported by theoretical considerations based on a literature review (deductive reasoning). Furthermore, the literature review helped us to achieve a basic understanding of the screen business, its terminology and availability of process documentation. As mentioned above, we came to the conclusion that there is a need for a business process reference model for the screen business to create transparency, allow process improvements and to serve as a starting point for process automation. Furthermore, existing documentation lacks certain requirements to modelling that should be met if models are actually to be used in the process of decision-making.

Business Process Framework

Initially, we aim to construct a business process framework. Business process frameworks serve to clarify the relationships between separate parts of the framework (Becker and Meise, 2003). Through this model, both reference model designers and members of the screen business gain a common understanding of the modelled subject. To establish a first model of the value chain we conduct interviews with managers and teaching professionals. The findings are incorporated into a visual model that is discussed with the same interview partners. Furthermore, the model is refined through a literature review. The result of this evaluation process is a model that reflects high consensus. We aim at both setting up a general business process framework and company specific business process frameworks. The latter ones will comprise IT infrastructure and particularities about the companies' value chain. Eventually, a generic business process framework will be part of the reference model. Before the as-is modelling is started, modelling conventions are defined.

Processes: As-Is Modelling

The business process framework is then broken down into a number of processes. At the outset, it is decided which processes are actually to be modelled within as-is modelling. The identification of these core processes is based on the created business process framework (Schwegmann and Laske, 2003) in interviews with managers from the screen business. Those processes are subject to modelling and analysis where substantial cost reduction is expected through potential re-organisation and process automation. The processes are assessed through interviews with representatives from the screen business that are involved in those processes and through document analysis. Besides company specific processes, we aim to also describe processes based on interviews with teaching professionals and literature. These process models resemble taught practices and give the process modeller basic knowledge about processes in the screen business and thus foster modelling within this domain. The resulting as-is models will be validated with experts and – if necessary – refined until they depict the actual situation.

Processes: Analysis and To-Be Modelling

The next step is a comprehensive process analysis. This is to identify weaknesses and to generate process improvement ideas. These process improvement ideas will be incorporated into the models, resulting in to-be models. These models will be subject to validation with experts. It has to be considered, if the proposed process improvements can actually be implemented. This may, for example, affect organisational aspects. Consequently, in another evaluation / refinement cycle the models are refined, if necessary. In addition to this, we will try to identify industry advanced or even best-practices based on the as-is models and incorporate these into the to-be models.

Configurable Process Model – A Cross Case Analysis

In a last step the to-be process models will be compared with each other and possible configuration parameters will be identified. Thus, the reference model will be developed inductively. These configuration parameters will be validated with experts. Once there is agreement on key configuration parameters, a configurable reference model will be established. Since a language for configurable reference modelling is used, the resulting reference model will depict more than just the sum of all possible pathways. Possible configurations will be depicted through relevant model constructs (Rosemann and v.d.Aalst, 2003).

The evaluation and refinement of the configurable reference model respectively of the to-be models will be mainly done through actual use of the model and thus the implementation and roll-out of improved processes. The reference model itself will also be evaluated through expert interviews. Furthermore, we aim to use a workflow system for automating key processes from this model.

CASE STUDIES

As described earlier, case studies are an integral part of our research in all main stages. Within these case studies, as-is models are constructed and analysed, then to-be models are developed and evaluated. Eventually, the reference model is designed in a cross-case analysis. Consequently, several case studies are currently being conducted within the research project. Here, due to limited space, we focus on three case studies. One is in cooperation with the *Australian Film, Television and Radio School* (AFTRS), one with *Rising Sun Pictures* and one with *TheLaB*. The AFTRS is our main partner in this project and has expertise in all stages of the screen business' value chain. Rising Sun Pictures and The LaB were selected because of their expertise and size in post-production. The Australian Film, Television and Radio School is the national centre for professional education in film, television and radio. It is located in Sydney and accepts approximately 100 students for its postgraduate courses per year. Another 5000 students participate in short courses offered by the AFTRS. AFTRS offers both full-time and short courses that are provided by different departments such as editing, producing or television. The LaB Sydney is a leading Australian post-production company that focuses on TV commercials but is also involved

in many other activities such as the production of animation films. Rising Sun Pictures is one of Australia's leading post-production companies focussing on visual effects and is based in Adelaide and Sydney. The company participated in many well known productions such as *The Lord of the Rings*, *Harry Potter* and *Batman Begins*. Table 2 gives an overview of the case studies currently being conducted.

Organisation	Approx. Number of Employees (Students in case of AFTRS)	Main Areas
Rising Sun Pictures	Approx. 120	Post Production: Visual Effects Production
TheLaB	Approx. 120	Post Production, TV Commercials, Animation Films
AFTRS	40 employees, 100 full-time postgraduate students, 5000 students attending short courses	Teaching

Table 2: Case Study Companies

Interview partners are teaching professionals, managers from the screen business and knowledge workers that are involved in the creative processes (producers, editors, composers, etc.). The selection of these groups is guided by our goal to design a business process framework incorporating detailed process models. Table 3 shows the scope of the interviews we have conducted so far along with the topics that have been discussed.

Organisation	Interview Partners	Topics	Examined Documents
Rising Sun Pictures	CEO, CTO, Head of 3D, Technical Directors (3) , Compositors (2), Lighter , Coordinator	Business process framework, visual effects production processes (main process, compositing, lighting, reviewing)	-
TheLaB	Managing Director, Head of 3D, Producer	Business process framework, process of an animation film production	Process models of production of an animation film
AFTRS	Director, Head of Editing, Producer, Post Production Supervisor	Business process framework, general post production process, detailed post production processes, identification of configuration parameters	Flow charts of post production processes

Table 3: Scope of the conducted interviews

BUSINESS PROCESS FRAMEWORK, PROCESSES, AND POCKETS OF CREATIVITY

Project Results

We have developed a first version of the business process framework. Initially, we started with the assessment of post-production processes as according to the experts these are the most complex processes. This is also supported by literature on filmmaking (Gillezeau, 2004; Clark and Sphor, 1998). Gillezeau states that it is the post-production phase that is most likely to exceed budgets and schedules (Gillezeau, 2004). Consequently, there is a particular need for transparency in this area to suggest possible improvement ideas. Furthermore, this is a domain where typically many paper-based documents are passed around manually so we see potential for process automation. Further, post production processes, unlike production processes, appear to be quite deterministic once certain parameters, such as the desired deliverable, are set. As mentioned in the section about our research method, the assessment has been conducted based on a literature review, expert interviews and document analyses. The documents we have assessed so far were mainly flow charts that had been created within teaching projects at AFTRS. In interviews we established that these flow charts were actually incomplete and important input and output data was missing. Nonetheless, the flow charts served as a starting point for discussions and were considered to be helpful input.

Business Process Framework

Figure 2 shows the business process framework that has been developed based on expert interviews and a literature review. The framework comprises the main stages of the value chain, i.e. development, pre-production, production and post-production (Clevé, 2006).

Subject to the *development phase* are functions such as concept, budgeting, financing and scheduling. Gillezeau distinguishes between *concept phase*, *development phase* and *finance phase* (Gillezeau, 2004). "The goal during the concept phase is to create a polished concept document (or 'pitch document') that will attract development investment, or better still production financing, for the project." (Gillezeau, 2004, p. 5) The development phase

involves creating a written proposal. Gillezeau states that the financing phase is “one of the most complex and demanding stages of the production cycle”.

Pre-production “is the defined period from the official start of the project to the first day of principal photography” (Parer, 2006). It deals with all the aspects related to the practical production needs of the project. Gillezeau states that the line between finance, pre-production and production can become blurred (Gillezeau, 2004). This is due to the fact that pre-production might begin even before all the financial aspects are settled. It is a quite complex task to get consistency between contracts and agreements between all the involved parties.

In most cases the *production phase* is the most expensive one (Gillezeau, 2004). Within the production phase is the actual shooting (Clevé, 2006), thus, the production of the feature film, TV-commercial, etc.

The *post-production* phase comprises all steps that have to be done between production and final delivery (Clark and Sphor, 1998). The person in charge of the post-production process is commonly called a “post-production supervisor” (Clark and Sphor, 1998; Kellison, 2006). Creation of Visual Effects (VFX) is also within this phase (Wales, 2005, p. 156). The creation of VFX is often seen as a separate production process and is called the *digital production process*, e.g. (Kerlow, 2004). It typically begins parallel to the production phase.

Besides depicting the value chain, the framework gives an overview of companies involved in the value chain as well as the markets. Companies involved in the value chain differ from production to production. The framework shown in Figure 2 represents those companies that are typically involved in a feature film production. The production company is situated in the centre and it is highlighted because it serves as a coordinator and facilitator in the process. The markets that are served are of critical importance to all the processes of the value chain. It turns out that the *deliverable* can be seen as the key driver in the screen business. For example, post-production processes look quite different depending on whether the product is to be published on DVD only, if it is a feature film that will be shown in cinemas or if it is a pure television production. Consequently, the deliverables are the main parameters that influence the processes and will be considered when setting up a configurable reference model for the screen business. The main stages of the value chain can be further broken down into processes.

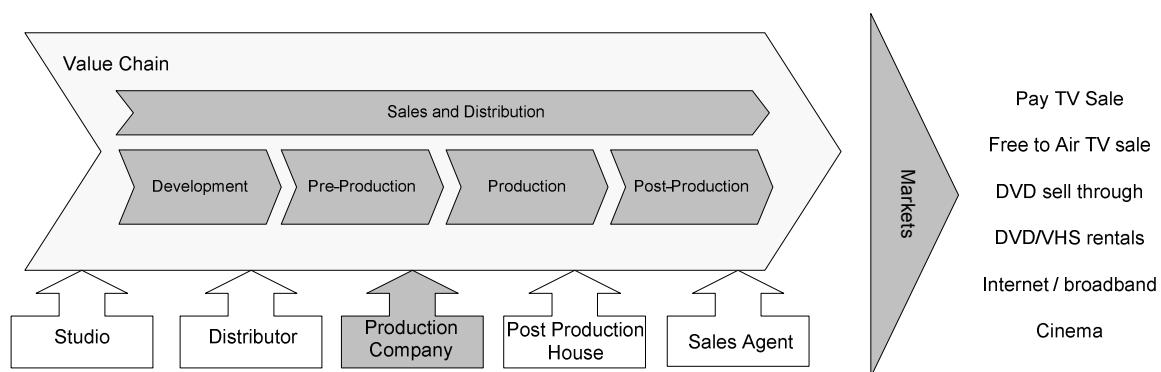


Figure 2: Business Process Framework for the screen business for Feature Film Production

Process Models and Pockets of Creativity

The identification of creative processes (or tasks) as part of the overall processes of the screen business allows on the one hand the improvement of non-creative parts of the processes and for process-automation of these parts. On the other hand, it opens the opportunity to support creative tasks with appropriate techniques, methods and software tools. Kristensson and Norlander, for example, refer to group communication support systems since communication between parties involved in the creative processes are crucial to success (Kristensson and Norlander, 2003). Guilford highlights the “role of information” and the “role of previous experience” (Guilford, 1967, p. 312 ff.) which leads to the assumption that concepts like knowledge management (Nonaka, 1991) should be considered. Furthermore, the knowledge about creative sections and their position within the processes can help to calculate budgets and timeframes.

As stated earlier, for process modelling we use EPC (Scheer, 1999). In a later stage of the project we will use an enhanced version (C-EPC) that allows the construction of configurable models. Main constructs of EPCs are functions, events, organisational units, input and output data and systems. We use a concept that we call *pockets of creativity* to highlight where within processes demand for creativity occurs. The relevant functions, involved organisational units, systems and input and output data are highlighted by grey boxes with a “C” for “Creativity” in the upper left corner.

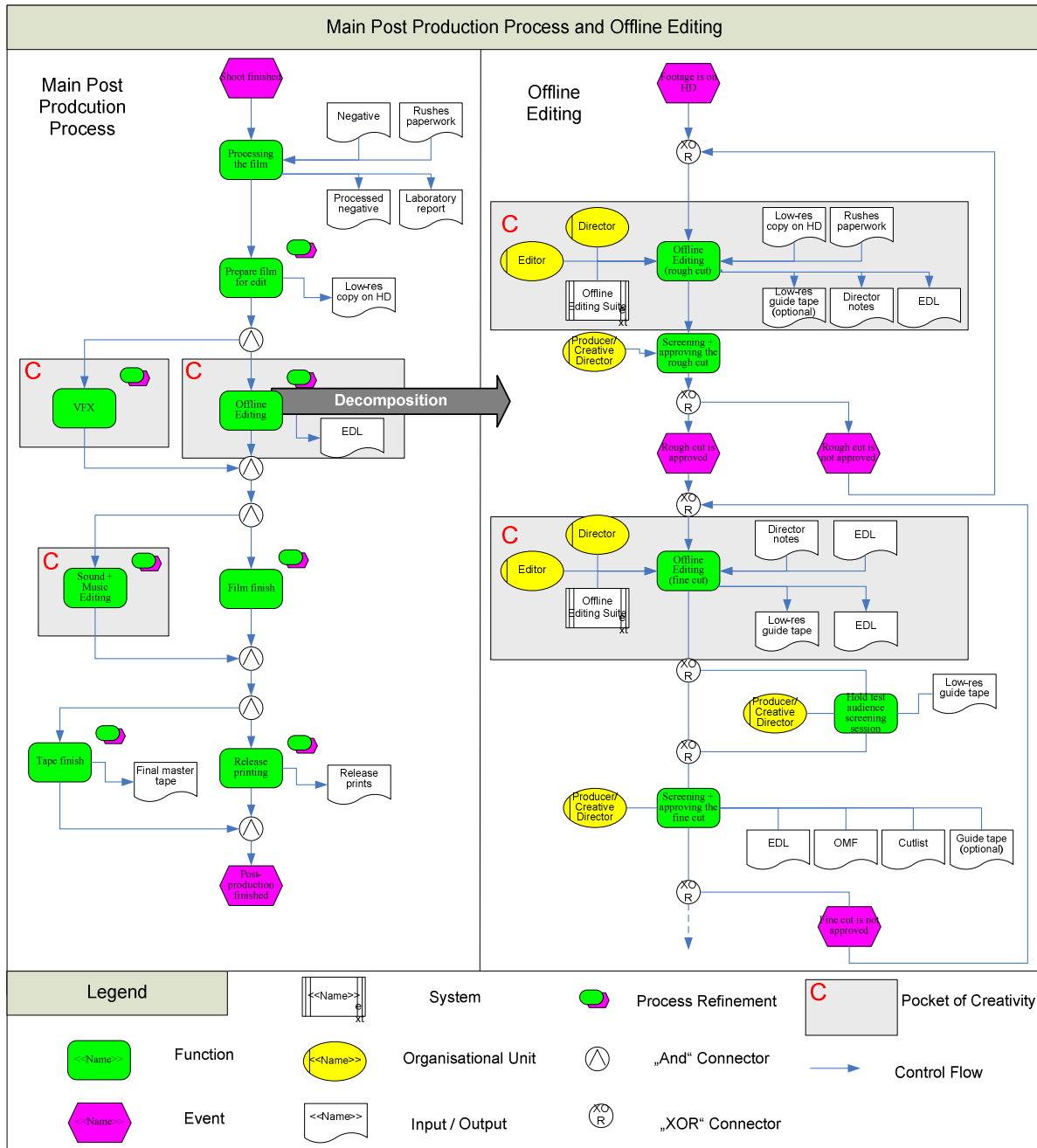


Figure 3: Main Post Production Process and detailed Offline Editing Process containing Pockets of Creativity

The left hand side of Figure 3 shows the main post-production process for a film shoot. The model depicts taught practice and is mainly based on interviews with the AFTRS and on a literature review. This process is further broken down into detailed process models. Due to limited space, here we only show the detailed offline editing process (right hand side). For the sake of simplicity and clarity not all organisational units, input and output data and systems are shown. Furthermore, trivial events (such as “Processing the film accomplished” following the corresponding function) are left out. Now we describe the most important aspects of the two models.

Once the shoot is finished, the process starts with the processing (development) of the film (*Processing the film*) (Gross and Ward, 2004). Inputs for this function are the *negative* and the so-called *rushes paperwork*. The result is a *processed negative* and the *laboratory report*. During the process *Prepare Film for Edit* the film is transferred to a tape. This is done in a Telecine House (more generally: a post production house). Within this process the material is digitised and usually transferred to a hard disk. *Offline Editing* is conducted on a low-resolution version, usually within an *editing suite*. This is cheaper and quicker than working on a high resolution version. In parallel, visual effects (VFX) are created. One important output of the Offline Editing is the *Edit Decision List* (EDL) that is used for the film finish. The EDL is a list of timecode numbers referring back to the location of each frame (Regan, 2006). During *Film Finish* the original footage (film) is taken and based on the

EDL, the actual film is created in a process that is called *Negative Matching* (this is a sub-process that we do not show here) (Regan, 2006). Within this process the material is married with the visual effects. In parallel to the Film Finish, *Sound Editing* is conducted. The marriage of sound and picture takes place within *Release Printing*. Besides the Release Printing, usually there is a *Tape Finish* as well. *Offline Editing*, *Sound Editing*, and *Visual Effects* are the main creative areas within the main process and therefore are modelled as pockets of creativity. There are more detailed sub-models of these processes. That means there is still a certain structure though these processes comprise important creative elements. Within the sub processes, more detailed pockets of creativity can be identified. This way, the pockets of creativity can be broken down to certain atomic functions. Offline Editing is one of the most creative tasks in post production. The process can be roughly divided into a *rough cut* and a *fine cut*. These two functions are the key creative tasks of the process. They involve not only the editor but the director and, in some cases, the producer as well. At this stage, we do not break these functions further down. Consequently, these areas could be supported by methods, techniques and tools that support the creative tasks.

CONCLUSION AND FURTHER RESEARCH

Discussion with experts both from teaching and industry has shown that there is significant interest in business process modelling for the screen business. Schools such as the AFTRS want to complement their established course material with an increased focus on process-centred comprehension of the entire industry and its mode of value generation (e.g. what competitive advantages could a company accomplish). The screen business is facing challenges related to globalisation and new technologies. This leads to competition and aspects like cost reduction and risk management are gaining more importance. Companies may have to rethink their strategies, for example regarding their position in the value chain. This requires detailed knowledge of the value chain and processes. Processes in the screen business have two important facets: On the one, there are repeatable tasks that have to be fulfilled in a certain order. On the other hand, there are creative parts that are difficult to structure and communication-intensive. We introduced a concept called "pockets of creativity" to identify and understand these parts. The resulting process knowledge is a vital element for the introduction of workflow systems as well as for the introduction of methods, techniques, and tools to support creative tasks. We have designed a business process framework and assessed initial processes. In this paper, we discussed post-production processes mainly. Regarding our research some limitations have to be pointed out. First, at this stage, we are exclusively conducting case studies with Australian companies. Although these companies are involved in international projects, we are limited to the Australian market and its particular circumstances. Second, we do not claim that our research method is universally valid. At this stage we do not aim to validate this research method. It is a means to reach our research goals through Design Science Research.

We will continue to complete the business process framework and extend the process analysis to other stages of the value chain. This will include a comprehensive model of organisational units and roles as well as of resources and input and output data. These are critical to the implementation of a workflow system. Consequently, we aim to implement certain processes with the workflow system YAWL (v.d.Aalst and ter Hofstede, 2005). This may serve as a proof of concept and be another evaluation step within this research. Eventually, we design a configurable reference model in a cross case analysis. Methodologically, we will focus on the used modelling approach (C-EPC). We will evaluate to what degree the method has proven to be an appropriate means for process modelling in the screen business. This may involve considerations of domain specific constructs and Situational Method Engineering to cater for company and project specific needs. We will further examine the concept of "pockets of flexibility" and what else is needed in regard to the creative nature of the industry's processes.

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