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Laura Deleuze

Machine Learning for Marketing: User centred design of a decision support system

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Supervisor: Professor Marko Nieminen, Aalto University
Advisor: Rikard Wiberg M.Sc. (Tech.), Stockholm School of Economics
Mattias Nyman M.Sc. (Tech.), Kungliga Tekniska Högskolan (Royal Institute of Technology)

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Advisor:	Rikard Wiberg M.Sc. (Tech.) Mattias Nyman M.Sc. (Tech.)		
<p>Owing to the Machine Learning spread, in particular the Econometric modelling progress, marketers are now able to daily monitor and control the marketing effect of their campaigns, thus optimising their advertising investments. Although several decision support tools and Data analysts consultants currently provide marketers with these data-driven insights, only few manage to understand the algorithms outcomes and act upon the extracted insights on their own. This master thesis thus focuses on understanding marketers behaviours and job to identify where Econometric modelling would be relevant for them to use on a daily basis.</p> <p>To do so, this thesis studied an existing algorithm. The user research consisted in a manifest and a latent content analysis of semi-structured interviews conducted as rigorous Contextual Design Inquiries with 11 marketers familiar with Econometric modelling. The extracted patterns were then validated and eventually produced four representative set of marketers work-models and personas. They also grounded corresponding validated design guidelines to help designers build a user-centred tool delivering data-driven insights that marketers can extract alone and autonomously act upon on a regular basis.</p> <p>To deliver understandable and actionable data-driven insights, this user research concludes that Econometric modelling outcomes must be provided through a portable, pertinent and task compliant user-centered tool. First, it should display a centralised overview of how their marketing strategies are currently doing on the market. Second, the tool should contribute to optimise their marketing budget to reach the marketers company business goals. Third, it has to enhance the communication between the marketers, their media agency and their top-management team. By realising these three jobs, the data-driven tool would then constitute a major business asset for the marketers company. Not only would it dramatically increase the efficiency and profitability of marketing activities along with the business managers trust in marketing benefits, but it would also empower marketers to accurately control their budget marketing effect and negotiate their costs down with media channel publishers for instance.</p>			
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Abbreviations and Acronyms

AMA	American Marketing Association
API	Application Programming Interface
CEO	Chief Executive Officer
CMO	Chief Marketing Officer
COO	Chief Operation Officer
CPA	Cost Per Acquisition
CRM	Customers Relationship Management
CSM	Ce Sacre Model (This Damned Model in French)
DBM	Doubleclick Bid Manager
DSS	Decision Support Systems
HCI	Human Computer Interaction
HDI	Human Data Interaction
KPI	Key Performance Indicators
LT	Long-Term
ML	Machine Learning
MMM	Marketing Mix Modelling
OOH	Out Of Home
PR	Public Relation
ROI	Return Of Investment
ST	Short-Term
TGI	Target Group Insight
TRP	Target Rating Points
TVC	TeleVision Commercial
UCD	User Centered Design
UI	User Interface
UX	User Experience

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Chapter 1

Introduction

In the early 19th century, the successful pioneer in marketing John Wanamaker was attributed this well-known complain: *Half the money I spend on advertising is wasted; the trouble is I don't know which half.* Answering such question which was unthinkable a century ago is however possible now. It would be a shame not to benefit from such opportunity.

Indeed, in a world of ever growing data generation, information becomes as easily accessible as increasingly valuable for service companies, such as companies specialized in innovation and branding like the main collaborator of this master thesis. Therefore, accurate and detailed information about consumers, customers and end-users are now essential to the survival and development of successful companies in our current competitive economic system. They are even more capital for marketing activities and teams for which identifying the factors affecting the key performance indicators (KPIs) and evaluating their actual impact through metrics become vital to develop and defend sustainable marketing strategies. As a result, data-driven tools are developed to analyze the raw data generated by the companies activities in order to extract useful information, like sales and online traffic. For instance, the return of investment (ROI) of every marketing activity and money spent in any marketing channel can be measured, analyzed and even forecasted in this digital age. A decision support system analyzing the impact of the marketing mix strategies in term of ROI is currently in use in the company. This Machine Learning (ML)-based tool called Randl aims to support and to enhance the decision making process by providing reliable business and behavioral data analytics insights through several form: an API, a dashboard and a slide presentation.

However, in practice, the end users still prefer these insights as well as the related recommendations to be presented, analyzed and explained by the innovation company data scientists instead of using their dedicated dashboard.

1.1 Problem statement

Such consultancy expectations dramatically reduce the potential scaling of this data-driven services. Besides, marketers are consequently missing all the opportunities to regularly optimize their marketing decisions efficiency and rentability based on their customers and non-customers behavioural insights they are paradoxically craving for. As a result, designing a new user experience is capital to engage the end users, to bring them to use and rely on data driven insights on a regular basis and in the long run. Leveraging the steep learning curve has been proven essential for non-ML experts to understand and act upon these insights on their own while developing marketing strategies. Thus, the main purpose of this master thesis is to exploit the user experience and interface theories to design a user centered ML-based decision support system, in other words a test environment delivering understandable insights that marketers empathise with and act upon. This master thesis aims to answer the following research question: *How to design a user-friendly ML-based decision support system (DSS) delivering understandable insights that marketers act upon?*

1.2 Structure of the Thesis

To design a user-centered ML-based decision support system, it is vital to understand both the technology and, above all, who the marketers in charge of strategy are as well as how, in practice, they take their decisions in this regard. Hence, Chapter 2 draws a brief overview of the fundamental theories around Marketing, DSS, Econometric modelling, Human Data Interactions (HDI) and User centered Design (UCD) while Chapter 3 presents what Randl is capable of and how it is currently sold. A qualitative descriptive and exploratory method integrating contextual design principles was conducted in two phases via semi-structured interviews as described in Chapter 4. The exhibited results of these in-depth, recorded and transcribed interviews in Chapter 5 were then analysed and transformed in four work models, four personas and a set of design guidelines in Chapter 6. In order to assess the work models correctness and guidelines accuracy, validation interviews were conducted afterwards. Chapter 7 reports this validation process and results as well as the discussion raised around a simple mock up embedding the main design guidelines. Eventually, Chapter 8 discuss the generalisability and transferability of this research that Chapter 9 concludes.

Chapter 2

Theoretical Framework

Before starting any kind of experimentation and field study, one must identify and understand to which domain the research may belong as well as where the thesis fits in from an academical perspective. Hence, we realised some preliminary research on the five fundamental pillars we believed sustained the framework of this research: Marketing, DSS, Econometric modelling, HDI and UCD. Obviously, marketing practical theories had to be researched as the main objective of this thesis is to design a marketer-centered tool to enhance marketing strategy. Furthermore, the purpose of the tool in itself is to facilitate marketers decision making processes. Consequently, Randl intent is to subscribe to the DSS definition. In addition, the system usefulness and performance reside in its integration of ML algorithms and a significant amount of KPIs data. As a result, it both exploits the Econometric modelling concepts and pushes ahead a new discipline called Human Data Interaction (HDI). Eventually, this thesis aims at designing a tool for specific end-users: marketers. Thus, the User-centered design (UCD) principles is as well reviewed in this chapter.

2.1 A brief introduction to Marketing

Marketing is, as a matter of fact, all about data. As its latest definition approved by the American Marketing Association (AMA) in 2013 accurately phrased it, *Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large* (American Marketing Association, 2017). Thus, marketers are, by principle, bound to research how to understand and efficiently approach the different markets. They must investigate how to retrieve information from their customers, consumers and

end-users in order to identify potential marketing opportunities and problems as well as how to measure, evaluate and refine the performance of marketing actions. In other words, being a marketer implies doing marketing research. In addition, marketing research is defined by the AMA as (i) the specification of the required information, (ii) the design of information collection methods, (iii) the management and implementation of the data collection process, (iv) the results analysis, and eventually (v) the communication of the findings and their implications (American Marketing Association, 2017). Thus, what does marketing represent if not a practical application candidate of statistical and ML concepts?

A major methodology employed in current Marketing strategies is the Marketing Mix. According to the The Economic Times (2018), the marketing mix strategies theoretically relies mainly on the 4Ps of Marketing to raise awareness about a product or a brand on the market: Price, Product, Place and Promotion. The Price refers to the value marketers chose to allocate to a Product, the sold item. The Place represents the different points of sales through which marketers can sell the products while Promotion gathers all the activities aiming to spread the knowledge about a Product. (The Economic Times, 2018)

However, the employees in charge of the marketing strategies, known as the marketers in this thesis, are in practice mostly dealing with the last P the Marketing Mix: the Promotion. Indeed, what marketers refers to as Marketing on a daily basis is more related to product promotion and advertising than the broad definition of marketing. As a matter of fact, the Product, Price and Place dimensions of Marketing strategies are defines by the Supply and Sales Departments instead. Consequently, defining a marketing strategy in practice consists in defining promotion activities, creative content and defining media strategies. In a nutshell, marketers are responsible for story telling about their company products and delivering these stories to the market through the right media channels. They are in charge of both advertising from a short-term perspective and branding from a long-term perspective, By combining both, the brands will maintain and slightly grow their customer base in the long run according to Sharp et al. (2010).

Two categories exist in marketing strategies: online and offline marketing. Online marketing includes Search Campaigns - a company attempting to figure among the first results on Google or Bing for instance - and Display campaigns - placing ads on website. Offline campaigns refers to all non digitally distributed activities like TV, Radio or Out Of Home (OOH) - placing billboards on buses or subway stations for example. Each category and each channel can be attributed a funnel level. The three levels of the funnel - Upper, Mid, Lower - represent the different steps leading a consumer

to a customer / client conversion from the company perspective. While Upper Funnel activities includes wide audience TV commercials to reach as most consumer as possible, a Low Funnel activities would target a very specific group known to be interested in the company product. The Mid Funnel activities are those in between, those who are not fitting as either Low or Upper Funnel activities. They differ from one company to the other. Of course, the more targeted the reached audience is the more costly are the impressions on those media channels. An impression is the unit measure of one person seeing one advert once.

In such context, the role of the marketers is thus to ensure the right message is delivered through the right media channel, to the right audience, at the right price. In other words, defining a marketing strategy in practice deals with balancing the cost per customer acquisition (CPA), the return of investment (ROI) of marketing activities and the message overall reach in order to generate sales and brand awareness in both short-term (ST) and long-term (LT). Therefore, defining a marketing strategies from a managerial perspective is about the optimisation of costs and profits. It is all about data.

2.2 The basis of Decisions Supports Systems

This realization is not recent. Indeed, several researchers, designers and industrials attempted to introduce data and model-driven decision support systems (DSSs) in the industrial world or in their own company during the last decades (Power and Sharda, 2007), (Eom and Kim, 2006), (Power and Sharda, 2009).

A DSS is generally defined as an interactive computerized system intended to support decision makers in the use of information and communication technologies, data, documents, knowledge and models to identify and solve problems and take decisions (Power and Sharda, 2009). Thus, DSSs aim at completing and enhancing rather than replacing decision-makers or automating decision making processes.

Data-driven and model-driven DSSs are two related, yet different, types of DSS emerging owing to the technological progress in term of computation powers, memory storage and ML. While a data-driven DSS main characteristic is to provide access and help its user in manipulating large data-sets, model-driven DSS focus on the representation and optimisation of smaller data-sets. Model-driven DSS allow its users to access and manipulate the model, by inputting new parameters for instance, rather than the data itself.

As a result, several marketing models have been conceived and tested in that aim. For instance, Luan and Sudhir (2010) studied the product

specific influence on the DVD market to forecast advertising responsiveness. Similarly, Kim and Hyun (2011) used models in their attempt to explain the relationship between the marketing mix strategy, the brand equity and the business performance in the digital sector. Eventually, Mihart (2012) also researched how to model the Integrated Marketing Communication (IMC) strategy's influence on the customers behaviours. Some were more successful than other depending on the people, the launch time and the focus domain.

However, no matter how efficient they are, marketing DSSs does not seem to convince marketers (Lilien et al., 2004). Even though Lilien et al. (2004) proved the significant efficiency of model-based DSSs over more generic decision tools, such as Microsoft Excel, in sales effort allocation and customer targeting decisions, marketers subjectively evaluate them both as roughly equivalent (Lilien et al., 2004). The authors explained such phenomenon as the consequence of the marketers' perceived use of the DSS. Marketers do not see the objective usefulness of such tools.

2.3 The rise of Econometric modelling

Likewise, Randl faces similar issues. Randl main purpose is to support and enhance the marketers decisions making processes based on data analytics and ML models. In that sense, Randl is both a data and model-driven DSS to some extent.

Indeed, Randl heavily relies on the increasingly famous methods: Econometric modelling. The Business Dictionary (2018) defines Econometric modelling as the forecasting techniques constituted by mathematical algorithms trained on historical data predicting the economic conditions in the near future. The economic conditions are translated into a set economic variables we call econometrics. The training data-set of a reasonable size at the beginning would increasingly grow as the time will pass. Hence, a user-centered tool helping marketer taking decision based on Randl, a model they would interact with, manipulate and adapt to some extent, corresponds to a hybrid DSS: both data-driven and model-driven.

This system delivers two major fully operational analysis and their respective resulting implications as Chapter 3 will later develop deeper: Marketing Mix Modelling (MMM) and the Marketing predictions to the customers and end-users, based in their historical data, e.g., numbers of sales, conversion rates and customers responsiveness to their marketing campaigns and channels. If ST marketing effect models have empirically proven to be particularly accurate like Randle, LT marketing effect models are still struggling to identify the right influence attributes to consider in their prediction algorithms

and which methods to exploit there as Binet and Field (2013) highlight in their historical review of ST and LT marketing strategies. As such, LT modelling currently constitutes a rising and tense research topic in the industrial world.

Even though, there is no denying the relevance of such additional advice in the facts, like the Lilien et al. (2004) study case showed in 2003. Although, marketers hardly use nor act upon these insights knowingly, seldom on a regular basis. Even with the obvious and advertised progress of Data Mining (DM) and ML over the years, their perceived use of data and model-based DSS have not improved compared to their usual decision tool.

To bridge this perception/reality gap, Lilien et al. (2004) proposed two complementary directions: (1) improve the perceived value of the decision process by playing on the DSS design to bring marketers to put the right amount of cognitive effort in exploring the different options; (2) introduce interactivity so that marketers would test and directly see the outcomes of their assumptions (Lilien et al., 2004). Such suggestions are right inline with the new research field emerging from the Human Computer Interaction field presently named as Human Data Interaction (HDI) (Mortier et al., 2014b).

2.4 A shift towards Human Data Interaction

HDI can be defined as *the human manipulation, analysis, and sensemaking of large, unstructured, and complex datasets* according to Elmqvist in 2011 (Elmqvist, 2011). As sensemaking in such context refers to the process of building a mental representation of a collection of data to answer a specific issue (Russell et al., 1993), HDI becomes the study of the collection as well as the analysis and synthesis of data into new information, into new insights. Thus, HDI appears to be the core of this Master thesis.

However, the HDI reviewed and discussed in The Encyclopedia of Human-Computer Interaction published in 2014 recenter the research focus on how humans, as individuals, interact with the data they, both consciously and unconsciously, generate and that is used to target their proposed advertisements and suggestions or improve their softwares performances for instance (Mortier et al., 2014b).

Mortier et al. (2014a) also heavily stress the importance for placing the human in the center of the data flow in our new data-driven society. They even classify HDI challenges into three core themes: (1) legibility: making data and data processing transparent and comprehensible to humans in general; (2) agency: giving human the opportunity to act on those processes, to rectify erroneous insights; and (3) negotiability: dealing with the rise of

new interactions and dynamic relationships around data and their processing (Mortier et al., 2014b), (Mortier et al., 2014a).

Nevertheless, if instead of considering the humans to be the individuals at the center of the data flow but replacing them by the companies, the customers and end-users of Randl services, these three themes build a strong framework for the research study of how to design a new data analytics experience for non-experts through a user centered ML-based decision support system, a test environment delivering understandable insights from historical data that marketers empathise with and act upon. Eventually, the challenging tasks HDI faces then apply to the present Master thesis.

2.5 A User Centered Design project

To address those challenges and design user-friendly DSSs that people will actually use and rely on, several approaches have been studied since the past century.

In 1984, Bahl and Hunt (1984) argued that it was not that essential to study human decision making processes and cognitive walk-through in order to design a successful DSS. Instead, designers and researcher should focus on identifying how to be significantly helpful to the DSS users, how to use the technology to support their decision making process. The same year, Orman (1984) claimed that the key features to design a useful DSS are fast enabled interactions, easiness of use, adaptability and flexibility. Since then, DSS design research went back and forth.

Indeed, Kamis et al. (2008) later argued that the DSS interface design is, in fact, mainly mediated via the DSS users' perceived usefulness while Zikos (2017) went back to conclude that mimicking clinicians cognitive processes are crucial for DSS to provide relevant support based on historical data.

Despite this wavering evolution, DSS design research have one major common outcomes: the focus on their DSS users. Bahl and Hunt (1984) eventually agreed that helping the users in their task is capital in DSS design. Orman (1984) even emphasised the importance of building a flexible interface that adapts to their users, that users can also customised. Although Kamis et al. (2008) recognises the preponderance of the users' perceived usefulness over the actual interface design, in order to appeal to its users a DSS must then understand how to be perceived as useful by them. Eventually, Zikos (2017) obviously emphasize the centrality of the DSS user in the design process as he argued a Clinical DSS is ought to adapt, even anticipate, the clinicians needs. As such, DSS design situation is fundamentally a User centered Design (UCD) situation.

UCD as defined by Interaction Design Foundation (2018) is "*an iterative design process in which designers focus on the users and their needs in each phase of the design process*". UCD processes main asset is involving the end-user of the design product or service from the first step of context of use research to the design requirements specifications, the design of proposed solutions and eventually the last design evaluation test. UCD takes into account the whole user experience. As a result, UCD principles are widely exploited in User Experience Design (UX) and User Interface (UI) Design for instance.

As Bahl and Hunt (1984) clearly recognise how crucial the decision context is in DSS design in addition to whom will use the tool, this paper proposes to apply the Contextual Design principles to its conducted user research. Indeed, Contextual Design process belong to the UCD processes. In particular, the Contextual Design methodology rely on contextual inquiries to observe and accurately understand end users behaviours, expectations and needs (Holtzblatt and Beyer, 2014). Hence, they constitutes a promising approach to answer our research question: *How to design a user-friendly ML-based decision support system (DSS) delivering understandable insights that marketers act upon?*

However, before Chapter 4 will explain in more details in how this thesis user research is essentially inspired by these notions, the next chapter will first present the technical environment constraining this research design situation.

Chapter 3

Environment

This research setting was originally a joint project between the academia, through the researcher's Master thesis, and the two founders of Rightnleft AB, Rikard and Gustav Wiberg. They created the Econometric modelling algorithm nicknamed as Randl (shortened Right and Left) and started to sell the insights in 2011 as consultancy services to marketing managers. Randl is conceived to help employees in charge of defining the marketing strategy, including plan and budget within their company, marketers who are responsible for organising and monitoring marketing among other things, from a helicopter view. As a results their client and end-users figures in relatively high and different levels in their hierarchy, either as a CEO, a CMO, a digital head or a client director, in a company or a media agency. The more clients they earned and the more accurate the model grew, they started to realise how hard it was for marketers not to depend on the data analysts story telling and interpretation of their modelling outcomes. Although their client base demand is high for accurate, actionable and time-efficient insights, Randl creators were unable, in practice, to drive people to analyse nor to act upon the data-driven insights provided by Randl on their own. Their clients would rather hear the recommendations directly from the consultants brief, once to three times a year depending on their busy schedule. As a result, they both reached out for an academical research on how to make marketers understand Randl concepts and act upon its insights through the year and on their own. Therefore, this master thesis investigates marketers and marketing decision processes in order to design a novel user-centered experience, a personal test environment for marketing decision making based on Randl already existing algorithm. In such context, it becomes essential to understand both the capabilities and limitations of this tool as well as how it is currently presented and sold to the clients.

3.1 Randl capabilities and limitations

The capabilities and limitations of the model created by the thesis advisers defines a strict technical framework to take into consideration in the overall design process. These can be divided into three main services for the client: (1) a data-driven analysis of the marketing current state, (2) a prediction of the marketing effect evolution through the upcoming year based on the current one and (3) a tool simulating marketing decision consequences on the KPIs.

3.1.1 A current Marketing state analysis

Depending on the data clients gather and deliver, Randl provides a relatively complete and deep analysis of the current marketing state of the clients. In the ideal case where all data are available, correct, updated and in the right format from one to three years back in daily basis, Randl is able to efficiently handle multiple data sources such as:

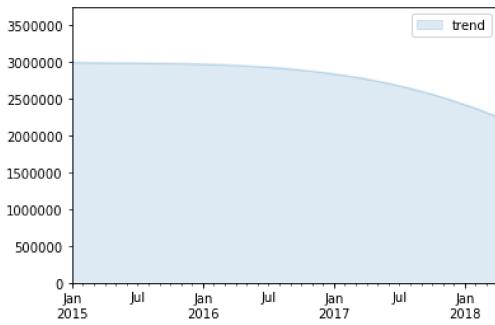
- the KPIs constituting the unit of measurement of the marketing effect (e.g., web session, sales, store visits, conversion, etc.);
- the money spend in the different channels like Search, OOH and webTV, in every single level of the funnel, be it Upper, Mid or Lower Facebook Video for instance;
- and the respective unit cost of each media channel as the price of one impression in this specific channel.

This historical data is then used to train a tailored regression model. The model hyper parameters are calculated, optimized and tested to best fit the data touch points distribution over time. Eventually, the algorithm attributes the marketing effect to each and every media channel in their respective funnel level.

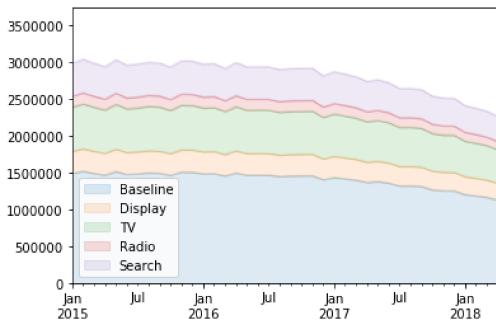
In practice, Randl allows the consultants and users to compare the client current marketing effects of their ongoing new strategy with what marketing effect their previous strategy would have had instead, assuming they would have pursued it in the current quarter for instance. Such comparison helps clients to reflect upon what changed from one period to the other. It then contributes to identify what marketing choices or set of actions may have provoked these KPIs variations, be they positive or negative, and eventually adjust the course accordingly.

The algorithm also computes the CPA and ROI of media channels in the short-term. Although, Randl is not capable of properly evaluating the long-

term (LT) marketing effect due to mathematical modelling limitations. It is still a challenging topic of research for both the Academia and the Industrial Research and Development. In practice, the LT effect is empirically assumed to be illustrated by the baseline. The baseline represents all the marketing effect (KPIs) that the model has not specifically attributed to any media channel or any seasonality trend. For example, the baseline on Figure 3.1 (a) helps determining how well clients acquire, retain and grow their customer base. Likewise, Randl calculates and draws on top of the baseline as illustrated on Figure 3.1 (b) the incremental marketing effects of investment in the different media channels, independently from the seasonality trends. Although, these later trends are also extracted.



(a) Baseline trends representing LT trends over the year



(b) Incremental ST marketing effect trends of media channels over the year

Figure 3.1: Example of extracted long-term (LT) and short-term (ST) marketing effect trends visualizations as presented in both MMM and Media Uplift products. These figures have been generated from a made-up data-set to preserve interviewees anonymity.

Indeed, both monthly and weekly seasonalities as displayed on Figure 3.2 are non negligible in the understanding of either a sudden increase or decrease in sales on a particular day of the week or the month. For instance, one interviewee company discovered that the brand phone related products do not sell at all on Sundays according to the weekly seasonality trend while, on the contrary, the sales tend to significantly increase on Mondays compare to the rest of the week. Such phenomenon could be explained by the fact that during the weekend, their customers would rather enjoy family break time whereas on Mondays, the new work week starts and the time has come to take care of phone updates or new subscriptions. As a result, they adapted their marketing campaigns and budgets to this natural customer seasonality. They drastically reduce their presence over the media on Sundays while dramatically increasing their marketing actions and visibility on Monday. Owing to this deep market understanding insights extracted from their own data by Randl, they significantly improved their customer acquisition efficiency and costs.

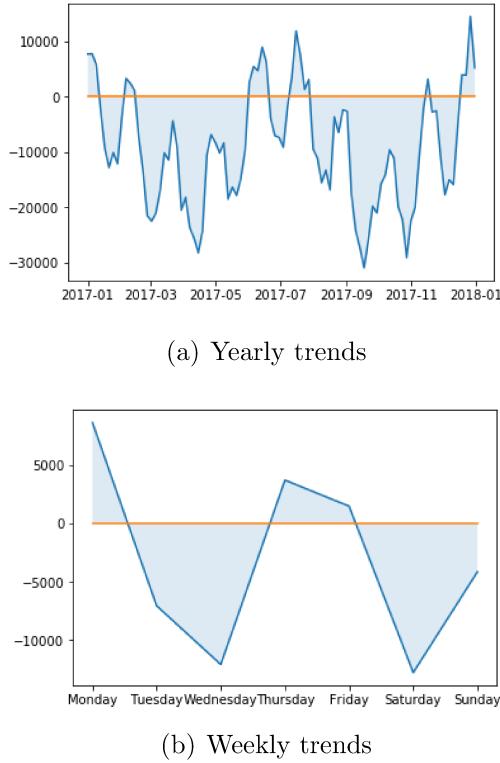
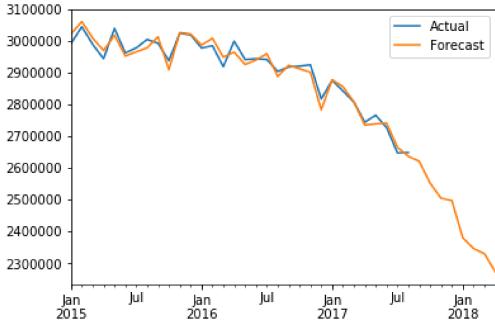


Figure 3.2: Example of extracted trends visualizations as presented in both MMM and Media Uplift products. These figures have been generated from a made-up data-set to preserve interviewees anonymity.

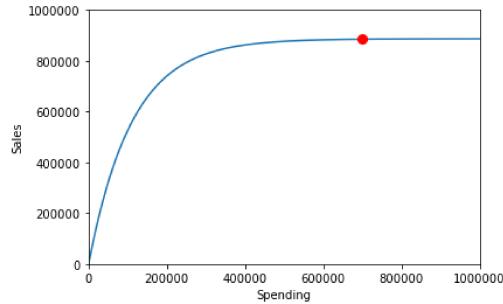
3.1.2 A prediction tool

Once the regression model has been computed, not only can the current marketing state be analysed, but one year of marketing effect trend and evolution can be forecasted. Based on the last year of spend strategies and corresponding KPIs variations, Randl can accurately predict what would happen the upcoming year to some extent. Of course, the first quarter would be modelled with more confidence than the last quarter from a mathematical perspective. Besides, the model do not take into account unpredictable events such as products failure or competitors aggressive counter-actions for instance. The prediction reliability also depends on how fast moving the market and category of the client are. The faster the speed, the more responsive the market is and the less significant the forecast becomes through the predicted year. Nonetheless, the model has proven to be particularly accurate in practice and the clients highly satisfied with its reliability. In addition, the longer the

relationship between the clients and the data analyst consultants last, the more data is collected and processed. Thus the more the model learns and increases its accuracy. It is an undeniable virtuous cycle.



(a) Forecast vs Actual



(b) Responsiveness Curve of one media channel

Figure 3.3: Example of marketing performance visualizations as presented in both MMM and Media Uplift products. These figures have been generated from a made-up data-set to preserve interviewees anonymity.

The model also evaluates marketing performance. We mentioned earlier in the previous section that Randl enables the comparison between how well the company marketing strategies are doing in terms of KPIs and how these KPIs would have performed according to the last forecast based on the previous model as illustrated on Figure 3.3 (a). If the KPIs values improved, then the marketing effect increased. Thus, the marketing strategies are efficient and profitable. The whole purpose then here becomes to beat the forecast. On the contrary, others computed performance metrics are meant to challenge and strengthen the decision process instead.

Randl can as well model the saturation level of the different media chan-

nels, in regards to one specific KPI. Indeed, it is well known in the marketing field that increases in the money spent on advertising and marketing will generate effect, such as increase in sales or visits to stores, up to a certain point. Passed that point, no significant return effect can be retrieved. The market is said saturated. Such phenomenon is similar to the economic product price elasticity of which curve is studied in the marketing mix price strategy. Likewise, Randl can draw a media channel responsiveness curve based on historical data as Figure 3.3 (b) shows. This curve illustrates up to which level it is worth investing on a specific media channel, considering a specific KPI, like sales, conversion rates or visit to the website. In its analysis, the model also integrates the carryover effect, commonly called Adstock effect. The Adstock effect is defined as the effect advertising carries over time. In other words, investing in an advert in a media channel is assumed to have an instantaneous effect as well as a decaying residual effect from its launch to a certain point in time. Both are capital to determine and evaluate the efficiency of a media channel.

Eventually, Randl can predict long term KPIs trends via the baseline trends owing to a preliminary highlighted correlation between long-term marketing effect and the media channels activities, mostly on the Upper Funnel. Similarly, KPIs seasonality patterns are extracted but also forecasted for the next coming period. They essentially contributes to describe customers behaviours over the week and over the year considering pay days, holidays and seasons for instance. Hence, marketers consults them while defining their marketing strategies.

3.1.3 A simulation tool

Owing to this prediction ability, Randl also enables marketers to simulate the consequential marketing effect of their investment decisions in term of KPIs. In other words, marketers can choose to reduce their budget spend on print by half and see what would then happen in term of sales for instance, according to the model. Not only does Randl can simulate at the marketer request, but it can automatically optimise the budget shares of media channels to maximize the marketing effect as well as optimise the spend share of upper funnel marketing activities to maximize the long term effect represented by the baseline. Thus, Randl consists in a powerful optimization tool.

3.2 Randl sold services

The three services of analysis, prediction and simulation provided by Randl are mainly sold through two service labels:

- Marketing Mix Modelling, commonly called MMM.
- Media Uplift.

Both are in practice extremely similar. The only difference resides in the fact that the MMM analysis is provided when the data analyst consultants can access all the investments data from all the different media channels the client is exploiting while the Media Uplift analysis lacks some data preventing them to offer an as complete and as deep analysis as with MMM. Nevertheless, both their results rely on the same technical methods.

Furthermore, both analysis results are mainly conveyed through a visual PowerPoint presentation that the client is attending to once to three time a year depending on how many model updates are requested. During this presentation, the data analyst consultants rely on the graphs in Figure 3.1, Figure 3.2 and Figure 3.3 to brief the client on its current marketing state according to the last update of the model as well as based their recommendation and optimization suggestions. Eventually, those charts are the ones the client go back to during the year when defining the new marketing strategy. As for now, the client prefers a static PowerPoint over the interactive Google Dashboard the data analyst consultants also built. The Dashboard displays the same graphs. However, the client can there interact with those figures and change the KPIs or the time frame depending on what they are most interested in. This Dashboard was meant to help the client figure out on its own the recommendation and optimisation suggestions the consultants are providing in the presentation. Likewise, an API was also been implemented so that clients can be directly connected to the model via Google sheet or Excel. Thus, client could independently play with the data and model outcomes. Unfortunately, both the Dashboard and the API did not raised the expected enthusiasm nor sales compared to the traditional consultancy service. The purpose of this thesis is thus to investigate how to make the client more independent and active regarding the analysis of the model outcomes.

Chapter 4

Methods

As exposed in the previous chapter, this thesis main purpose is to understand how to efficiently enhance marketers decision processes in a more autonomous and actionable manner through design. In the light of such context, qualitative approaches fit perfectly. Indeed, we are here interested in investigating **how** marketers define and take their marketing related decisions, **how** they currently integrate data-driven insights as well as **why** they are relying on and using the data-driven insights provided by Randl in practice. Blandford et al. (2016) relevantly explain in only one sentence how best suited qualitative HCI studies are to answer questions related to the subjects interactive behaviour and their rationale behind, compared to quantitative HCI studies: *Rather than testing hypotheses, they are concerned with describing and explaining phenomena in rich, often exploratory, way.* In our particular case, the intent is to describe and understand marketers behaviour and rationale regarding their interaction with data-driven insights and, in particular, with Randl. The issue even is that all intuitions and preconceived assumptions failed in practice. Therefore, no hypotheses are to be tested. The study should consist in an inductive rather than a deductive approach.

Furthermore, the environment of the study itself builds a strong framework influencing the interpretation of the research questions as well as the approach, including who to recruit and what kind of data to collect. In addition, the intended result of this research is to depict the subjective reality and conceptual models marketers build to take marketing decision and integrate data-driven insights. As such, the essence of this research is interpretivist rather than positivist according to Blandford et al. (2016). Indeed, positivist fundamental requirements of objective reality discovery and purely unbiased report are hardly met in such HCI research setting (Blandford et al., 2016). Thus, we opted for an inductive qualitative study with an interpretivist semi-structured approach to address the following research question:

How to design a user-friendly ML-based decision support system delivering understandable insights that marketers act upon?

This research question phrasing locates the research within the Contextual Design framework as defined by Holtzblatt and Beyer (2014). Contextual Design is a user-centered design process providing a well-defined structure for users data collection, interpretation and iterative prototype conception. The whole purpose of Contextual Design is to understand end-users with the ultimate aim to discover what their actual intents, desires and drivers are. (Holtzblatt and Beyer, 2014)

Originally exploited in the successful design of computer interaction and IT systems, such as hardware in a large, multi-site organization (Curtis et al., 1999) as well as administrative software (Rockwell, 1999), Contextual Design principles are now applied in broader fields, including educational software (Notess, 2004) and digital libraries design (Notess, 2005). All stresses the importance and value of contextual inquiries to understand their end users. Contextual inquiries acts as an *active inquiry into the user's world* according to Holtzblatt and Beyer (2014). Indeed, they consist in one-to-one field interviews where the interviewer adopts an apprentice point of view towards the interviewee, to some extent. The interviewer ask questions and observe the interviewee in their workplace. Afterwards, work-models are drawn to illustrate the work of individuals and organizations. (Holtzblatt and Beyer, 2014) Such combination of in situ observations and interviews is a capital key in the understanding of users' ways of working as most of their action and thinking processes have been integrated into habit they are seldom aware of.

However, contextual inquiries main strength is also their most powerful weakness: their adaptability. Being adaptable is part of being a design process. Although, from an academical research perspective, such trait lacks rigour and consistency in their application which prevents them from becoming reproducible research methods (Notess, 2005). Consequently, we adapted the Contextual inquiries principles to fit our research setting, to comply with an inductive qualitative research study with an interpretivist semi-structured approach. This Chapter describes our methodology.

4.1 Sampling Strategy

Considering the environment of this master thesis as described in the previous chapter, the subjects of this research were selected among Rikard and Gustav current and former clients as well as marketers within their professional

network using some form of econometric modelling in their company. Indeed, the intent of this thesis is to understand how marketers define their marketing strategies but also to investigate how and why they request data-driven insights. Thus, a strategic choice consisted in interviewing marketers closely related to their company marketing strategy as well as relatively familiar with the concepts and use of Econometric modelling outcomes. Age, gender and marketing experience duration were not restricted, nor was specific computer, technology and ML knowledge required to participate in the study. Participants were chosen upon their willingness, availability and marketing related roles and responsibilities within their company in order to browse a complete, yet general, overview of the whole marketing strategy formulation process.

4.2 Data Collection

As interviewing marketers in high level of the hierarchy of their company requires a strict and efficient use of time, we chose to perform deep semi-structured interviews in the interviewee work environment. The research interview purpose and proceeding was clearly explained to all selected participants beforehand. The guidelines of the semi-structured interview as listed in Table 4.1 were also sent in anticipation of the interview meeting. These question guidelines highlighted the pin points we desired to learn from and use as trigger for reflections and insights: interviewee's marketing background, job, work methodologies and attitudes towards the use of statistics and ML in marketing. However, some were while others were not asked along the conversational flow of each individual session. The guidelines only articulated the actual interview questions around a better understanding of the end-users, their behaviours, their job tasks and job contexts as well as how they are currently exploiting data driven insights. Eventually, ethical participation, confidentiality insurance and recording release consent forms were signed before proceeding with the interview.

Both focus groups and individual interviews were conducted in line with the Contextual inquiries settings when possible for the participant. From the eight initially planned interviews and focus group, we subsequently added three more individual interviews in order to substantiate, complement or negate early observations and findings. Eventually, eleven interviews were conducted with an average of 48 minutes per interviewee, either in their company workplace or remotely. One remote interview took place in a video conference call from her house, one in a long phone call due to a technical default preventing a video conference in the company while the last one in

a 26-minute long phone call as the interviewee could only spare time while commuting. Except from that last short phone call, all interviews and focus group were recorded then transcribed by the researcher in order to preserve the anonymity of the participants. In one special case, the participant refused to be recorded while demonstrating how and on what he was working on a daily basis due to his company confidentiality policy. Thus, the recording was obviously interrupted to respect his request. The verbatim transcripts attached in Appendix A contain the relevant amount of details to represent also the verbal and non verbal information essential for the analysis. This details include pauses, laughs and intensity of speech as proof of confidence, conviction, enthusiasm, hesitation or doubts.

As illustrated in Table 4.2, the participants were divided into three groups depending on their integration level of data-driven insights in their marketing strategy as well as their company type: the Innovators, the Adopters and the Media agency. The Media agency group gathers the interviewees working in media agencies. Media agencies are specifically in charge of the marketing message delivery of their several clients whereas this paper defines client-side companies as firms producing and selling non media nor marketing products or services. Both Adopters and Innovators only include interviewees employed in client side companies. However, interviewees belonging to the Innovator company group are significantly ahead of the Adopter company and Media agency groups of interviewees in term of integration of data-driven insights. All three interviewees work in the same company which hired their own data scientist in January 2017 to develop and maintain a tailored Econometric modelling software providing regular and constant data-driven insights. Since then, they all increasingly rely on the daily updated ML-based tool to define their marketing strategy on the day-to-day basis.

After these interviews analysis we will describe in the next section, a second round of interviews and focus groups were conducted to validate the analysis result. As Table 4.2 shows, eight over eleven participants attended their validation individual interviews or focus group. One participant could not make it in the last minute for his focus group session. Thus, his colleague validated the results in his stead. One participant was unfortunately on sick leave for the whole validation period and the last one was completely unreachable. Nevertheless, the partition of attendance over the different company groups are superior to 50% which still strengthen the final results reliability.

Marketing background	Why did you choose to work in marketing? How would you define marketing? How have you come to work in marketing? What is it that you like? That you find interesting? Why?
Marketing job and work methodologies	How does your preliminary expectations fit with your current job? What does your job as marketer consist in exactly? What do you like in your daily job? Why? What do you dislike? Why? What do you spend most of your time doing? Why? How do you define strategies, evaluate the impact of your decision, challenge your intuitions? Do you have a specific procedure? Why? Why not? Is it project-driven? How? Is it a team or individual work? How? Do you use tools in the process? What do they do? Do you like them? How do you feel about those tools? Comfortable, frustrated, etc? Why? How did you learn to use them? Could you show me how you use it please? Could you show me what you hate most, like most please?
Attitudes and use of statistics and ML	How do you feel about math? Statistics? Why? Do you use them in your job? What do you think of their outcomes? Could you please show me how you use it? What do you know of ML? How does it make you feel? Why? How do you like to interact with data usually? How do you analyze them? Why did you choose to use Gustav and Rikard expertise in the first place? Which of MMM, Media Uplift or Econometric products are you using? Which version: Dashboard or Powerpoint? Why? How often are you using their product and insights? What do you understand of their analytics result and process? What kind of actions or decisions are taken based in the insights provided by Gustav and Rikard? Based on your own analysis and graphs understanding? What is good with MMM, Media Uplift or Econometric? Best advantage? Why? What is wrong with MMM, Media Uplift or Econometric? Worst drawback? Why? What would be your ideal ML tool, assuming a fully functional AI? Why?

Table 4.1: Individual Interviews and Focus Group Questions Guidelines

Gender	
Female	4
Male	7
Company group	
Innovators company	3
Adopters company	4
Media agency	4
Participation	
Focus group in workplace	2
Individual interview in workplace	6
Remote individual interview	2
Short and remote individual interview (< 30min)	1
Audio recording	
Allowed and transcribed	10
Refused thus reported notes	1
Validation participation	
Focus group	3
Individual interview	5
By third party	1
Not granted	2
Validation participation per group	
Innovators company	3 / 3
Adopters company	2 / 4
Media agency	3 / 4
Validation audio recording	
Authorized	8
Refused	0

Table 4.2: Research Participants Demographics ($N=11$)

4.3 Data Analysis

The whole collected raw data consists in textual notes and word-to-word transcripts. Therefore, this narrative data was analysed and interpreted in a content analysis approach. A rigorous approach like content analysis provides a solid and reproducible framework to our Contextual Inquiries analysis. In their content analysis guide, Renner and Taylor-Powell (2003) identify five fundamental steps to produce a basic content analysis of quality: (1) the

researchers have to know the data; (2) the analysis should be focused either on a question, a topic, an event, an individual or a group; (3) the information should be organized in coherent categories both summarizing and bringing meaning to the texts; (4) patterns and connections between categories should be highlighted; (5) the identified themes and connections should be used to explain and build the final interpretation. Not only did the researcher collected the data herself, but she also transcribed all interviews alone. As a result, she was perfectly familiar with the whole data-set from the beginning of the content analysis process. Such data knowledge represented a significant asset in efficiently organising and interpreting such large data-set as a whole.

The primary focus of this study was mainly to understands the context and practicalities of how marketers take decisions regarding marketing strategies and how Econometric modelling may fit within it. However, the research data collection rapidly unveils that a significant majority of the interviewees have already integrated the ML insights in their marketing activities planning, to some extent. Moreover, they already had developed a strong attitudes towards such services we found capital to analyzed as well. Thus, we decided to not only research the decision processes and work models of marketers but also the rationale behind the use of Econometric modelling. This focus extension introduces an unexpected and distinct, yet highly relevant in our current context, angle of interpretation. Consequently, the analysis of interviews was divided in two separated content analysis with two different focuses as advised by Renner and Taylor-Powell (2003). The first content analysis focuses on the question: How does marketers define marketing strategies? While the second intends to answer the following: Why are marketers drawn to use data?

In practice, both content analysis are performed on the same narrative data-set. Nevertheless, such strict division is essential to perform a content analysis of quality. Indeed, the first content analysis is to be a relatively *manifest* analysis whereas the second content analysis would rather be defined as *latent* analysis. Bengtsson (2016) defines a manifest analysis as an analysis where the researcher describes what the interviewees actually said while a latent analysis rely on a deeper interpretative approach where the researchers actively seeks to read between the lines. Thus, a manifest analysis tends to stay closer to the text. We believe such trustworthiness and objectivity are capital to understand the real context and practicalities of marketing decision making, of which the first content analysis is all about. On the contrary, the second analysis intends to dig deeper on both the conscious and unconscious reasons the interviewees have to use data and Econometric modelling. Therefore, a latent analysis suits the second content analysis perfectly. Not only does Bengtsson (2016) describes the fundamental differences between

the two analyses, but she stressed the importance to identify to which type the content analysis belong to early in the planning process in order to ensure its quality and relevance. Indeed, the distinction may impact the data collection and pre-processing strategies. For instance, we here transcribed both verbal and non verbal informative details including breaks, laughs and intensity of voice, which are of high relevance for a latent analysis while relatively useless for a manifest. Moreover, drastically separating both descriptive and interpretative mindsets was judged essential in order to be systematic and consistent in our analysis. Thus, the two content analyses were conducted one after the other with different methods.

4.3.1 Content Analysis 1: How do marketers define marketing strategies?

This manifest analysis was conducted in the four fundamental stages of content analysis described by Bengtsson (2016) in her review: (1) the decontextualization, (2) the recontextualisation, (3) the categorisation and (4) the compilation.

First, the transcripts were broken down into small meaning units. Meaning units are the concisest unit of words, sentences or paragraphs containing insights the research need to answer the research question. Each meaning units were assigned a label to be understood within the context. These labels are called codes. In the literature, this first stage is known as "open coding" (Berg, 2004). This is an iterative process. The further the analysis went, the more transcripts were processed and the richer the codes became. The researcher went back and forth in the transcripts until no more meaning units were found.

A diary and memos were used to keep track of the choices and reflections during the whole process. To proceed with the open coding of both content analysis, the software Atlas.ti was used in order to manage all codes and respective quotes. It was particularly helpful in the second stage of the analysis, the recontextualisation.

In order to maintain the quality and reliability of the emergent codes, a second round of coding process was performed in a reverse order. Instead of looking at the text and generating a code, the researcher looked at the code, then read the memo and explanation of thoughts to eventually get back to the quotation, in its context and check whether the code was correct, relevant and thorough. Furthermore, the researcher read again the remaining unlabeled text to ensure no relevant meaning units were omitted. This phase was reported in tables as illustrated in Figure 4.6.

Afterwards, the verified codes were categorized in categories and main themes until a complete and reasonable answer was provided to our focus question: How does marketers define marketing strategies?

ID	Quotations	Revised extensive open coding (2nd round)	Categorie s	Code	Ground- ed	Main theme
1	"we built a fairly simplistic model ourselves in a spreadsheet to assess the effect of banner advertising that is more brand-oriented than search advertising." " we wanted to assess the non-direct effect on banner advertising, on the brand advertising so how does this influence people to remember our brand and use it. So we did some really basic model and just assuming a lot of things"	Before modelling, created simple model to asses banner advertising brand-oriented effects not only in term of click outs				
2	"I think we do maybe 800 or 900 interviews a month, just to see if something, if more people know us or less people know us or what is happening. So, that's like that, that was my first initial data-gathering experiment."	800 to 900 interviews a month to feel the market (brand awareness, what is happening)				
2	"But then we said we cannot buy ads from you because we need to know where our ads are and how many people see them... And this, I think is going to be somehow, in a couple of years, it's going to be impossible to sell things to people if they can't at least estimate what kind of effect it will have."	Only buy from agencies that can estimate what kind of effect the channel will have	evaluating marketing effect	EME	6	Marketing strategy definition
2	". And if you go to newspapers for example, they're going to tell you this many people read this newspaper in a day and this many people would see the ad or whatever. But you only have their own numbers to go, to look at. And they're not, there's no way to tell if that's really true or not, if it's always going to be exaggerated or not. So you have to somehow find a currency that you trust and you think will work for you. But that's the tricky part. Because it's hard to know if you're actually making the correct assumption"	Introduce the unit of impressions				
2	"it's probably the best thing with it that it gives you an oversight into how things doing. It could take me an hour to figure out how things were going before. Cuz I had to go in and look in every channel and see... try to compile things in Excel or do... and I'll try to calculate how much are we going to spend for the rest of the month if we do this, even though we're making more money than we planned. Are we spending more so that we end up with in the end... and things like that. That could take an hour or half a day before. Now it's just like that."	Before modelling, model, calculate by hand/Excel				
1	But we only use the media agencies for offline marketing."	Buy offline channel via media agencies	media buying	MB	2	
1	"The online Marketing is done by ourselves"	Buy online media themselves				

Figure 4.1: Example of content analysis applied procedure

The answer to this question for each interviewee company was compiled in four out of five Contextual inquiries work models listed by Holtzblatt and Beyer (2014): a Flow model, a Cultural model, a Sequence model and an Artifact model. Indeed, clearer than categories and theme narrative, these diagrams fully depict the complexity of marketing decision making processes for each interviewee within their company.

The Flow model illustrates both formal and informal roles as well as the coordination and communication between marketers to do the job (Holtzblatt and Beyer, 2014). Figure 4.2 illustrates the simplified roles and communications flows between the top management of the company and its CMO. Here, the top management communicates the business goals in term of sales based on which the CMO determine the appropriate marketing strategy.



Figure 4.2: Example of a simplified Flow model for marketers

The Cultural model represents the culture and policies constraining how the work is done (Holtzblatt and Beyer, 2014). Figure 4.3 proposes a simpli-

fied Cultural model corresponding to the previous Flow model. This model is trickier to read as the arrows direction meaning differs from those of the previous Flow model. On this example, the conflicting expectation of the top management towards the CMO regarding sales and profits increase is represented with a yellow bolt. Indeed, those may be in contradiction with the CMO's growth objectives or not reasonable considering the allocated budget. As a result, the CMO expects their top management to provide relevant goals and coherent budget to work towards the business KPIs with, as attested by the reverse, bolt free arrow.



Figure 4.3: Example of a simplified Cultural model for marketers

The Sequence model details all single steps performed to complete a job and the problems that may get in the way (Holtzblatt and Beyer, 2014). Figure 4.4 represents the simple Sequence model of the top management / CMO example. The aim of the sequence of actions here is to define the marketing strategy for the year which is initially triggered by the end of the previous year. One disruptive event occurs, provoking new actions in response, when the top management modified the business objectives.



Figure 4.4: Example of a simplified Sequence model for marketers

Eventually the Artifact model lists the artifacts employed or created by the interviewee to do the work as illustrated on Figure 4.5 (Holtzblatt and Beyer, 2014).

Artifacts

- Spreadsheet
- Computer

Figure 4.5: Example of a simplified Artifact model for marketers

Unfortunately the last work model completing the picture of how a job is done according to Holtzblatt and Beyer (2014), the Physical model, was not drawn as few or no data was collected nor judged relevant to describe how interviewee interacted with their physical world to take marketing decision. Nonetheless, these were subsequently merged into the four distinct and representative versions of the set of models that emerged from this first analysis as Chapter 6 will explain later.

4.3.2 Content Analysis 2: Why are marketers drawn to use data?

Contrary to the first analysis, the second analysis is latent. A latent analysis implies a deeper and more subjective interpretation of the interviews. In order to ensure the confirmability, credibility and dependability of this one-researcher study, particular in term of relevance, transparency and trustworthiness, the previously described content analysis procedure was integrated within the more rigorous framework of a thematic analysis.

A thematic analysis consists in a pragmatic approach to content analysis providing tight guidelines structuring this flexible analysis (Blandford et al., 2016). This study applied the specific guidelines described by Braun and Clarke (2006). Indeed, their article argues how limited the interpretative power of emerging theme analysis has if not rigorously structured and anchored within a clear theoretical framework. As such, they defined step-by-step guidelines to avoid the major pitfalls and allow the researcher to perform a deliberate and self-conscious creative analysis that readers may rely on. (Braun and Clarke, 2006)

Braun and Clarke (2006)'s three first steps are common to the previously exposed analysis methodology: (1) the researcher must familiarised themselves with the data, (2) the iterative open coding process and (3) the research of themes by gathering codes in theme candidates to later be further analysed. This third step corresponds to the categorisation stage mentioned by Bengtsson (2016). As a result, the coding and theme candidates emerged from the same methodology as the first analysis. Likewise, a recontextuali-

sation step was added in between to strengthen their reliability by reducing fatigue and misunderstanding faults in the process.

Subsequently we proceeded with the reviewing themes step to check whether the themes are data coherent and creates a relevant thematic map of the analysis. To do so, the researcher produced thematic maps based on the emergent categories in the attempt to analyse and describe the fundamental reasons marketers felt the need to use Econometric modelling and data in defining marketing strategies. Figure 4.1 illustrates a simple thematic map as produced for this thesis. The researcher repeated the process until the theme were all refined and their generated narrative relevantly grounded on the raw data. Then, she could proceed with the final steps of naming the themes and producing the reports. (Braun and Clarke, 2006)

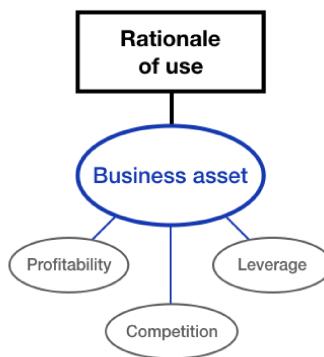


Figure 4.6: Example of thematic content analysis applied procedure

Instead of writing a formal report, the researcher drew four personas based on the resulting analysed interviewee attitudes and behaviours towards Marketing decision taking and Econometric modelling. In addition, she also listed design guidelines to satisfy the generated personas and their respective work-models based on the first analysis. In order to validate this thematic analysis findings, three distinct low fidelity mock-ups were also produced as illustration of the major design guidelines concepts. These designs were used as tangible pretexts to stimulate deeper discussions in the final validation round of interviews.

Chapter 5

Implementation and results

Now that Chapter 4 presented the methodologies applied to sample, collect and analysed the data, Chapter 5 will expose the preliminary results of the two conducted content analysis.

5.1 Results of Content Analysis 1: How do marketers define marketing strategies?

The first content analysis aims at uncovering how in practice, employees and consultants in charge of marketing define their strategy. In a nutshell, the main intent of such analysis is to describe how marketers work in order to best determine what type of service or tool may most efficiently enhance their decision making processes. To do so, the researcher executed the content analysis methodology described in the previous chapter. The detailed results are provided in Appendix B. Based on those results, she built the four Context Inquiry work-models for each company represented by the participants: the Flow model, the Cultural model, the Sequence model and the Artifact model. As three innovators and two agencies were working in the same company, their respective interview analysis results drew complementary diagrams the researcher merged in this report. As a result, one set of built work-models for the Innovators, four for the Adopters and three for the Agencies are exhibited in the following sections.

5.1.1 Innovators company group work-models

Since the three interviewees in the Innovator company group work in the same firm providing online service to their customers and together constitute the main player in marketing decision definition, the resulting work-

models browse an increasingly more detailed overview of how the job is done compared to the other groups. Moreover, they internally developed and use on a daily basis their own ML-based DSS as illustrated in their Flow model on Figure 5.1. This tool called CSM, standing for Ce Sacre Model (This Damned Model in French), consists in a digital interface displaying Econometric modelling outputs, including forecast, ROI and media channel investments via charts and tables. They mainly use CSM as a budget planning tool providing insights on how their media channels are doing during the day, the week, the month and the year. However, the tool is at the core of their decision making processes regarding marketing. CSM contributes in defining the marketing strategies for the year and the month as well as their daily optimisation as explained in their Sequence model on Figure 5.3. Therefore, their work-models significantly differs from the Adopters and the Media agencies ones.

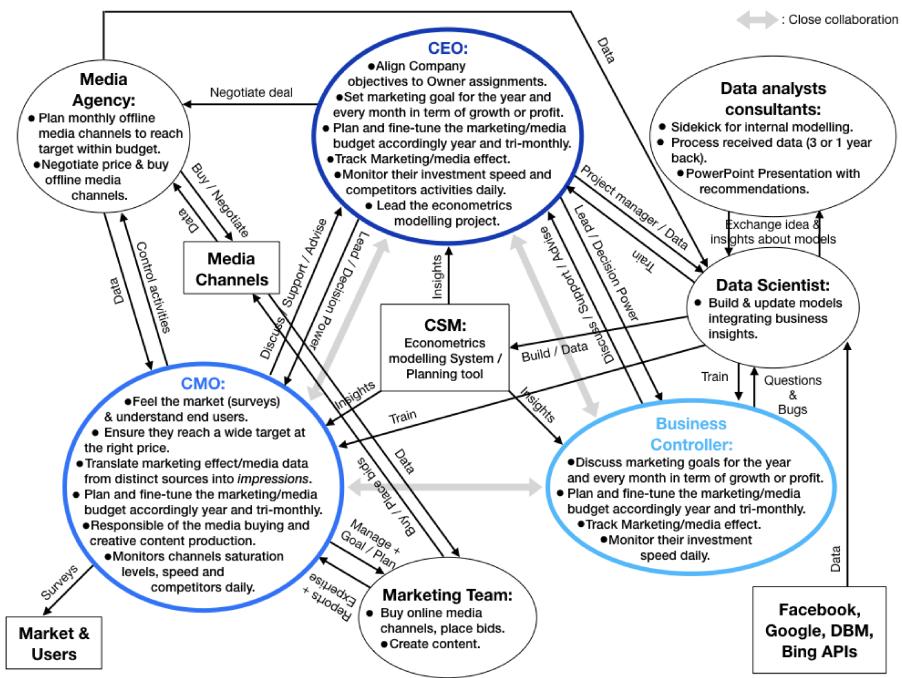


Figure 5.1: Innovators Flow model

Figure 5.1 consists in the Innovators Flow model. The coloured circle represents the three different innovators the researcher interviewed with their roles and main responsibilities regarding marketing strategy definition. For instance, as Chief Executive Officer (CEO), Innovator 1 main role is to ensure the Marketing and Media goals serve the company group LT objectives

their owners assigned them: "*we got some directions from above, where to end on profit and revenue*" (Appendix A Appendix A Transcript 1025-0001, quotation 16). To do so, Innovator 1 is supported by Innovator 2, as Business Controller, who is mostly in charge of the budgetary aspects of the Marketing Mix: "*We are trying to kind of make the perfect mix, from day to day. What marketing, what kind of marketing to do. If it's going to be digital or more offline marketing. And to make the right decision we use this system, we use the data.*" (Appendix A Transcript-1025-0001, quotation 1). Innovator 3, as CMO, also heavily collaborate in defining the strategy as they all three work very closely. They meet a minimum of three time per months to discuss the budget and what should they do considering the current marketing situation in term of investment level and speed, revenue, media channel saturation, etc. In addition, Innovator 3 is also in charge of the media channel buying coordination as well as the ongoing tracking of both digital and non-digital marketing effect on daily basis: "*this is my responsibilities to keep the... the, ummm... like the oversight of everything, the budget of everything*" (Appendix A Transcript 1025-02, quotation 18). While the offline media channel buying is handled by their media agency, the marketing team Innovator 3 manages place bids on the digital platform and creates marketing contents to feed the media channels with. Eventually, Figure 5.1 addresses the role the Data Analysts consultants played as a side kick in the integration and development of their own Econometric modelling by their recently hired Data Scientist.

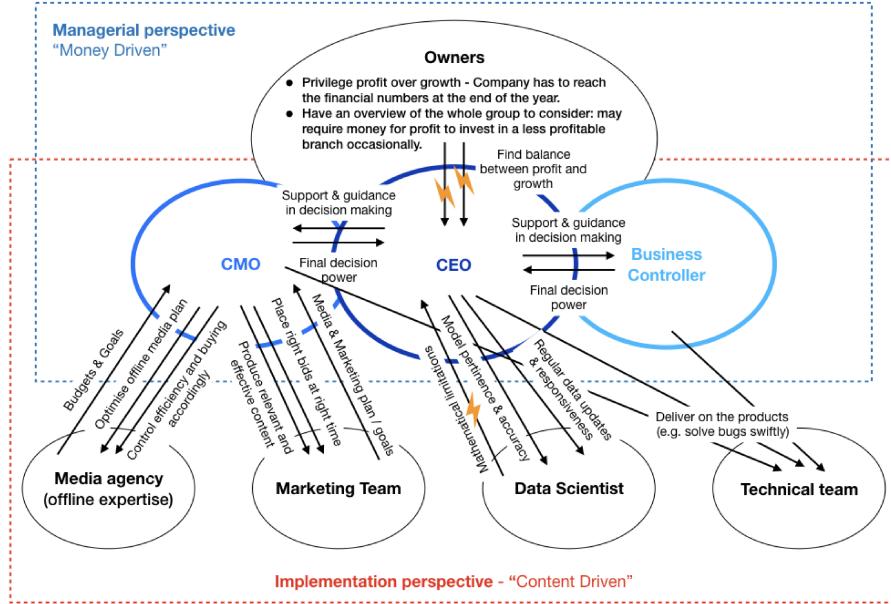


Figure 5.2: Innovators Cultural model

To complement the Flow model, the Innovators Cultural model on Figure 5.2 highlights the cultural constraints and policies influencing how the marketing decision are taken. As caught between their own managerial perspective as well as the one of their company group owners and the implementation perspective of the teams and people they manage, our three interviewees have to handle the tension arising from the different money and content drivers conflicts. For instance, the owners may require the interviewee to generate profit when they would rather privilege company growth. Likewise, all three may have high expectation concerning the econometric model. However, there are mathematical limitations they need to acknowledge, particularly concerning LT modelling in order to relevantly understand and use CSM insights. Less tensed but not of least importance, both marketing team expects from the interviewees that they provide relevant goals and plan for them to work towards and reach within the specified budget. In return, the interviewees requires results including KPIs increase or brand awareness rise. Obviously all marketers expect from their technical team supplying the service to deliver on the marketing promise made to the market as illustrated in Figure 5.2.

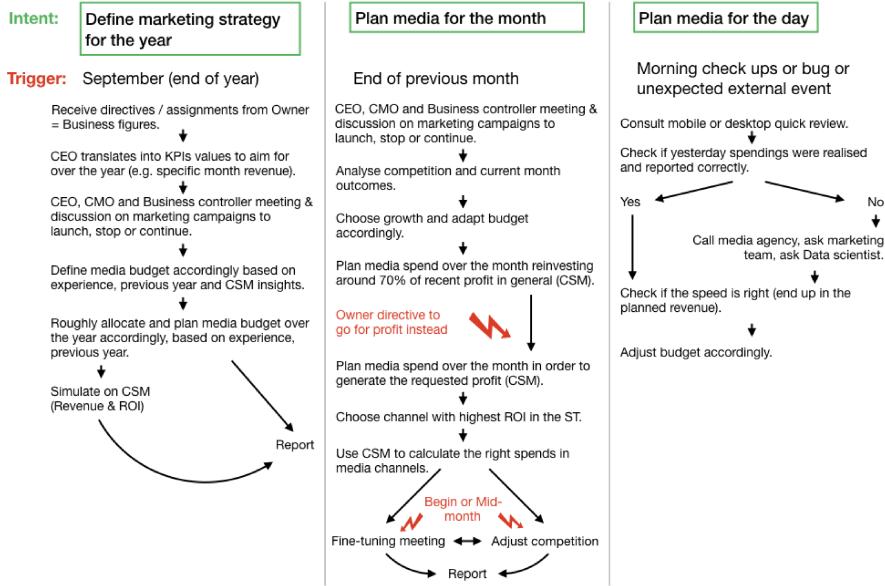


Figure 5.3: Innovators Sequence model

The step by step procedure of defining the marketing and media plan and budget in the Innovators company is then fully described in the Sequence model in Figure 5.3. One noticeable aspect is that, no matter the strategy intent, the interviewees start by defining the goals they want to reach before deciding anything. Once the business directives as provided by the Owners have been broken down into marketing then media objectives, the three interviewees meet and discuss the plan and budget distribution over the year or the month with the non negligible help of CSM. The plan and budgets are afterward adapted and optimised on an ongoing basis detailed on Figure 5.3.

Artifacts	CEO	Business Controller	CMO
• Google Analytics	✓	✓	✓
• CSM (and data consultants before that)	✓	✓	✓
• Enterprise system (external tool reporting click outs and revenues)	✓	✓	✓
• Internal Profit and Loss Google sheet	✓	✓	✓
• Long term and Short term assumptions (e.g. TV & Radio)	✓	✓	✓
• Surveys of users usage and brand awareness			✓
• Google spreadsheet to report and evaluate marketing effects	✓		✓

Figure 5.4: Innovators Artifact model

In addition to the CSM tool, the interviewees rely on two other reporting tool to define their marketing and media budgets: the Enterprise system and their internal Profit and Loss spreadsheet. The Enterprise system is an external web based service reporting live click-outs and revenue streams. The click-outs represent the sold unit of valid clicks the client pay for e.g. redirection of website end-users to the clients E-commerce platform where they can purchase the advertised good. Among the list of artifacts listed in the Artifact model in Figure 5.4, those three are the main tools intervening in the marketing and media strategy formulation alongside the interviewees experience, gut feelings and assumption concerning non mathematically modelled LT effect of mass media channels such as TV and Radio.

5.1.2 Adopters company group work-models

Contrary to the Innovators group, all four interviewees constituting the Adopters company group contribute to the marketing strategies of different companies. Thus, their organization, titles and work processes differs from one to the others as illustrated by the four set of detailed work-models from Figure 5.5 to Figure 5.20. However, this section develops the several general patterns that emerged once considered as a whole. It is though im-

portant to bear in mind here that Adopter 2 interview was shorter than the other conducted interview. Besides, the analysis was produced out of written notes instead of an audio recording transcript. As a result, Adopter 2 work-models are more succinct and relatively less representative than the others companies work-models and was treated as such in the analysis. Nonetheless, Adopter 2 happened to also be one major client of one of the media agency interviewees company. Therefore, the corresponding interviews analysis also substantiated and complemented the produced work-models, increasing their accuracy and relevance to some extent.

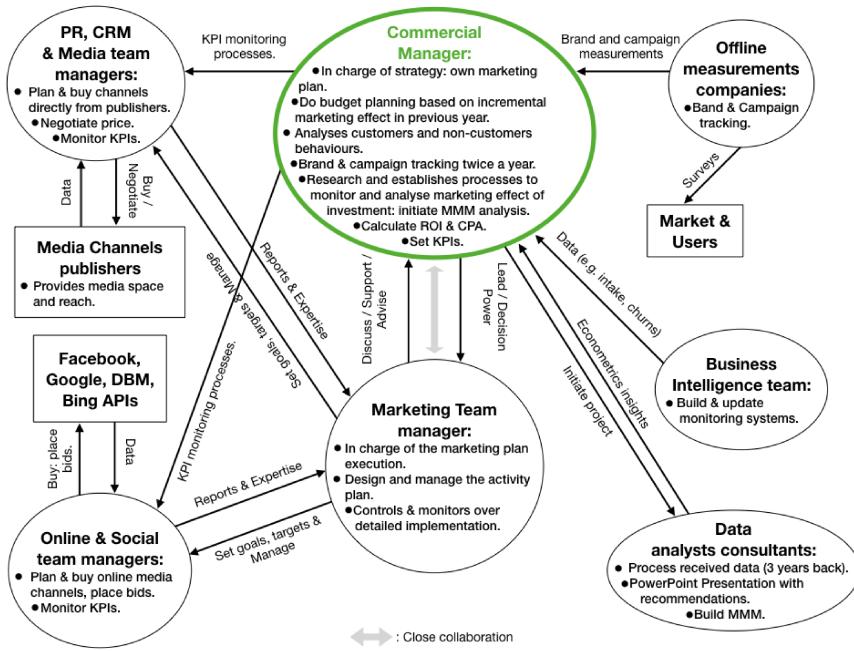


Figure 5.5: Adopter 1 Flow model

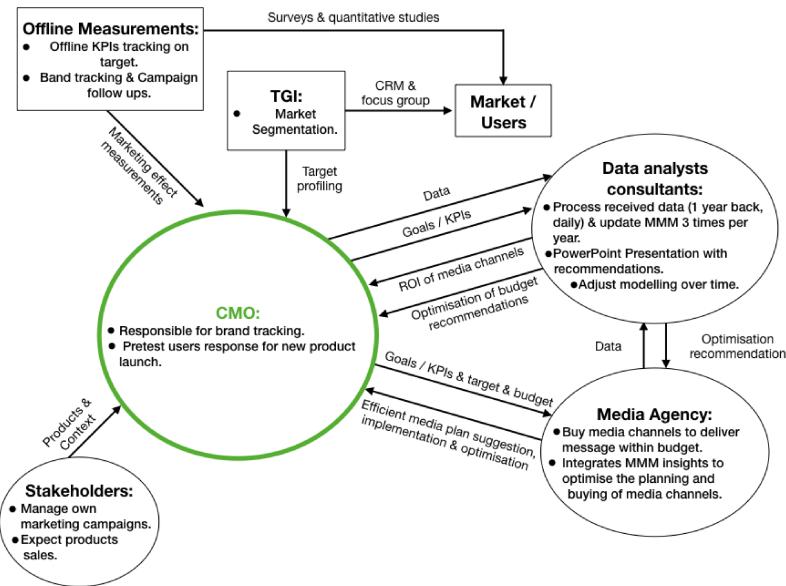


Figure 5.6: Adopter 2 Flow model

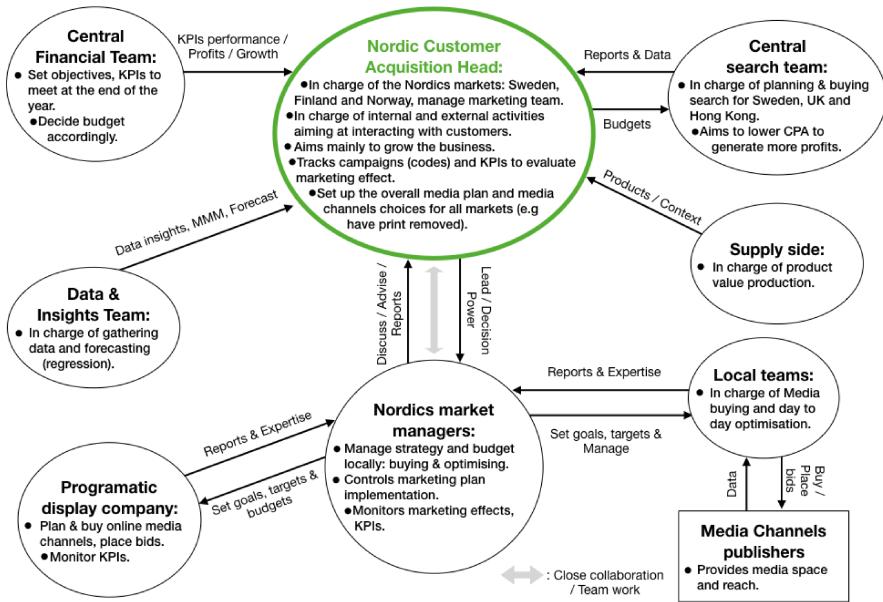


Figure 5.7: Adopter 3 Flow model

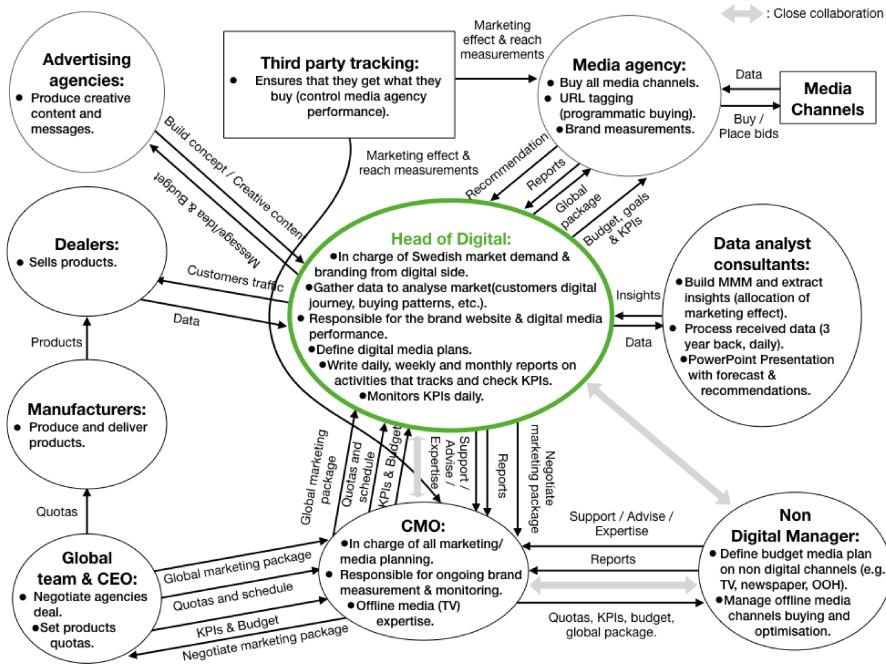


Figure 5.8: Adopter 4 Flow model

First of all, the decisive choice of marketing strategies implementation significantly determine how the strategy are formulated. As explained in Chapter 2 about the theoretical background of this thesis, what marketers define as marketing activities in practice is advertising and branding related decisions and campaigns. As a result, how they choose to create and deliver both the advertising and branding messages influence their marketing strategies to some extent. On one hand, Adopter 1 company chose not to employ media agency services at all. Similarly, the Innovators strategically decided to create content and directly buy digital media channels internally. On the other hand, the three other Adopters preferred to rely heavily on media Agency expertise in their media thus marketing strategies definition. Consequently, more teams and managers are involved in the Adopter 1 marketing decision taking processes as shown in her company Flow model on Figure 5.5. The PR, CRM, Media, Online media and Social media team managers are responsible for the granular level details of marketing activities and media plan, budgeting and implementation on their specialty channels under the management of her Marketing Team manager. Consequently, Adopter 1 can have a direct control over how the Marketing and Media KPIs are gathered and reported contrary to Adopter 2, 3 and 4 companies where such responsibilities are instead completely delegated to their respective media agencies.

as can be noticed on their respective Flow model on Figures 5.6, 5.7 and 5.8. Adopter 4 quotes perfectly summarize how they subsequently proceed with marketing decisions on practice: *"we do a brief together with our media agency and advertising agency saying this is coming up then and there. We have this marketing budget for this campaign. This are the KPIs and this is what we think is the target group and then they sort of have a week or two I would say to do their homework coming back and say this is how we see the campaign and then there is a discussion and sort of a decision being made of how to sort of go forward and then we are ready to launch the campaign"* (Appendix A Transcript 1322-00, quotation 36). Thus, their media agencies independently manage the media channel budget plan and implementation of which they afterwards report back the efficiency in terms of Marketing effects measured by the client predefined KPIs, on a weekly basis. In order to counter-balance this thus created dependence on the media agencies transparency and trustworthiness, Adopter 4 company also hires in parallel a neutral third party company in charge of ensuring they really receive back what they paid for: *"we have together a third party tracking system that ensure that we have our own sort of data to look at not just what the media says to us"* (Appendix A Transcript 1322-00, quotation 18).

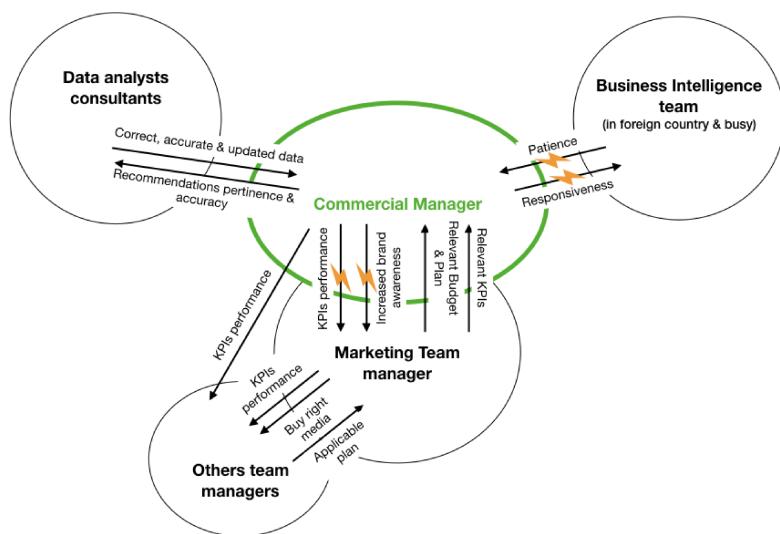


Figure 5.9: Adopter 1 Cultural model

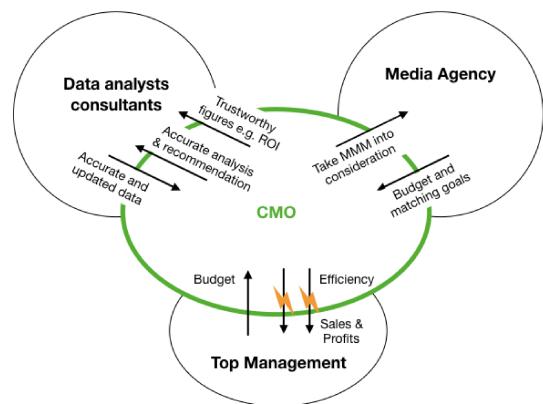


Figure 5.10: Adopter 2 Cultural model

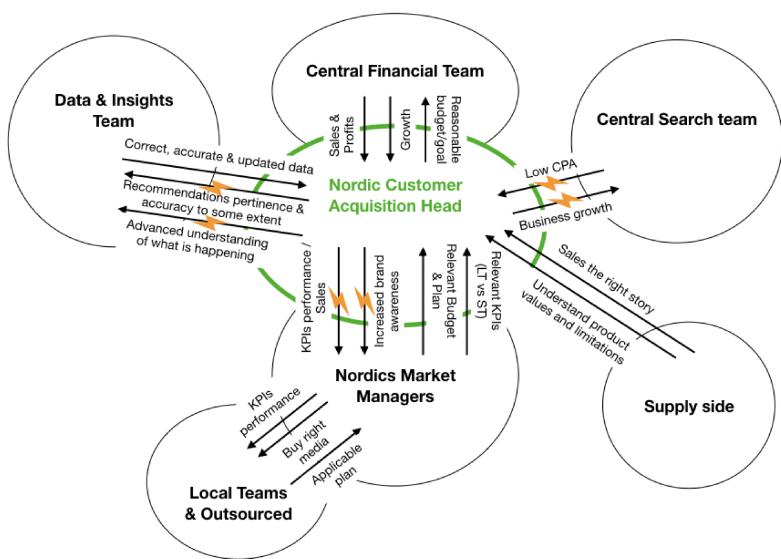


Figure 5.11: Adopter 3 Cultural model

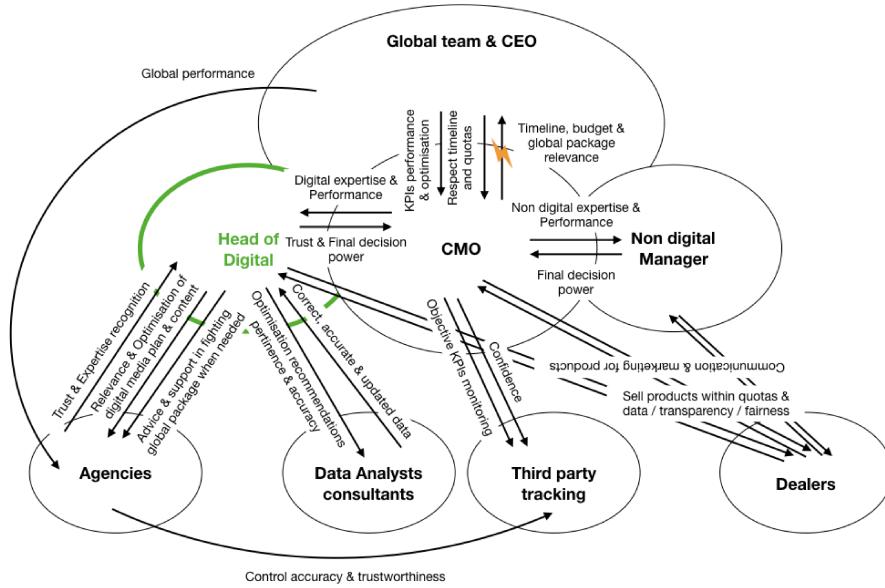


Figure 5.12: Adopter 4 Cultural model

Nevertheless, the main responsibilities shares and interactions flows are represented in all Adopters Flow models. Correspondingly, all the Adopters Cultural models visibly share the same fundamental structure regarding strength and policies constraining the marketing strategy definition as displayed on Figures 5.9, 5.10, 5.11 and 5.12. Notwithstanding whether the media agency or an internal media team is in charge of the details and implementation of the media strategy, the four interviewees expect similar results in term of KPIs performance, be they brand awareness or conversion rates. Likewise, the internal team as well as the media agency require from the interviewees that they provide the relevant budgets, plans and KPIs to perform as they are expected to. The same phenomenon can also be noticed regarding those in charge of delivering data-driven insights. Either they are Data analyst consultants or their company internal data team, the expectations are identical. Those processing the data insights trust the interviewees to provide correct, accurate and updated data while in return the interviewees expect accurate and relevant analysis and recommendation to base their marketing campaigns on. Eventually, they all experience the same pressure as the Innovators from higher up in their respective company hierarchy to deliver on the financial goals and business KPIs by the end of the year while staying in the provided budget.

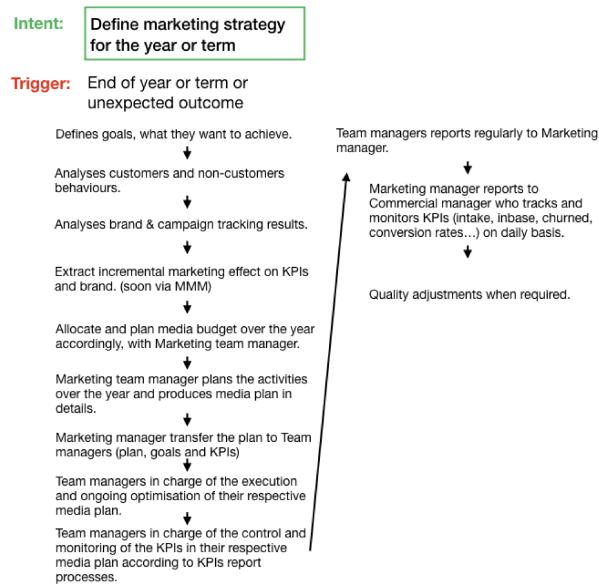


Figure 5.13: Adopter 1 Sequence model

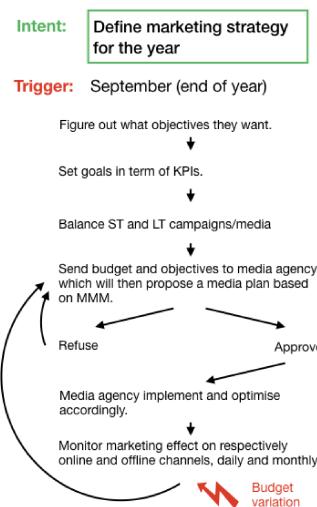


Figure 5.14: Adopter 2 Sequence model

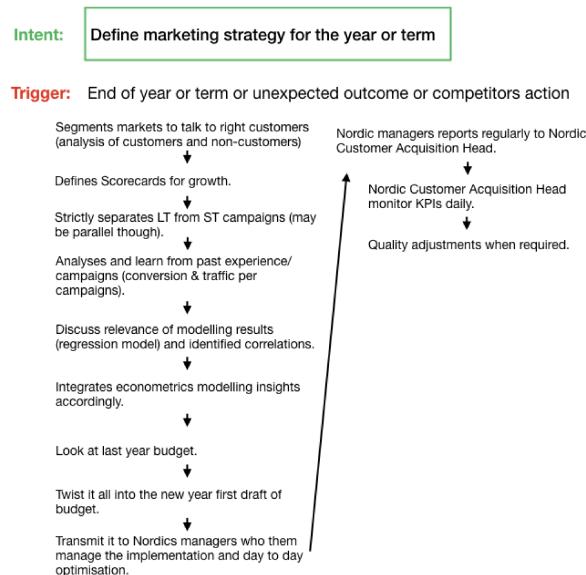


Figure 5.15: Adopter 3 Sequence model

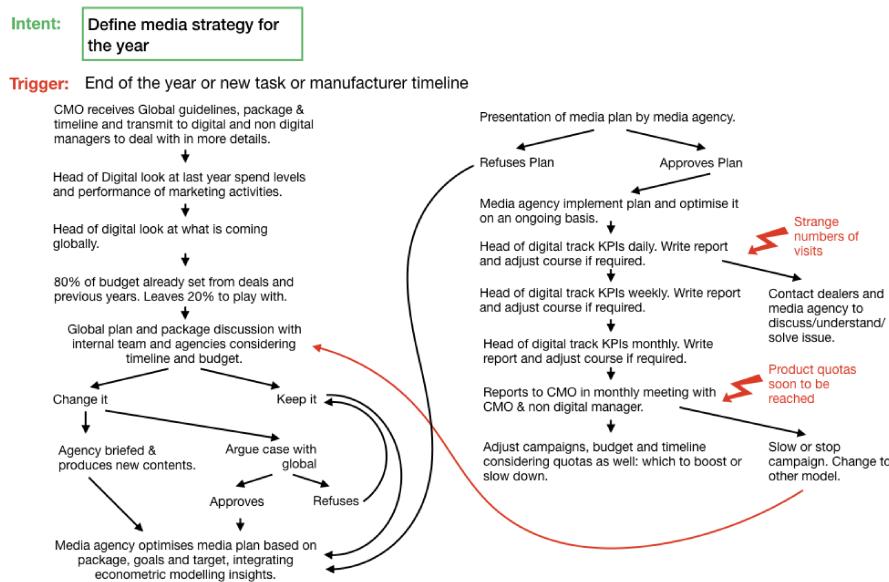


Figure 5.16: Adopter 4 Sequence model

As for the Cultural models, the Adopters Sequence models are fundamentally similar by structure. The four Sequence models illustrated on Figures 5.13, 5.14, 5.15 and 5.16, show that before taking any marketing decisions, the interviewees define what are the goals they want to achieve. As Adopter 1 clearly accurately phrased it: *"First, we decide what we want to achieve, we have looked at the last year expenses and what they gave us in term of incremental marketing effect or umm like the effect on our brand and so on... And according to that, we... umm, we just decide approximately that we want to spend x or y."* (Appendix A Transcript 126-00, quotation 8). Thus, once the business goals have been translated into marketing goals KPIs and media goals KPIs, e.g. increase the sales by 10% thus raising the brand awareness by 5% and widening the reach by 13%, the interviewees start planning and budgeting.

Here the different interviewees methodologies slightly diverge. For instance, Adopters 1 and Adopter 2 stress the importance of analysing the end-users, customer base as well as potential customers before defining what sort of marketing to go for, just like Innovator 3. However Adopters 3 and 4 mostly rely on their past experience, their guts feelings and from time to time the Econometric modelling insights. While, Adopter 3 is quite skeptical and question the accuracy of the model forecast, Adopter 4 is just particularly constrained in his freedom of decision choices considering that the global team in the multinational company he works for provide the Swedish local marketing team with not only a budget, a strict plan and the products quotas to sell but also a global marketing package including creative content such as advert and TVC to use in their own campaigns. The procedure then becomes *"a bit political, which fights to take and which fights not to take. But if we sort of had to go with the global sort of package, it's quite easy. Then we have all the visuals, all the sort of advertising material ready. And then we do a brief together with our media agency and advertising agency saying this is coming up then and there. We have this marketing budget for this campaign. This are the KPIs and this is what we think is the target group"* (Appendix A Transcript-1322-00, quotation 21). Besides, even in the case where they choose not to use the global package, 80% of the marketing budget is actually invested in a twisted version of last year. Only 20% are left to experiment with new media channels or marketing activities with the constant supports of their media and advertising agencies.

Nevertheless, the methodologies then converge eventually into delegating the granular plan details as well as the implementation to the internal team or media agency that then reports the activities and results on a regular basis. Quality adjustments are then realised when required. In other words, when they need to align with a competitor marketing action or when campaigns

Artifacts

- Assumption that baseline represents LT effect of marketing trends.
- Long term and Short term assumptions (e.g. TV)
- Surveys of users usage and brand tracking.

Figure 5.18: Adopter 2 Artifact model

fails to deliver on the KPIs or, on the contrary when they over-perform for instance.

Artifacts

- Google spreadsheet to report (KPIs) and evaluate marketing effects via CPA and ROI calculation & Intake forecast for each marketing activities in marketing plan.
- Long term and Short term assumptions (e.g. TV: intake upper the funnel undetected by MMM).
- MMM analysis in the future
- Business Insights interface (internal software)
- Google Analytics
- Facebook analytics
- Surveys of users usage and brand awareness
- Surveys of users usage and brand awareness (500 at least 2 time a year)
- Internal tools for reporting (e.g. PR tool).

Figure 5.17: Adopter 1 Artifact model

Artifacts

- Adobe analytics
- MMM
- Ongoing surveys of users usage and brand awareness via third party company to control media agency performance.
- Internal reports
- Global reports.
- Excel sheet with all KPIs figures (products sales for instance)

Figure 5.20: Adopter 4 Artifact model

Artifacts

- Customised Adobe Analytics tool for reporting activity (specially designed for their company) instead of Google Analytics as they want to own the data.
- Conceptual model of LT/ST separation: most media channels are ST while LT effect can only be achieved by the customers experimenting something by themselves.
- Conceptual model of Search: Search not perceived as a real media channel as it does not drive customers by itself. Instead, powerful tool for conversions.
- Econometric modelling analysis (statistical studies and regression analysis) to some extent.
- Several internal tools for reporting.

Figure 5.19: Adopter 3 Artifact model

Eventually, all four adopters employ similar tools as well as they create comparable conceptual models to realise their job as marketing strategists. Indeed, most of them either use Google Analytics (GA) or Adobe Analytics (AA) digital interfaces to gather insights on their customers behaviours and journeys before converting. The major difference between the two interfaces is the data ownership. As Adopter 3 explains: "*the problem with Google Analytics for a global company like COMPANY1929, is that Google owns all the data. And we don't want that.*" (Appendix A Transcript 1929-00, quotation 22). Thus, some companies like Adopter 3 and 4 ones privilege AA over GA tools. Not only do all four complement these customer insights with some Econometric modelling such as MMM, but they also rely on brand and campaign ongoing tracking surveys and focus groups as listed in their respective Artifact models on Figures 5.17, 5.18, 5.19 and 5.20. In addition, their companies subscribed to such a multitude of reporting tools that a significant majority of the Adopters, like the Innovators, prefer to manually build their own spreadsheet gathering all the data and insights they value as relevant in their daily task. For instance, Adopter 3 states: "*we have I think, in a global company like ours, we have hundreds of reporting tools, we have raw data and we have data that is combined and twisted and short-term reports, long-term reports. I think it is hundred and hundreds and hundreds reports. We still end up doing our own reports. Because, every report says something else and it's not consistent with another.*" (Appendix A Transcript 1929-00, quotation 23). Likewise, Adopter 1 admits using her own spreadsheet: "*I have my own, umm, like in the activity plan we have umm, I made the structure you know where we.. we have on different rows the activity, we can put the intake forecast, the actual intake, the cost per order [...]. And in the end, on the rows we have the ROI on our activity. And that we will follow and see and*

compare the campaigns and channels and so on" (Appendix A Transcript 1126-00, quotation 9). The lack of consistency and communication from one reporting tool to the other generates frustration and dissatisfaction feelings among their users. Consequently, the Adopters all heavily rely on their guts, experience and educated assumptions to base their marketing strategy upon as Adopter 4 concedes: "*sometimes reports and data are good but sometimes also you basically know what to do just to make, to sort of reach your goal. It's both I would say.*" (Appendix A Transcript 1322-00, quotation 30). In particular, the LT and ST marketing activities and effects differentiation is fundamental to build a sustainable marketing strategy. Such behaviour are also relatively common in the Media agency environment.

5.1.3 Media Agency group work-models

As briefly exposed in the previous section, Media agencies closely work with their several clients to define the right marketing strategies, focusing mainly on media strategies. Consequently, their work behaviours heavily depend on what their clients companies are aiming for as well as how their clients organise themselves to deliver on these aims. Therefore, their work-models significantly differ from the ones of Adopter 1 internal specialist teams whose company chose not to hire a media agency to contribute in the media strategy definition. This section describes in details how the interviewees employed in media agencies handle several clients marketing strategies planning and implementation. Four Media agency employees were interviewed for this study, two of which worked in the same agency. Thus, the researcher drew three sets of work-models exhibiting noticeable common patterns.

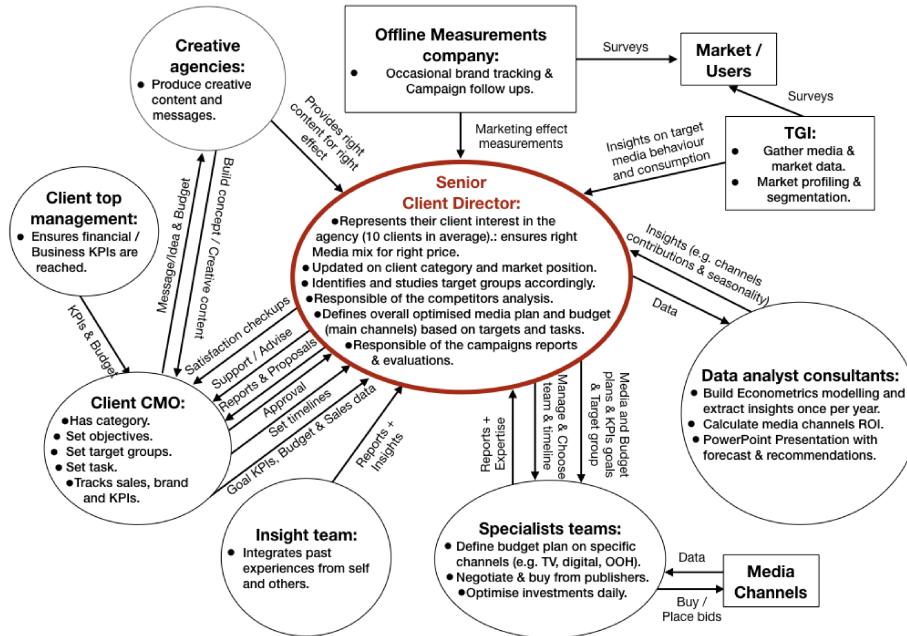


Figure 5.21: Agency 1 Flow model

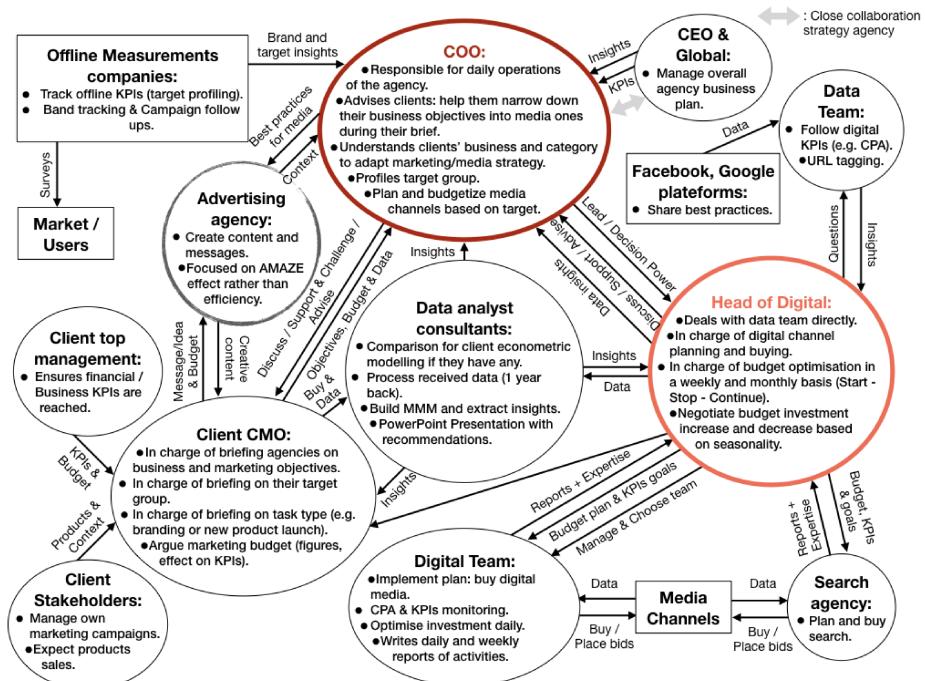


Figure 5.22: Agency 2 and 4 Flow model

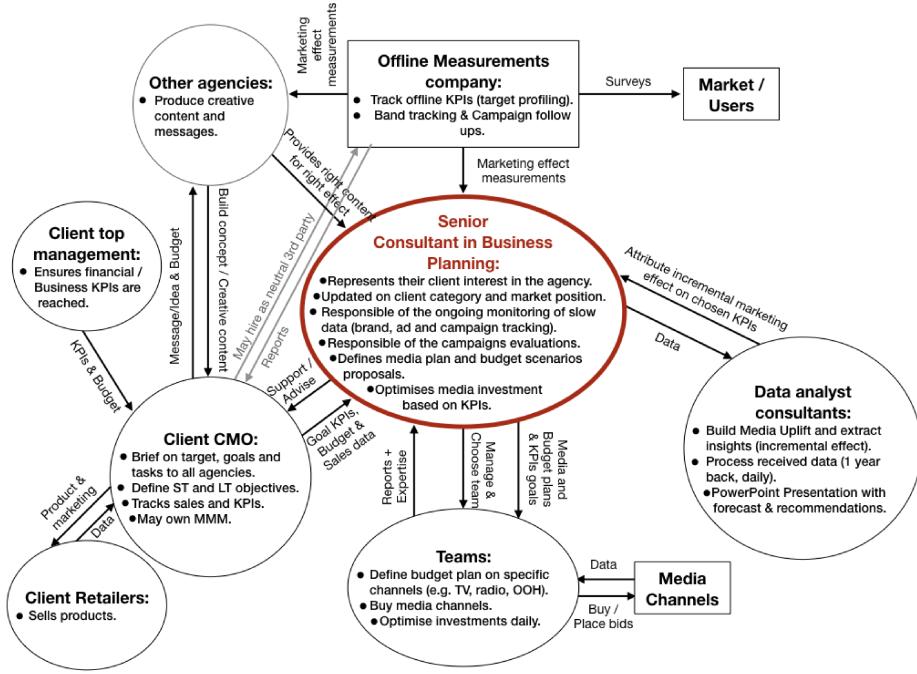


Figure 5.23: Agency 3 Flow model

The Media Agencies Flow models illustrated in Figures 5.21, 5.22 and 5.23 are fundamentally similar in their close intersection with the Adopters Flow models. Indeed, all four Media Agencies assume the role of their client dedicated adviser and representative of interest within the media agency. This is particularly the case of Media agency 4 since he mostly focuses on developing the digital media plan of his company major client represented by Adopter 2. Apart from this account, he only handles the digital media plan of one traditional client supporting their occasional marketing campaigns while the three other Media agencies coordinate up to 11 clients media plan at a time. There lie the main strengths and weaknesses of hiring media agencies from a client-side company perspective such as the Innovators and the Adopters. Though Media agencies acquire a broad yet deep expertise in media channels knowledge and use through their multitude of clients categories and tasks, they may lack a full understanding of their clients specific business and its fundamental behaviours an internal media specialist team would earn. Therefore, all three Media agencies build a strong and close relationship with their clients whom they advise, support and challenge in regard to their media strategies. In return, their client marketers trust the media agency to optimise the media plan based on the budget, KPIs, tasks as well as products and time constraints they themselves received from their top management

and external stakeholders (e.g., retailers and product manufacturers).

The clients also chose the creative agencies Media agencies must collaborate with as well as they determine which agency lead the relationship. Traditionally, the advertising agency is the lead agency. They decide with the client what message to communicate and under which form, including TVC, OOH banners and social media content, that the media agencies have then to deliver to the targeted segment of the market through the right media channels. Nevertheless, such traditional scheme is now evolving. Media agency 2 claims that "*the business is so changing now so we, all agencies structure, are floating around [...]. We were only working with this distribution of the message. But, now, we have broaden our scope, you can say that. Both in the content side with events and content production and so on. But we are also towards more insights.*" (Appendix A Transcript 1191-10, quotation 1). With the explosion of Internet and the multiplication of social media channels, the media agency power increased. Not all creative content fit every channel indifferently. Thus, Media agencies have to also advise the creative agencies on which kind of advertising and content format convene for which specific media channel and which specific target groups as illustrated in the different Media agencies Flow models.

Similarly, Media agencies are dependent on their client approval to benefit from Econometric modelling insights while planning and budgeting media strategies. Since Adopter 2 company hired Data analysts consultants to realise their MMM analysis, Econometric modelling insights are central in the Flow model of Media agency 2 and 4 on Figure 5.22. On the contrary, Econometric modelling are executed for some specific clients as additional services in Media agencies 1 and 3 firms.

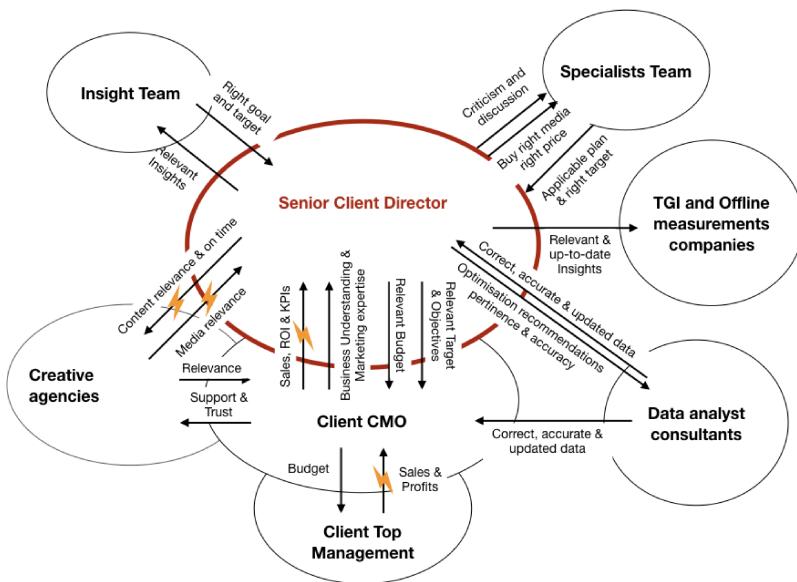


Figure 5.24: Agency 1 Cultural model

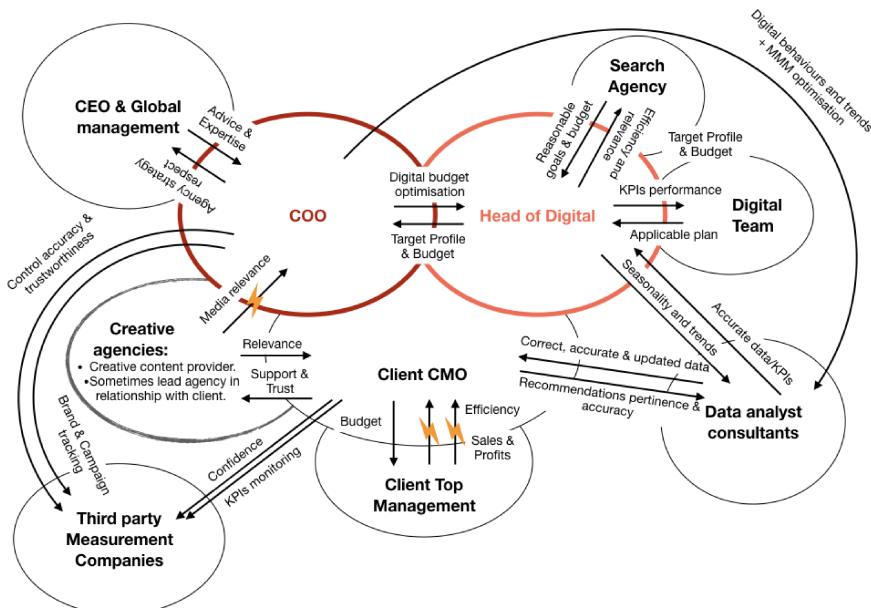


Figure 5.25: Agency 2 and 4 Cultural model

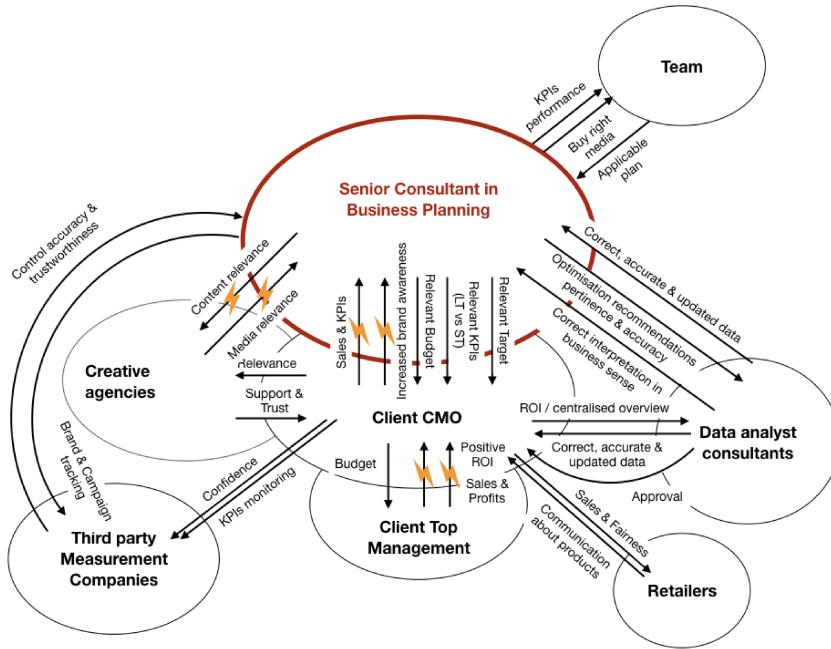


Figure 5.26: Agency 3 Cultural model

Nevertheless, the policies and cultural constraints depicted on Media Agencies Cultural models on Figures 5.24, 5.25 and 5.26 are closely related to the ones on the Adopters. Except that instead of having one budget, one goal and one set of KPIs according to which define the right media plan, they are handling several clients with their own budget, objectives, tasks and KPIs. Consequently, Figures 5.24, 5.25 and 5.26 describe similar interaction between the media agency, their own internal team, the client marketers, the client top management, the client creative agencies and the client Data analysts consultant or insight team as well as the client potentially hired third party measurement companies as illustrates on Figure 5.26.

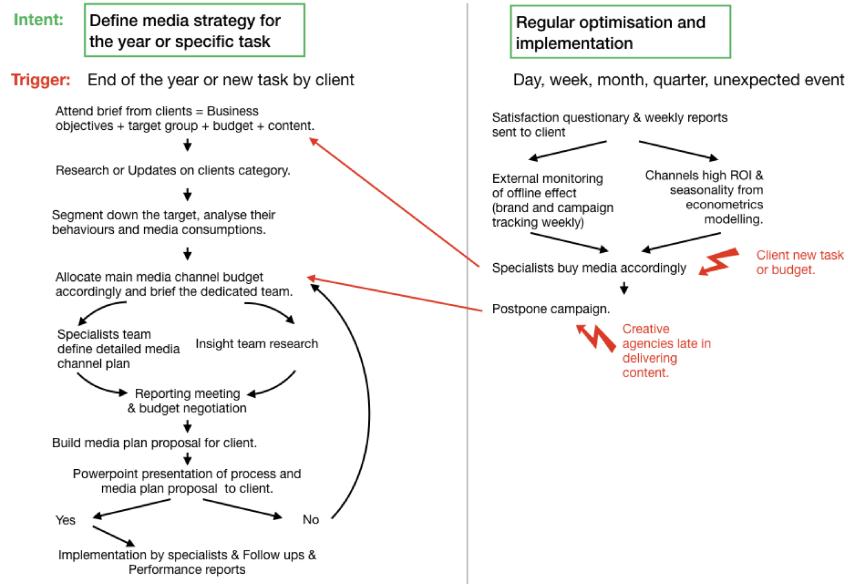


Figure 5.27: Agency 1 Sequence model

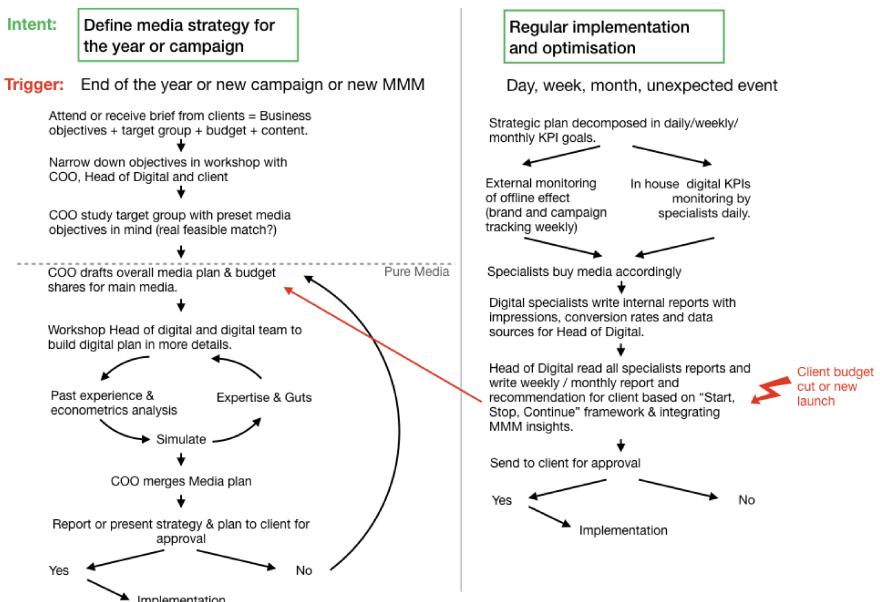


Figure 5.28: Agency 2 and 4 Sequence model

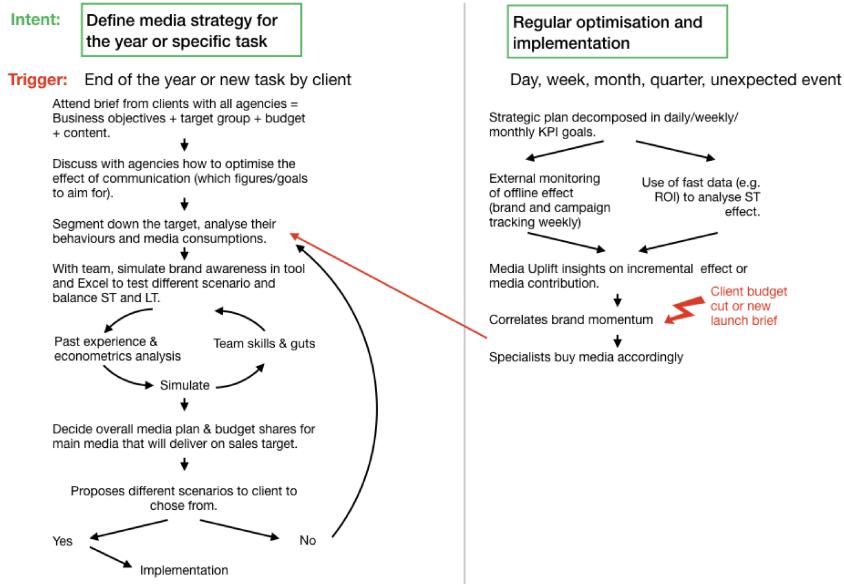


Figure 5.29: Agency 3 Sequence model

Likewise, the Media agencies Sequence models illustrated on Figures 5.27, 5.28 and 5.29 complement the Adopters Sequence models. Media agencies are of course mainly focusing on the media aspects of marketing strategies. However, Media Agencies 2 and 4 Sequence model on Figure 5.28 show how media agencies may be involved in the marketing objectives definition. Indeed, Media agency 2 contributes and challenges her client assumptions on the target group segmentation as well as their business goals reachable specifications.

Although all Media agencies main activities focus on planning and budgeting media strategies, a noticeable parallel can be extracted from how Media agencies define media strategies and Adopters define marketing strategies. Both first defines the media and marketing goals. Then, they analyses their past experience, past plan and budget incremental effects upon the goal KPIs. If they have Econometric analyses insights, they both integrate the recommendation into their agile decision process. Eventually, Media agencies send their plan and budget to their clients for approval. They iterate the Sequence models detailed steps all over again if refinement are required. Once the clients approve, they implement and optimise on a daily basis through their own internal specialist team or outsourced companies.

Artifacts

- Econometrics modelling sometimes.
- Target profiling from TGI (Kantar Sifo)
- Surveys of users usage and brand tracking

Figure 5.30: Agency 1 Artifact model

Artifacts	coo	Head of Digital
• Kantar Sifo data bank tool (target profiling)	✓	
• MMM (seasonality and trends)	✓	✓
• Surveys of users usage and brand awareness	✓	✓
• Internal daily and weekly report of activities and marketing effects		✓
• Internal monthly report of activities and marketing effects	✓	✓

Figure 5.31: Agency 2 and 4 Artifact model

Artifacts

- Measurement of TV effects by external company
- Media Uplift (incremental marketing effect of media channels)
- Ongoing surveys of users usage and brand awareness (Slow Data)
- Tailored surveys of brand / campaign tracking for deeper insights.
- Strong distinction between LT and ST.

Figure 5.32: Agency 3 Artifact model

Likewise, they integrate, brand and campaign ongoing tracking insight to assess the LT effect of media channels. While the Sequence models illustrate the Media agencies interactions with the measurement companies and the different media channels, the Artifact models on Figures 5.30, 5.31 and 5.32 show how fundamental the conceptual separation of LT and ST media channels and marketing effect are in the media strategies definition, just like for Adopters in their Marketing strategies own definition processes.

To conclude, the three groups of Innovators, Adopters and Media agencies work-models reflect the different facets of the marketing strategy formulation job practicalities in all their complexity.

5.2 Results of Content Analysis 2: Why are marketers drawn to use data?

This second content analysis digs deeper in the interpretation of the interviews transcripts to look past the practicalities and work habits analysed previously. It aims to reveal the fundamental reasons for marketers to actively seek Econometric modelling in their decision making processes. As a result, the pre-separation of the interviewees into company group is irrelevant in this study angle. All interviews were analysed as a whole. Although, this section refers to each interviewee by its company group and number, like in the previous section and in the Appendix B gathering the detailed reports of the analysis process. The ultimate aim here is to preserve the master thesis overall coherence rather than to categorize the interviewees.

The analysis results can be divided in two major themes: the objective

rationale that interviewees built to support the purchase and use of data-driven insights provided by Econometric modelling services; and the subjective reasons dealing with the affects the interviewees feel by using data and Econometric modelling.

5.2.1 Rationale behind data and Econometric modelling use

The thematic map of the marketers rationale of use illustrated on Figure 5.33 summarise the four major, purely objective reasons marketers purchase and use data analytics and Econometric modelling to define their marketing and media strategies. For marketers, data analytics and Econometric modelling are employed as a Marketing effect evaluation tool, a media budget planning tool, a communication tool and, over all, a business asset.

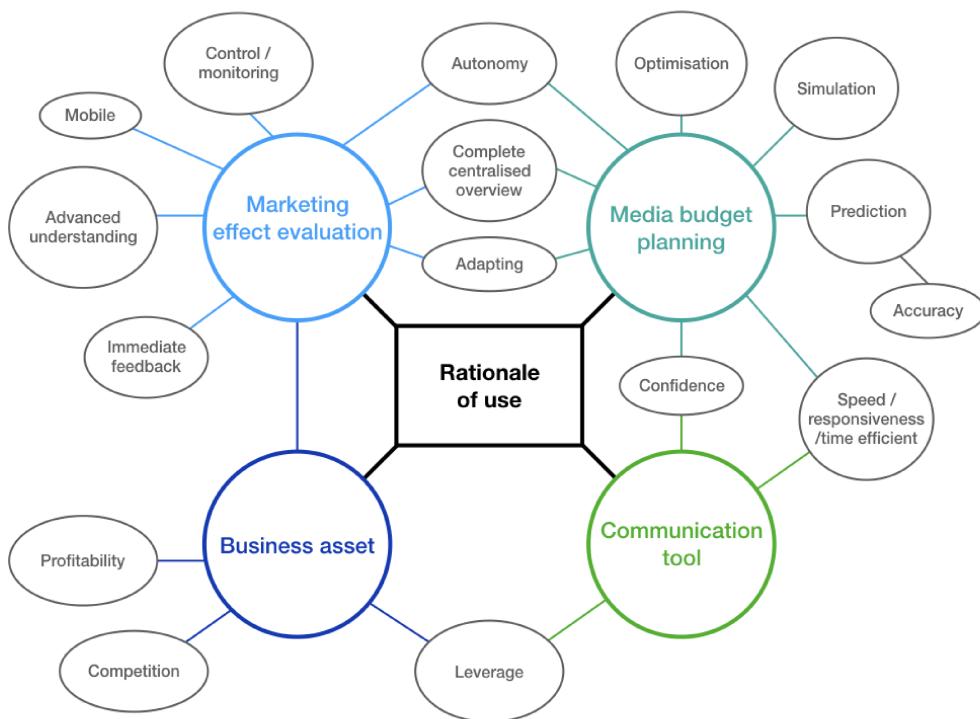


Figure 5.33: Thematic analysis results of interviewees' rationale behind data and Econometric modelling use

Ten interviewees out of eleven explicitly express how deeper and more advanced the understanding of marketing effects and media investment cor-

relations is, owing to data analytics and Econometric modelling. Indeed, “[Data] will give you so much insights and knowledge if you learn how to actually extract it. That’s... once you start doing that you can’t stop because then... It feels like **you are blindfolded.**” Innovator 3 explained (Appendix A Transcript 1025-02, quotation 8). Not only are data and Econometric modelling helping them to understand deeper what they may already assume, but they make them actually visualize the correlation, the causes and the consequences.

The very notion of sight and view granted by the use of data and Econometric modelling spreads in all interviews and company groups. For instance, Agency 2 firm made a historical study over all the data they gathered through their years of media strategy definition and implementation practice. Based on this data analysis, all marketer could visualize and ground their intuitive, yet not justified, assumption that advertising requires nowadays a higher frequency of presence over the media to be acknowledged by the target users than in the last decades: “*You needed more frequency to cut through and that’s logical but we can actually see that.*” as Adopter 2 emphasizes (Appendix A Transcript 1191-10, quotation 24). Conversely, Econometric modelling challenged Adopter 4 company preconceived assumption regarding the efficiency of some media channels over others: “[The data analyst consultants] showed us basically, from that campaign, that this are the sites that have drawn traffic to our website and **looking at their data they could see** that we were underspending on maybe site A, compared to the other ones.” (Appendix A Transcript 1322-00, quotation 19). Therefore, the marketers monitor and take the control of the marketing effect of their product launch and branding campaigns thanks to the complete centralised overview the data analyses or Econometric modelling interfaces provide.

Indeed, they can now receive immediate feedback from the data instead of going through the hassle of sending every single specific request they may have to ask to the data, to the technical data team and wait for them to answer back. For instance, Adopter 1 company recently started to introduce MMM on their collected data. She explains that “*for now [she] need[s] to ask [her company’s] analysis people for a certain campaign for example, each time [she] want[s] it. So, it is not very easy but it is manageable.*” (Appendix A Transcript 1126-00, quotation 22). Likewise, Innovator 3 expresses strong relief to have an understandable user interface like CSM since: “*nothing gets done if that’s the... there’s no... UI to use against the data. Then nobody looks at the data because it’s... You need someone trained into looking at the databases and... And honestly most companies only have a couple of people who can do that and if everybody needs to go there and ask them Okay so I want, I want to know this and this and that and then nothing gets*

done." (Appendix A Transcript 1025-02, quotation 30). Thus, the centralised overview provided by such data analyses interfaces award them with more mobile and immediate feed-backs as well as a non-negligible autonomy to perform their job.

Furthermore, the data analysis granted by the data analyst consultants can adapt to any type of KPIs marketers want to focus on. Such flexibility constitutes a significant asset in defining efficient marketing and media strategies as Agency 3 highlights: "*Media uplift is very interested, interesting for us because we can, we could isolate to one single KPI umm and not sales, because we said the KPI would be what we called sessions on Volovocars.se, the combination of this and the configurations.*" (Appendix A Transcript 1534-10, quotation 7). Eventually, such marketing effect evaluation power granted by the analysis of data leads to the building of a media budget planning tool.

Indeed, Randl clients, as well as the Innovators, mainly use the Econometric modelling outcomes to optimise as well as predict and simulate the yearly, monthly and weekly media budgets. In particular, they use the marketing effect regressive analyses that allocate the respective effect to the different media channel they may be using. As the data analysis provides an adapting and complete centralised overview of how the current marketing strategy is performing, the Econometric modelling outcomes are used to create the media budget: "*We use it to create budget. We use it for... We made the budget for this year in, I think, September for example. And then we just let, let our tool calculate how much money will we make this month if we spend this much. And then we have a budget done already. You don't have to go into every line and set numbers for every source and every ad channel and every... That's just done, which makes budget work so much easier.*" as explained by Innovator 3 (Appendix A Transcript 1025-02, quotation 20). Likewise, Agency 4 details how the econometric modelling outcomes are exploited to look into "*what type of seasonalities do [they] have? What would [they] like accelerate when it comes to digital? Where can [they] find the most potential in the digital plan to provide and meet the goals of the clients?*".

Such optimisation, simulation and prediction abilities improve the time efficiency of budget creation as well as it increases the confidence of marketer to present and defend their choice in front of their clients in the media agency case or in front of their top management in the case of client-side companies. As Agency 1 experienced: sometimes "*you get questions from the clients that are very hard to answer: why is it like this? How do you think we should do about this? And then this way, I have the truth from 3 years back to support my argument and my, my recommendations. And... and that's quite hard for others to step aside and say no, no I don't think so, but here is the truth, here is the sales figures*" (Appendix A Transcript 1098-10, quotation

34).

Econometric modelling and data analysis support the marketing and media strategies all the more that the forecasting are highly accurate in practice as witnessed by Agency 2: *"for when I work with [the data analyst consultants] it has been spot-on. We have given [our clients] [the consultants forecast] for the next coming six months, the client has then go back and checked and their numbers have been /*pop sound*/ perfect. It is really interesting /*laugh*/. And the sales guys are the other ones that based their estimates on their knowledge, we have beaten that. So it has been a prediction tool, yes. Umm, absolutely."* (Appendix A Transcript 1191-10, quotation 25). Thus, the more accurate the model becomes, the more confidence the marketers earns.

As a consequence, the use of data analysis and Econometric modelling can be exploited as a communication tool. Indeed, as the marketers feel more confident in the choice they make and the strategy they conceive, they also feel more confident in defending them and arguing with either their clients or top management. Such rational and objective data-driven insights that Agency 1 assimilate as the "*truth*" are capital in an environment such as the Media agency one. As it became rapidly clear in this study, media agencies entertain long relationship with their clients. However the client-side marketing responsible media agencies deal with change every two years in average. *"Each day it seems like it's it's a new person going in and get them to understand like instead of say ok with my like, how to say, sometimes people are coming in to Tele2 and say ok we are going to do this because it is my belief, but we can say ok but looking into the reports from the things we are doing and have been doing for the last 24 months, it's saying this and that. And looking at the the estimates we're doing, they are pretty accurate. It's more helpful for the new people and for us to like coordinate them into the right focus areas and get them to understand why we're doing things in a particular way that they may be not used to do."* Agency 4 argues (Appendix A Transcript 1191-11, quotation 26). Therefore, data analysis and Econometric modelling are preponderant in the marketer communication as well in practice.

In addition, they also constitutes a strong leverage in negotiating for budget increase and above all price reduction in the media channels. One unforeseen feature of the CSM tool was this leverage. Not only was modelling *"very successful when [the Innovators company] negotiated with Banner sales company cuz [they] could use this and show them the data that their campaigns were overpriced. But also that they performed much better than if you only look at the direct effect they are giving. So [the Innovators model] gave them the insight or the... we confirmed them that, yes, your campaign has a much*

bigger effect than what can be measured in Google Analytics.” as explained by Innovator 1 (Appendix A Transcript 1025-0001, quotation 12).

All above reasons considered, owing to the marketing effect monitoring and control, the budget optimisation and the leverage over media channels publishers, data analysis and Econometric modelling enhance the profitability of the marketing strategies, thus their business competitiveness. For instance, Innovator 1 emphasize how capital modelling became in their strategy building: *“Well we wouldn’t be profitable enough if we were not [analysing, modelling and simulating] because we would spend... 73% of our revenue is marketing, so it is a huge impact on profitability if we do the wrong decisions.”*. Thus, data analysis and Econometric modelling also represent a significant Business asset for marketers on top of being a Marketing effect evaluation tool, a media budget planning tool and a communication tool.

5.2.2 Personal attitudes towards data and Econometric modelling use

Not only do marketers use data analyses and Econometric modelling for the pragmatic reasons developed in the previous section, but they also have built, over time, a strong subjective, and even sometimes affective, connection towards their use. Marketers developed an attitude toward the use of data analytics as customers develop attitudes towards brands. Figure 5.34 shows the thematic map that emerged from this second latent analysis of the different marketers interviews.

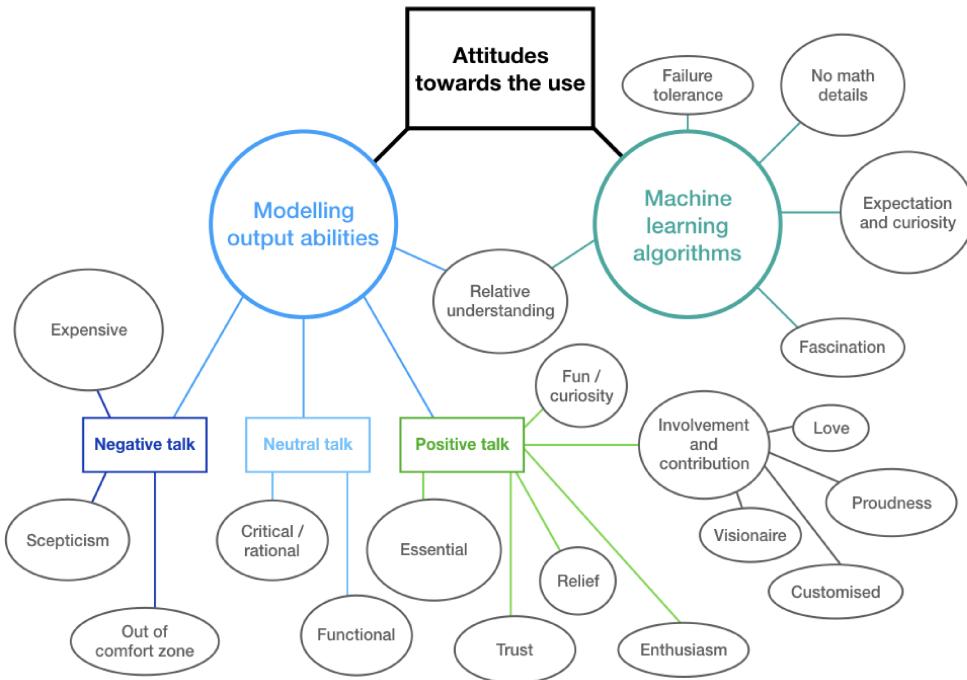


Figure 5.34: Thematic analysis results of interviewees' personal attitudes towards data and Econometric modelling use

First and foremost, marketers, mostly unconsciously, separate data analytics into two boxes: the modelling output abilities providing them with the insights and recommendation they want; and the Machine Learning algorithms enabling all these abilities. The last one could be caricatured into a magic black box twisting the customers and end-users' KPIs and media investment data into understandable business insights and marketing strategy recommendations.

Regarding ML algorithms, marketers feel fascinated by their concept and application. They showed curiosity and eagerness for their potential from which they expect a lot. While, Innovator 1 actively research how to model long-term marketing effect: *"we are aiming to do it maybe more on a mathematical calculated basis or in a more, anyway, in a more scientific way so we right now we're looking for knowledge in this field from universities and experts, trying to collect data, to do something about it."*, Adopter 3 fantasizes about owning a tool providing a deep and accurate understanding of what really happened in the market regarding marketing activities because *"if we do not understand what has actually happened then that's something,*

something completely else. And, in my point of view, we are trying to explain what has happened and we are not even close to, to really, really know exactly all the causes and that would be great to have.”. Likewise, Agency 2 wishes for a tool gathering all analysis and data-driven insights on the same interface like it is nearly the case for the digital media channels: *”The best thing is actually we are heading... we have... all audience planning is done in our system when all media is digital. But we’re not there yet.”*

Despite all this fascination, curiosity and expectation raised by the ML algorithms applications, no marketers are interested in the mathematical details nor theoretical background rendering all the functionalities possible and reliable. Even the Innovators who are particularly failure tolerant regarding the algorithmic bugs as their business entirely rely on computerised services, in particular Innovator 1 coming from an engineer background, recognize their absence of interest and will to know about the math underneath: *”I am into the details except for the pure mathematics”* Innovator 1 admits (Appendix A Transcript 1025-0001, quotation 11). Nevertheless, they all built a relative understanding of how the modelling and analysis work in order to provide the useful output abilities such as the marketing monitoring, the budget optimisation and the prediction tool.

As a matter of fact, the conceptual models the interviewees built to apprehend and grasp how the Econometric analysis actually functions is relatively simple and straightforward in most cases. In a nutshell, they feed a system based on ML algorithms with data points, such as daily sales media investments for the past three years. Then the ML algorithm black box analyses the whole data-sets, learns from this historical data and thus provides its insights, recommendations and forecast based on what happened in the past. If they feed the system with visits on the website instead of sales, then, as output, they will get insights, recommendations and forecast on how websites visits would evolve in the short and long terms, and not sales, based on their media investments. This relative understanding, as simple as it may seem for data scientists, was not earned effortlessly.

In addition to the preliminary training Randl clients received from the data analysts consultants, the outcomes are regularly explained and discussed during the consultants PowerPoint presentation. While Agency 3 genuinely builds a difference between Media Uplift and MMM analysis even though they are technically identical analyses based on different data-sets, Agency 1, just like most if the interviewees, still *”discuss [modelling outcomes] a lot, talking through it. But they don’t need to like know every single details of the MMM reports so we’re like looking into where’s the most potential for display for example”* (Appendix A Transcript 1098-10, quotation 16). Nonetheless, all interviewees developed a personal opinion of Econometric modelling based

on their own approximate understanding of its functioning.

Several interviewees showed skepticism regarding the modelling abilities. In particular, Adopter 3 explicitly expressed his doubts about the Econometric modelling forecasting ability in general: "*Predict the future, that would be great. But, I think that a Nobel prize, if you get that one*" (Appendix A Transcript 1929-00, quotation 5). Others like Adopter 2 and Agency 4 even exhibits some reluctance to increase the number of updates or to spread the use of Econometric modelling among other companies or clients due to the expense it would represent for smaller marketing budget. Adopter 4 is doubtful regarding the usefulness of MMM insights as well as investment for his more traditional client: "*of course they are like they want to have the cheapest price as all the clients wants to. But more or less they're not like that into everything on the media thing since they are pretty traditional.*" Besides, they "*are pretty constrained when it comes to the budget so it's it's harder for us to go to them saying ok we need more budget to spend because we can see increasing money of sales*" Agency 4 argues (Appendix A Transcript 1191-11, quotation 19).

Although, Agency 1 and 3 seem slightly reluctant to generalize the use of Econometric modelling mostly due to a long past experience of traditional media strategy definition rather because of ineffectiveness. As Adopter 3 stresses how Econometric modelling insights complement already well established analysis processes: "*But I have worked with the evaluation of media communication effects for about 25 years or something. And, as I said, in most cases based on what we call regular brand and ad tracking*". As a result they may have built a comfort zone from which it is harder to depart from.

Nevertheless, the majority of interviewees globally and positively approves of data analytics and Econometric modelling. Indeed, Agency 4, 1 and 3, who expressed some reluctance to generalise the use of Econometric modelling, paradoxically figure among the interviewees trusting the more the systems outcomes, including the forecast. While Agency 1 refers as the MMM analysis results as "*truth*" three times in his argumentation of the reasons why MMM is useful in practice, Agency 4 stresses how essential Econometric modelling is for their daily job: "*when it comes to recommendation and get the client to understand what we are, why we are planning in a different way and have MMM as a supporting tool is so crucial for us.*" (Appendix A Transcript 1191-11, quotation 14). The Innovators obviously believe in the Econometric modelling outcomes and potential. They quickly felt frustrated by consultants' PowerPoint presentations and sporadic recommendation as Innovator 1 explains: "*Because it doesn't give us anything. The idea is so, we want to have it sort of in real time to make fast decisions*" which is why they hired their own data scientist. Likewise, Adopter 1 initiated a MMM study

on her company marketing because "*it is a well known company that [they] are hiring, [thus she] feel[s] comfortable in the result and, yeah, also [she] trust[s] the ML and the people doing the analysis.*" (Appendix A Transcript 1126-00, quotation 7).

In addition, several interviewee feel relieved and enthusiast by the use of Econometric modelling on a regular basis. For instance, Innovator 3 enthusiastically explains how every employee in his company can now look at the data by themselves which is an additional win point for him : "*Another thing is that everybody starts looking at the data. Because there's nobody.... Before that, it was just Ohhh! It's so much! You have to go into this tool and look at it there and extract it. But now, it's there. You don't have any excuses, you can always say well look at the data.*" (Appendix A Transcript 1025-02, quotation 27). Similarly, Agency 1 can now answer clients' questions that are "*quite hard to answer if you don't have any data that supports that question*" (Appendix A Transcript 1098-10, quotation 3). Furthermore, Agency 4 is interested enough to dig deeper of how modelling works and what it is capable of doing, on his own, in order to satisfy his curiosity.

Eventually, a stronger and very specific affective attachment is developed the longer and the more involved the interviewee are in the modelling development process. The more they contribute and the more proud they feel about the system: Innovator 1 proudly state the performance of their own modeling: "*If we if we tell someone that we are at 3% error margin of estimated revenue, that's going to be like wow! No one has that in any system, in any business. Can they predict at the 3% position to .680 what we are going to make at the end of the month? But we can.*" (Appendix A Transcript 1025-0001, quotation 21) while both Agency 2 and 4 are lovingly highlighting how accurate their consultants models are compared to their clients analyses: "*for when I work with [the data analyst consultants] it has been spot-on. We have given them for the next coming six months, the client has then go back and checked and their numbers have been /*pop sound*/ perfect. It is really interesting /*laugh*/. And the sales guys are the other ones that based their estimates on their knowledge, we have beaten that.*" (Appendix A Transcript 1191-10, quotation 31).

Furthermore, the more involved in the process the interviewee feels, the more visionaries they are as well as the more customized and adapted the model feel to their daily work habits as explained in the previous section. Agency 4 perfectly illustrate how most interviewees benefited from being involved and contributing from the start: "*that was really helpful I appreciate to be involved from the beginning and make it easier as well to understand what, of course what I'm looking at. I then also had been in a lot of meetings with them as well, trying to figure out, ok but with these amazing information*

that you are providing to the clients how can we like translate that into the media plans and executed on it?".

However involved interviewees may feel towards the data analytics and Econometric modelling, the majority still conserve a rational and critical point of view upon their outcomes. Like Adopter 3, they are aware of the technical limitations. For instance, Innovator 3 draws a parallel between trusting the model and having religious faith: "*if you don't believe it's not worth anything (laugh) But I would say, it's better than most religions, Because it's actually based on something you can control by yourself.*" (Appendix A Transcript 1025-02, quotation 25). Likewise, Innovators 1, Innovator 2, Agency 2 and Adopter 1 are explicitly fully aware that data is not always true. Consequently, they use their intuition and guts to counter-balance the modelling unlikely or controversial outcomes, particularly regarding LT marketing effect modelling of offline channels such as TV and radio.

Despite these limitations, all interviewees neutrally consider that Econometric modelling and data analytics do perform the job. Thus, they unanimously constitute functional tools to work with while defining the marketing strategies.

Chapter 6

Design requirements for a ML-based DSS

The previous chapter exhibited the detailed results of the thorough content analyses conducted to understand how marketers work. However, this thesis purpose is to answer the following research question: How to design a user-friendly ML-based decision support system delivering understandable insights that marketers act upon? Therefore, the content analyses results were combined to form a complete overview of how marketers behave at work and what do they expect from their data analysis. In a nutshell, how Econometric modelling can help marketers on a daily basis in practice, from our collected and analysed data.

Four different personas with their corresponding work-models were consequently extracted from the two content analyses. Based on those, we defined fundamental design guidelines one must comply with to build an user-centered tool providing actionable insights. This chapter describes the synthesis process and three outcomes: the personas, their representative work models and the design guidelines.

6.1 Personas

Owing to her deep dive in the different interviewees work mindset induced by both the manifest and latent content analyses, the researcher identified four main user profiles emerging from similarities and differences between the interviewees. This extracted features built the four personas illustrated in Figure 6.1.



Gina Anderson
CEO of PriceRunner - 42 years old

- Divorced, mother of two children: Adam 13 and Tanja 8.
- Loves climbing on her free time.
- Is not a really good cook but talented baker. She particularly enjoyed Princess cake for her daughter's birthday.
- Does not watch TV often yet she enjoys relaxing in front of Brooklyn 99.
- Fascinated by new technologies and huge fan of new innovations.
- Always carries around her MacBook Air to be ready at any time at work.

"If we want to compete, we need to be much more efficient than all the competitors in spending marketing money." - "We constantly want to see how things are going and how we can change things."

Gina Anderson - CEO @ PriceRunner

"If we want to compete, we need to be much more efficient than all the competitors in spending marketing money." - "We constantly want to see how things are going and how we can change things."

Product related Goals:

- Get a detailed overview of the current marketing and media efficiency on the ST and the LT to adapt swiftly.
- Fast, accurate updated data-driven insights.
- Optimisation of media budgets over the year, the month, the week and the day.

ML & Data analytics Attitude:

- Enthusiast visionary: sees the Economics modeling potential and actively seek data-driven insights.
- Lead the introduction, development and adoption of ML, learning based analysis inside her company and team.
- No mathematical details though curious about overall algorithm logic.

Hopes:

- Model which revenue will be generated based on media budget with high confidence.
- Model LT marketing effect as efficiently as current ST.

Fears:

- Things may move too fast for them to keep up with and relevantly integrate the outcomes.

(a) Persona 1 profile. Free licensed photograph downloaded from <https://unsplash.com>.



Johan Åkeson
Customer Acquisition Director at Audi Sverige - 37 years old

- Married to Victoria, one 5-year-old son, Henry.
- Runner in essence: minimum 10 km once a week.
- Food lover: cuisine is an art. Often enjoys worldwide trips to famous restaurants with his wife.
- Major Netflix consumer: frequently watches his favorite series House of Cards on business trip.
- Privileges evening for family time and like playing board games with his son.
- Work on a heavy and secured HP laptop provided by his company.

"Predict the future, that would be great. But, I think that is a Nobel prize, if you get that one. But, then, if you do not care about predicting the future, something that can tell you actually how it was, truly how it was, not the betting it but truly, in a model, that would be great."

Johan Åkeson - Customer Acquisition @ Audi

"Predict the future, that would be great. But, I think that is a Nobel prize, if you get that one. But, then, if you do not care about predicting the future, something that can tell you actually how it was, truly how it was, not the betting it but truly, in a model, that would be great."

Work Goals:

- Grow the market by acquiring new customers, bring people to do what they would not normally do.
- Maintaining and generating long-term effects in marketing through customer experience to keep the market demand on their products up.

Product related Goals:

- Deeply understand the current marketing effect and state.
- Control marketing effect.
- Distinguish LT from ST campaigns and evaluate effect accordingly.

ML & Data analytics Attitude:

- Interesting and useful data-driven insights provided but limited scope of relevance due to over estimated results.
- Skeptical about current results.
- Untrustworthy forecast giving the illusion of control.
- Not interested by how it works as long as it works.

Hopes:

- Hope for a real deep and complete understanding of what is currently happening regarding ST & LT marketing.
- Search separated from other media channels in the regression analysis.

Fears:

- Draw wrong conclusion based on irrelevant or incomplete correlation produced by the mathematical analysis.

(b) Persona 2 profile. Free licensed photograph downloaded from <https://unsplash.com>.



Sara Martin
Commercial manager at Shpock - 34 years old

- Married to Anders, two daughters: Tili, 2 and Ann, 4.
- Practice Pilates daily.
- Fervent animal defender, she is vegetarian.
- Loves crafting small accessories for her girls when she finds some time.
- Strong fashion sense, she enjoys fashion TV shows as they for house decoration or style.
- Plans to go on a year sailing trip around the world with her family before her forties.

"I have a very customer focused way of looking at marketing." - "I started to study all this and I asked these questions: what types of campaigns or channels are the best and the facts and what they have given us and so on. There were actually not so many answers."

Sara Martin - Commercial Manager @ Shpock

"I have a very customer focused way of looking at marketing." - "I started to study all this and I asked these questions: what types of campaigns or channels are the best and the facts and what they have given us and so on. There were actually not so many answers."

Work Goals:

- Grow the business locally by acquiring new customers and maintaining their customer base.
- Ensuring the marketing effect and efficiency are reaching her company business goal.

Product related Goals:

- Structuring and coordinating the KPIs monitoring between her team managers.
- Evaluating marketing effects on chosen KPIs of both online and offline media channels.
- Optimize media budget to reach the business goal.

ML & Data analytics Attitude:

- Actively seek MMM analysis and initiated the procedure in her company upon her recent promotion to her post.
- Enthusiast about the future outcomes.
- Analytical mind but no math intuition at all.
- Trust the analysis as it will be provided by competent and trustworthy experts.

Hopes:

- Control the marketing investments efficiently.
- Increase her negotiation power: e.g., convince her top management that investing in marketing is not a waste.

Fears:

- Expensive procedure to sustain on the long term in comparison to its benefits.

(c) Persona 3 profile. Free licensed photograph downloaded from <https://unsplash.com>.



Sven Berg
Client Service Director at PHD - 39 years old

- Single.
- Ice Hockey fan, huge supporter of the Swedish team and meet with his friends to play on Tuesday evenings.
- Loves cinema and old movies. City lights of Copenhagen always deeply moves him.
- Enjoys trips to French vineyard with close friends.
- Brew beer on his free time.
- Cautious adopter of new technologies.

"I work more as an advisor for clients, what to do, where to invest their money" - "the basics of what we do here is the distribution of the message. That's what we are working on. How can you do that most efficient and in the best way to reach whatever your challenges or barriers are?"

Sven Berg - Client Service Director @ PHD

"I work more as an advisor for clients, what to do, where to invest their money" - "the basics of what we do here is the distribution of the message. That's what we are working on. How can you do that most efficient and in the best way to reach whatever your challenges or barriers are?"

Work Goals:

- Represents interests of several clients in his media agency, ensures they get what they paid for or more.
- Develops marketing and media strategies to reach his clients objectives.
- Ensures clients timelines are respected and results delivered as expected.

Product related Goals:

- Different outcomes for clients and media agency: he is not really interested in the marketing effect evaluation of a media channel his company is not responsible for.
- Monitoring and communicating about the efficiency and relevance of their media strategies.

ML & Data analytics Attitude:

- Econometrics is doing the job. Results are completely trusted as proven accurate. Although, he does not mind proceeding without some of his clients.
- Curious about how insights are extracted but not down to the math behind it.
- Confused about the applied data analysis methods and the extracted insights.

Hopes:

- Answering clients questions based on data and supporting their claims with their top management.
- Efficiently monitor on one centralised tool and optimise strategies on daily basis.

Fears:

- Less importance awarded to brands KPIs.

(d) Persona 4 profile. Free licensed photograph downloaded from <https://unsplash.com>.

Figure 6.1: Illustrated summary of the four persona profiles generated by the interviews analysis.

The first mention of the persona concept in the literature can be traced back in 1999, in Cooper's book entitled "The Inmates Are Running the Asylum". There, Cooper (1999) wrote "*Personas are not real people, but they represent them throughout the design process. They are hypothetical archetypes of actual users.*". Since then, they have been successfully exploited in design processes in several fields of information technologies (IT). In particular, LeRouge et al. (2013) demonstrated in their study how valuable user profiles and personas are to capture the conceptual models of the aging patient population and further design of consumer health technologies. As a result, deeper studies attempted to explain how exactly personas benefit design processes. Miaskiewicz and Kozar (2011) identified 22 benefits experts experienced by using personas. Not only does using personas guide the design decisions and stimulate innovative thinking but it most importantly focuses the product design on the users and their own goals as well as it challenges the designers' preconceived assumption. In addition, personas improve the communication within the design team and with external designers desiring to reuse the user research data for products in similar domains and similar users. (Miaskiewicz and Kozar, 2011) These personas added values are perfectly in line with this master objective to communicate marketers conceptual model and to guide the design of ML-based products delivering actionable insights. Thus, we chose to build personas to synthesise and report our user research results.

The literature inventories four different perspectives for personas building according to Nielsen (2014): the goal-driven perspective, the role-based perspective, the engaging perspective and the fiction-based perspective. The goal-driven perspective is the original persona described by Cooper (1999). Goal-driven personas focuses on users work related goals, including workflows, contexts and product attitudes. As such they seem ideal in our case. However, the role-based perspective enlarges the scope of work goals to also include the users' roles in the organisation to create a better understanding of the reality. The marketers role is also preponderant on our study. Likewise, the engaging perspective prevent designers to build upon stereotypical representations masking the uniqueness of the users' situation. (Nielsen, 2014) Only the fiction-based perspective is not matching our study purposes as it is only based on designer assumptions. Hence, we decided to build our personas with an engaging role-based perspective. In a nutshell, the researcher deeply based the personas skeleton on the user research data gathered by the two content analyses as prescribed by Pruitt and Adlin (2006). The personal background of each personas were built upon interviewees small talk and preliminary research on their background while their respective work goals and roles directly extracted from the content analyses data. We considered

the engaging dimension of the personas essential to complete the role driven perspective. Indeed, such personal backgrounds bring the profiles to life and help designers emphasize with the users more efficiently than simple caricatured work stereotypes (Nielsen, 2014). Figure 6.1 illustrates the resulting four personas: Gina Anderson, Johan Åkeson, Sara Martin and Sven Berg.

All four personas are executives hired in companies similar to the ones of the interviewees in their market size, product categories, business models and internal organisations to some extent. Besides, the produced personas represent high level managers as they constitute the main players in the marketing strategy definition that Randl intends to target.

Gina Anderson is the proud mother of two children, a son named Adam and a younger daughter Tanja who are the two most significant persons in her world. She is also a passionate hard-worker who loves her job. She currently is the CEO of PriceRunner, one of the major shopping price comparison websites in the Nordics and the UK. As such, her main work objectives are to grow the business by smartly investing the company profits, in particular in a efficient marketing. To do so, she expects the data analysis to support her decisions by providing a centralized and accurate overview of what is happening on the market now. In addition, she wants to control of their media channel budgets optimization. Gina Anderson persona was heavily inspired by the Innovators and Media Agency 2 and 4 shared features in their level of use, general attitude towards data analysis and their strong affective connection to Econometric modelling. Hence, she is also deeply involved and advanced in the development of the model and the extraction of data-driven insights compared to the other personas.

Johan Åkeson and Sara Martin personas mostly represent the Adopters company group. Johan is a married father of one son, Henry, and a rather competitive runner. He works as the Customer Acquisition Director of Audi in the Nordics, a job requiring regular Business trips to Norway, Finland and Germany. The Volkswagen group, of which Audi is part of, has been relying on data analysis and MMM for several years now. Thus, Johan gathered some experience using the data-driven insights in his marketing strategies. He also built a strong attitude towards data-driven insights mirroring the skepticism of Adopter 3 and rationalization of their limitations like Media agency 2 and the Innovators to some extent. Like most of the interviewees, he considers that following mathematical correlation blindly is harmful. You also need to balance the outcomes with your own business understanding, experience and guts. Conversely, Sara just started the MMM analysis in her company as one of her first initiatives as Commercial managers at Shpock, a mobile marketplace in the top of shopping service App in Sweden. Therefore,

she is full of expectations and hopes for the data analysis and Econometric modelling outcomes. Like the Innovators and the Adopters she strongly believes in the financial benefits of controlling and optimising the marketing investment. Besides, she trusts completely the expertise and accuracy of the data-driven insights Randl provides just like Adopter 1, 2 and 4 do.

Eventually, Sven Berg represent most of the Media Agency group. Sven is a fervent supporter of the Swedish Ice Hockey team who brew beers on his free time. He works as a Client Service Director at PHD, a global communications planning and media buying agency. Experience convinced him of the virtue of using data analytics and Econometric modelling in media strategy building. However, he shows reluctance to use such expensive services with other clients. Either he judges the analysis outcomes irrelevant or the clients is not interested. Like most of the Media Agency interviewees and Adopter 4, Sven will not initiate the data analysis processes on its own, but with the support of his clients or top-management he would welcome such data-driven insights as they add value to his work.

6.2 Work models

To complete the overall description of how marketers work and why they use data analytics in their marketing strategy decision, we associated a set of four characteristic work-models to every personas. This section describes the four personas roles within their company, how they act and interact with their colleagues and stakeholders to take marketing decisions and what sort of artifacts they use in the process. All four sets significantly dwell on the work-models extracted in the previous chapter to reflect how Gina, Johan, Sara and Sven as individual would react in a real context. They also represent the four main work contexts identified in the interviews analyses: the client-side companies fully relying on their media agency, the client-side companies partly relying on their agency, the client-side companies not hiring media agency at all and the Media agencies. They may later be used by designers as basis for scenario building to support their own ML-based DSS product design.

6.2.1 Gina Anderson: representative of the Innovators and Client-side Companies partly relying on a media agency

Gina Anderson persona mainly represents the Innovator Group major behaviours. Moreover, she work in a company providing a free service to its

end-users which main revenue streams are click-outs and leads sold to advertisers. Thus, her work-models are significantly similar to the one depicted for the Innovators Group in the previous chapter.

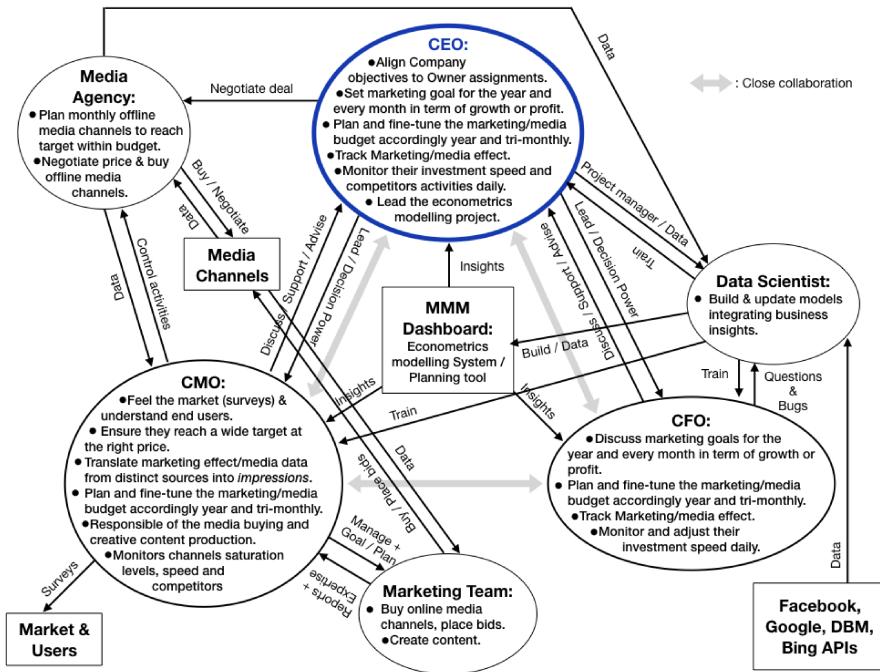


Figure 6.2: Gina Anderson Flow model

Figure 6.2 illustrates Gina's Flow model. Contrary to the Innovators, Gina's company does not entertain a followed relationship with Data consultants to sidekick their own Data Scientist building and updating the MMM model.

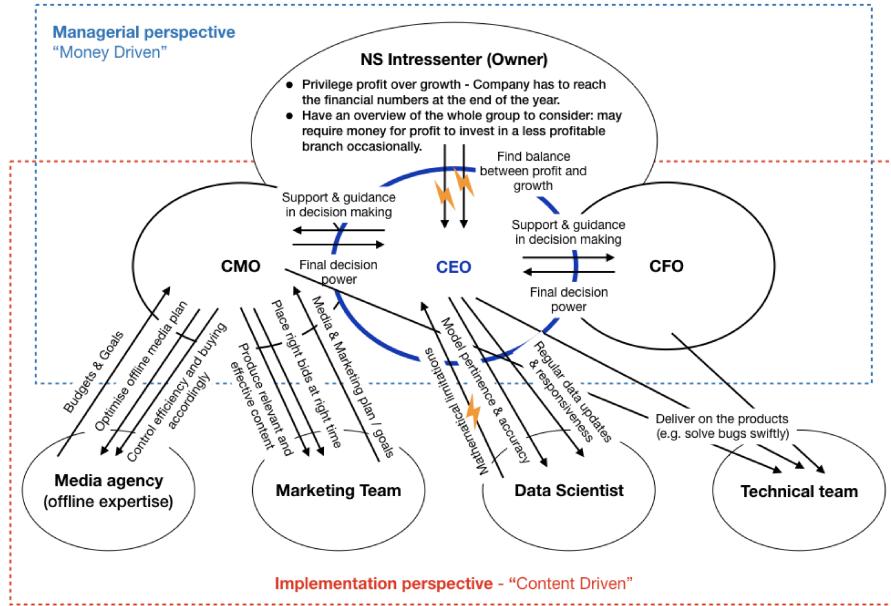


Figure 6.3: Gina Anderson Cultural model

As for the Innovators, Gina's Cultural model on Figure 6.3 highlights the significant power the PriceRunner Owner groups, the NS Intressenter, hold upon her. Like most Adopters as well, Gina's decision are highly influenced by her top management long term vision and objectives. Hence, we chose to represent them in our work model synthesis as well. In addition, Gina represent the case where part of the media channels are internally while the rest is handled by a Media agency. These features are essential to bear in mind while designing the right DSS. Consequently, Gina's Cultural model is as similar to the Innovators one as her Sequence model.

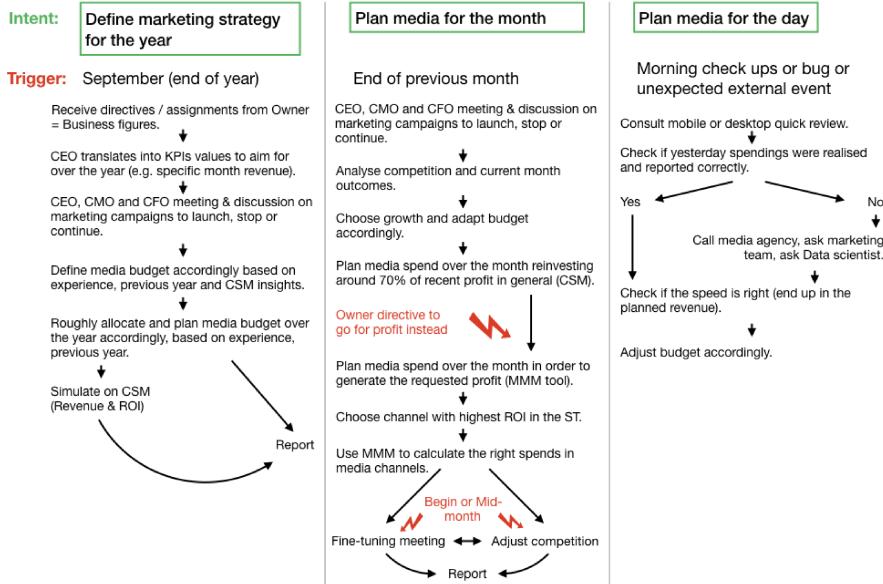


Figure 6.4: Gina Anderson Sequence model

Gina's Sequence model illustrated on Figure 6.4 lists the same succession of steps as the Innovators. Indeed, they include all the main steps common to all the Adopters as well and they fit Gina's business and company perfectly. Eventually, the list of artifacts also correspond to the Innovators one as shown in the Artifact model on Figure 6.5.

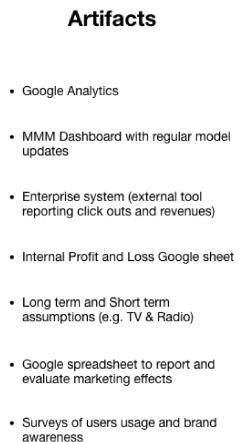


Figure 6.5: Gina Anderson Artifact model

6.2.2 Johan Åkeson: representative of the Client-side Companies completely relying on a media agency

Johan Åkeson works as a Customer Acquisition Director in a multinational firm in one of the most conservative field: cars. Thus, he is working a similar companies as Adopter 4 with similar responsibilities as Adopter 3 and 1. Since Adopter 1 chose not to rely on a Media agency at all, the work-models bear more similarities with the Adopters 3 and 4.

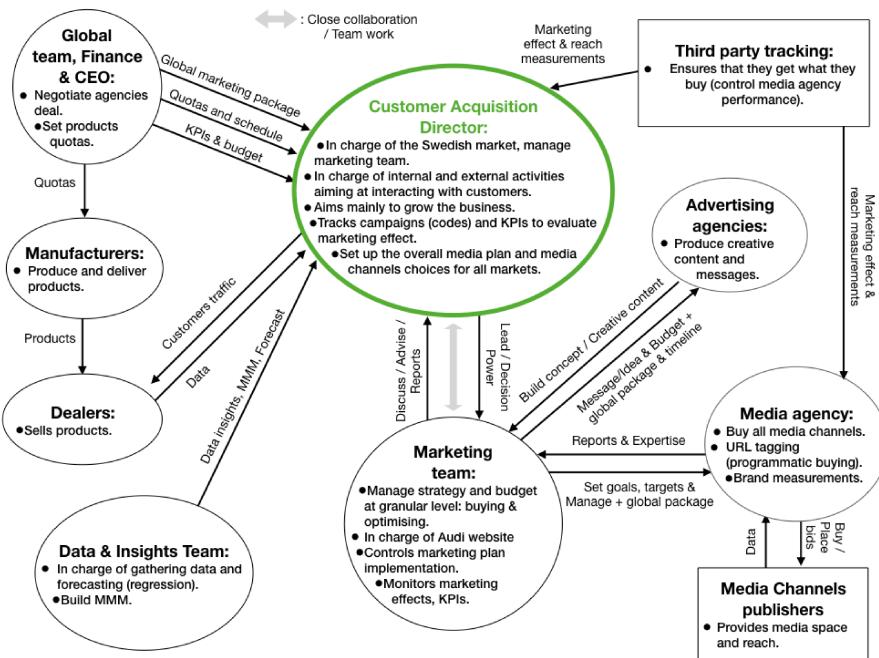


Figure 6.6: Johan Åkeson Flow model

Indeed, Johan Flow model on Figure 6.6 illustrate a perfect merge between Adopter 3 and 4 Flow models. Like Adopter Adopter 3, Johan is responsible for every internal and external campaign aiming at acquiring new customers. He also manage and lead his marketing team who supports him while defining the marketing strategies and oversees the Media agency relationship. However, contrary to Adopter 3, Johan's company hires a third party company to audit his media agency like Adopter 4. Furthermore, Johan is highly constrained by the global marketing package and product quotas in his marketing strategies formulation.

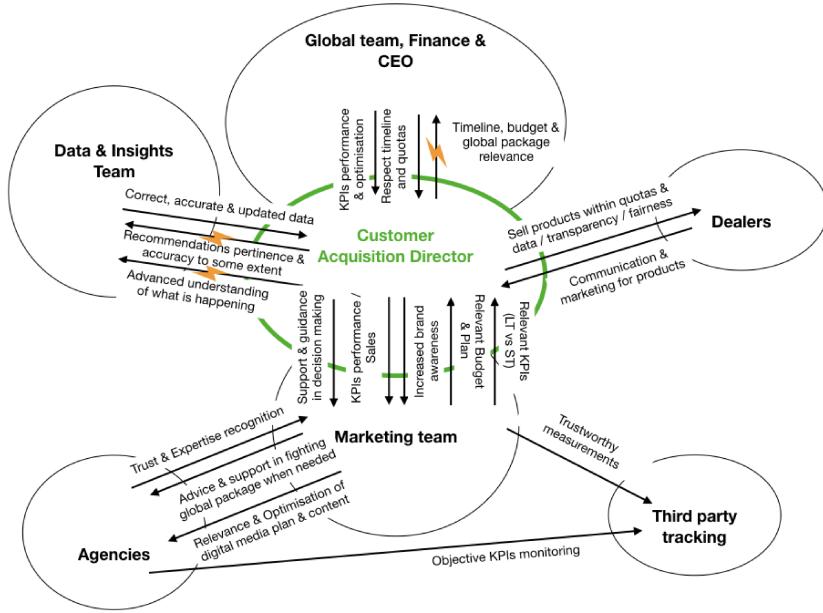


Figure 6.7: Johan Åkeson Cultural model

Johan's Cultural model on Figure 6.7 highlights clearly such constraints from the gloabl team. The car dealers also add their own pressure on top of it: as the cars are delivered to their stores, they expect Johan and his team to communicate about them at the right time, with the right message and to the right target to sell to. As for the rest, his company's policies and cultures are shared by most Adopters and all Innovators Cultural models.

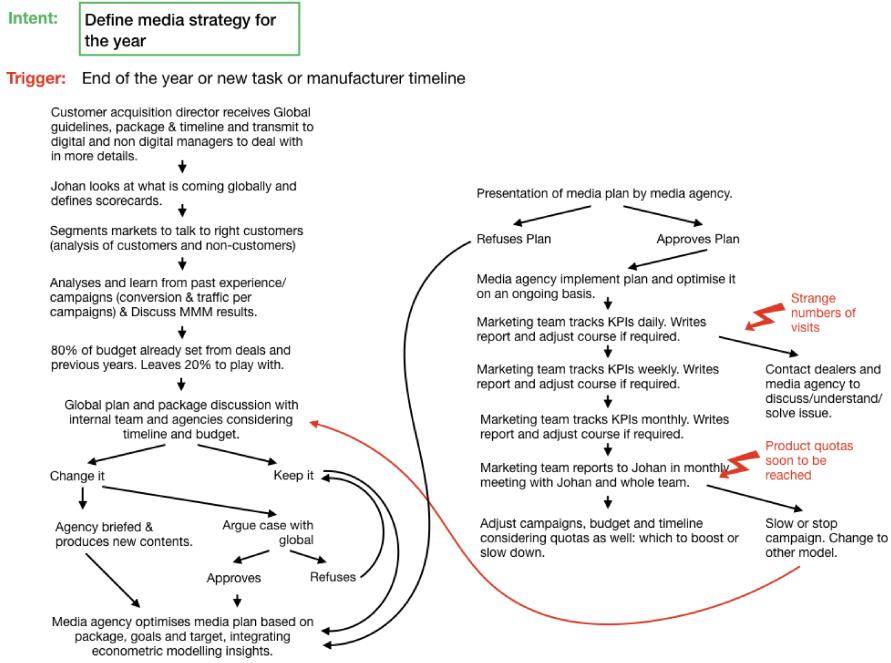


Figure 6.8: Johan Åkeson Sequence model

Likewise his Flow model, Johan's Sequence model on Figure 6.8 mostly represents a merge of Adopter 3 and 4 Sequence models. As a matter of fact, only the four first step are specific to the third Adopter. The rest of the steps are widely shared among the Adopters and Innovators.

Artifacts

- Customised Adobe Analytics tool for reporting activity (specially designed for their company) instead of Google Analytics as they want to own the data.
- Conceptual model of LT/ST separation: most media channels are ST while LT effect can only be achieved by the customers experimenting something by themselves.
- Conceptual model of Search: Search not perceived as a real media channel as it does not drive customers by itself. Instead, powerful tool for conversions.
- Econometric modelling analysis (statistical studies and regression analysis) to some extent.
- Several internal tools for reporting.
- Ongoing surveys of users usage and brand awareness via third party company to control media agency performance.
- Global reports.
- Excel sheet with all KPIs figures (cars sales for instance)

Figure 6.9: Johan Åkeson Artifact model

On the contrary, Johan's Artifact model on Figure 6.9 is identical to Adopter 4 Artifact model provided that the singular assumption of Adopter 4 that Search is not to be considered as a media channel is replaced by global reports sent by the Audi global team like Adopter 3.

6.2.3 Sara Martin: representative of the Client-side Companies not hiring a media agency

Sara Martin work goals and responsibilities as presented in the section dedicated to the personas may seem relatively similar to Johan's. Sara is in fact the equivalent of Johan but in a decentralized company not hiring a media agency. As such, her work-models were mostly built upon Adopter 1 and the Innovators in regards to the non-relationship with media agencies.

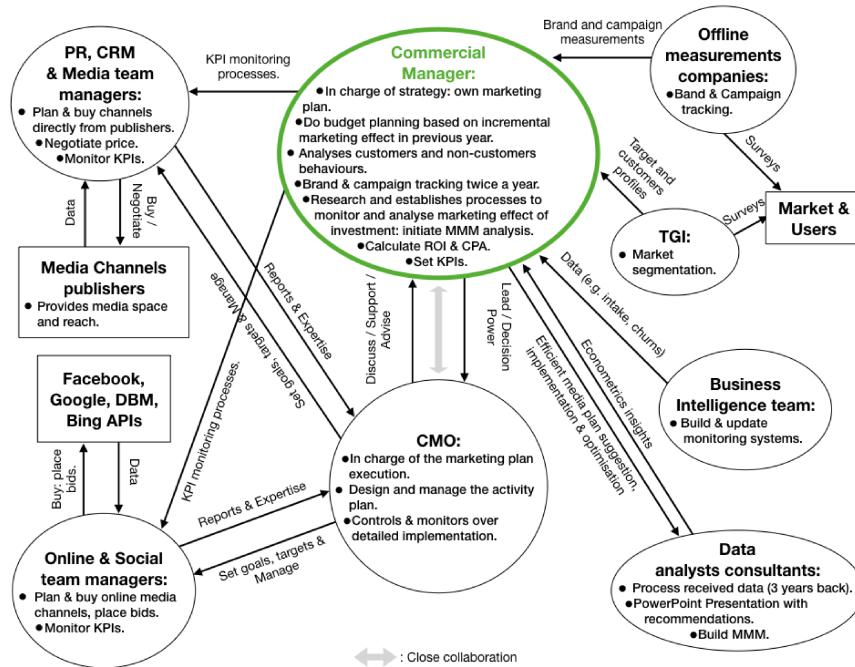


Figure 6.10: Sara Martin Flow model

Sara's Flow model on Figure 6.10 is significantly similar to the Adopter 1 Flow model as every media channels is handled by an internal team instead of agencies. Only the Target group insights (TGI) company was added as most of the interviewees mentioned using their data bank to profile their customers target groups.

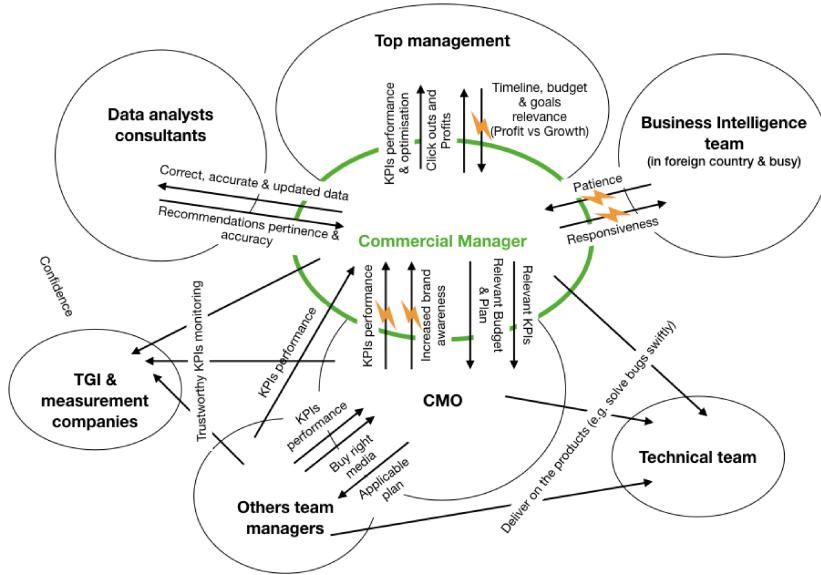


Figure 6.11: Sara Martin Cultural model

Sara's Cultural model illustrated on Figure 6.11 also enrich Adopter 1 Cultural model. The model states the influence of the top management power as most of the interviewee recognised. In addition, the Innovators expectation of responsiveness from the technical team delivering the core product of her company as well as the Adopters' trust in the TGI and measurement companies data completed the picture.

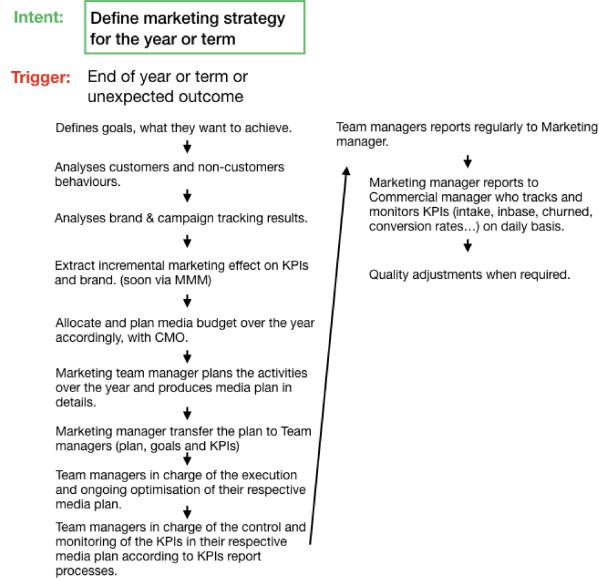


Figure 6.12: Sara Martin Sequence model

Eventually, Sara's Sequence model displayed on Figure 6.12 is adapted from Adopter 1 Sequence model. Indeed, Adopter 1 consists in the unique interviewee not relying on media agencies at all. As such we considered Sara would behave similarly as long as the sequential steps correspond to what Adopters and Media agencies follow to some extent.

Artifacts

- Google spreadsheet to report (KPIs) and evaluate marketing effects via CPA and ROI calculation & Intake forecast for each marketing activities in marketing plan.
- Long term and Short term assumptions (e.g. TV: Intake upper the funnel undetected by MMM).
- MMM analysis in the future
- Business Insights interface (internal software)
- Google Analytics
- Facebook analytics
- Surveys of users usage and brand awareness (500 at least 2 time a year)
- Internal tools for reporting (e.g. PR tool).

Figure 6.13: Sara Martin Artifact model

Likewise, the extended list of tools and Adopter 1 mentioned in her interviews figures in Sara's Artifact model on Figure 6.13 in addition to all the shared artifact between Innovators and Adopters.

6.2.4 Sven Berg: representative of the Media agencies

Sven Berg works as a Client Service Director at PHD. He is the only persona working in a Media agency. Consequently his work-models merge the three distinct sets of work-models presented in the previous chapter section on Media agency groups.

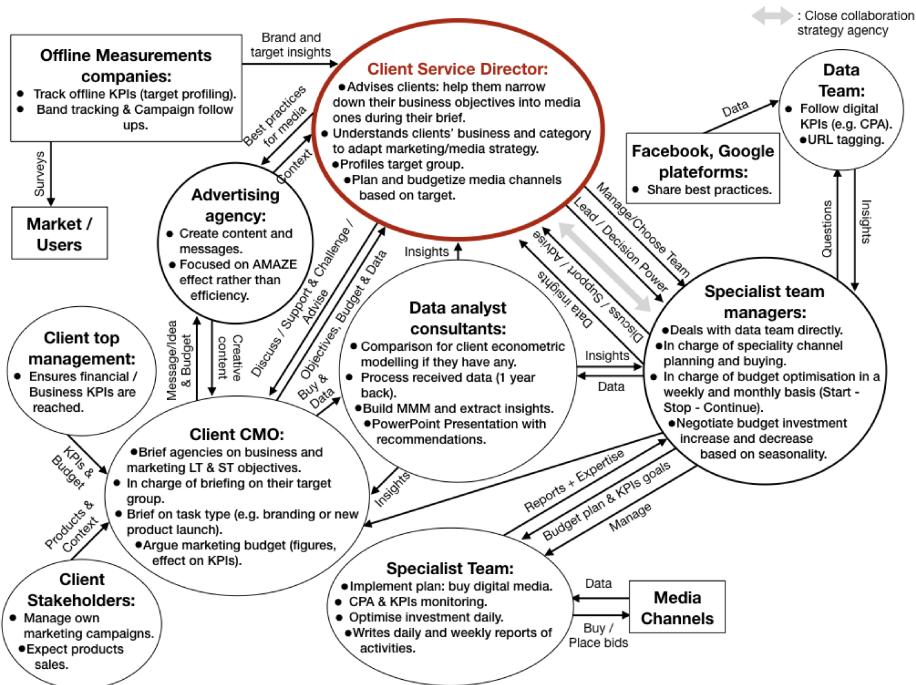


Figure 6.14: Sven Berg Flow model

Sven's Flow model on Figure 6.14 illustrates in rich details all the interaction induced by the marketing strategy definition. The structure of Agency 2 and 4 Flow model appears clearly on this merge. However, the internal management of the agency does not figure as one of Sven responsibilities and we assumed his company does not outsource any media channel like Agency 2 and 4 outsourced Search.

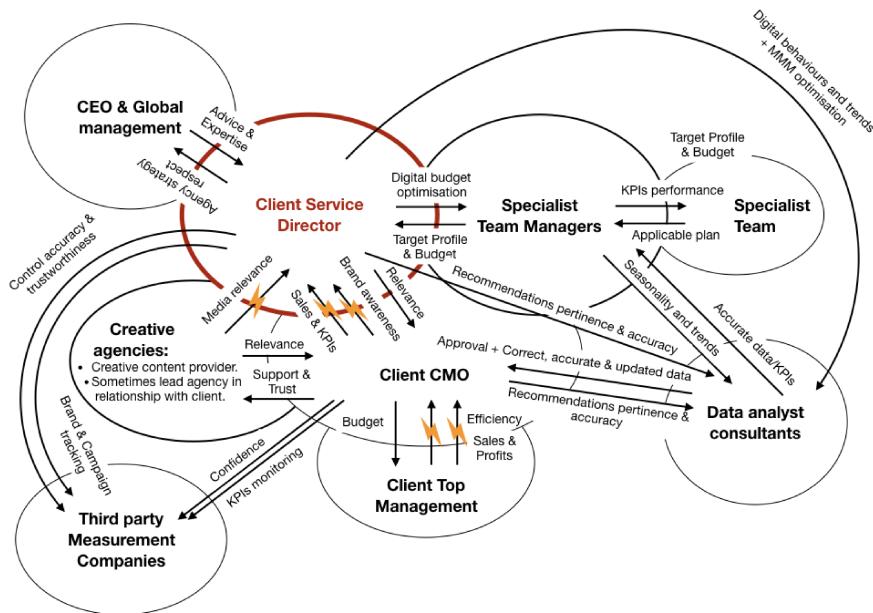


Figure 6.15: Sven Berg Cultural model

Likewise, Sven's Cultural model on Figure 6.15, Sequence model on Figure 6.16 and Artifact model on Figure 6.17 reassemble significantly the Agency 2 and 4 ones as all three did include all major influences, sequential steps and artifacts shared by all interviewees hired in a Media agency.

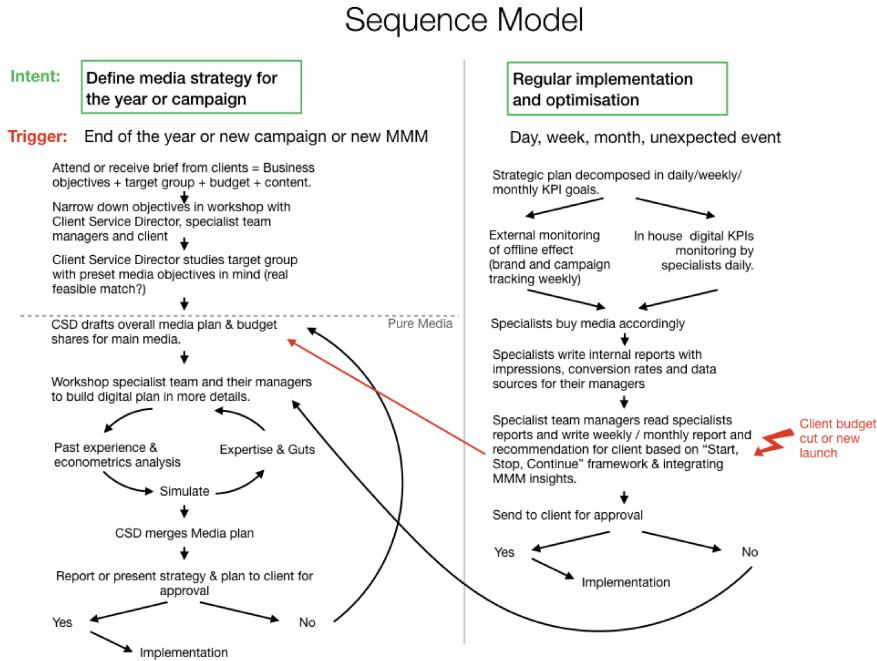


Figure 6.16: Sven Berg Sequence model

Artifacts

- Kantar Sifo data bank tool (target profiling)
- MMM (seasonality and trends)
- Surveys of users usage and brand awareness
- Internal daily and weekly report of activities and marketing effects
- Internal monthly report of activities and marketing effects
- Differentiation between LT and ST marketing campaigns.

Figure 6.17: Sven Berg Artifact model

6.3 Design guidelines

Considering Gina, Johan, Sara and Sven goals and expectations, we can start drawing essential guidelines to design a ML-based DSS providing understand-

able and actionable data-driven insights. Nonetheless to do so, we also need to keep in mind this particular thesis environment described in Chapter 3.

Chapter 3 explains that Randl clients prefer to attend carefully explained PowerPoint presentations where the Data analysts consultant deliver their data-driven recommendations instead of extracting them themselves through the also provided Dashboard or API. Although in practice, both Randl clients and this study interviewees show a real interest in understanding the graph and logic behind the provided recommendation: they discuss and question the results during and after the Data analysts consultant. Besides, several interviewees confirmed that they use and often look back at the PowerPoint slides while deciding which media channel to go for like for instance Agency 4 when he wanted to look into the future: "*we were using [the data analysts] MMM report to like see the trends and also see where we can find the, we can say, the potential in like driving sales and increase sales.*" (Appendix A Transcript 1191-11, quotation 10). Therefore, the preliminary assumption the context may have suggested that Randl clients requires a constant human support to understand and act upon is wrong.

Indeed, these interviews analysis showed that all interviewees become increasingly more independent provided that they were trained and involved in the model development and insights extraction processes for a sufficient amount of time. Furthermore, all interviewees developed their own interpretation of the MMM analysis by integrating their own business insights. They all are relatively familiar with a wide scope of digital reporting tools due to their job and they all without exception own, carry and use their professional laptop for all job-related tasks, be it to take notes during a meeting or to fly for a business trip. Consequently, the most appropriated test environment for such ML-based DSS for marketers is computer-based. Actually, a portable software or web based platform compatible for computers, tablets and smart phones would provide marketers with a comfortable range of data-driven insight use contexts. As Agency 1 realised: "*So that's a good program, I think, I don't know... if... if the program is bad then I would not use it, I guess. So the program that I use are the one I have a function for when I am working, in my daily life, I guess.*" (Appendix A Transcript 1098-10, quotation 15). Thus, any kind of digital service would theoretically satisfy the interviewees, thus the marketers, as long as the sold tool or service constitutes a significant business asset.

To become a business asset, this thesis discovered that the data-driven tool or service should increase the marketing, hence the business, profitability. It should grow the business competitive advantage. Eventually, it should constitute in a significant leverage in marketing or business negotiations. This is where the current digital interface Randl offers: the Dashboard and

the API fail. Not only are the enabled interactions highly restricted in the Dashboard and too mathematical in the API, but the insight provided to play with are based on insufficient model update to be relevant in the long run. Indeed, if the data-driven insights are three months old, generated by a model based on last year data then the output do not represent the current market situation. Marketers have thus no interest in using nor investing in extra services such as the Dashboard or API to see such quickly outdated insights. A PowerPoint Presentation once a year is fairly enough. Except for the Innovators who hired their own Data Scientist: *"we have to be much much faster in the sense that we cannot give them, give an external part, 2 year-old data, let them work for three months and let them come with a PowerPoint presentation. Because it doesn't give us anything. The idea is so, we want to have it sort of in real time to make fast decisions and... Cause after 3 months, I mean, the opportunity is gone."* (Appendix A Transcript 1025-0001, quotation 6). Therefore, a digital ML-based DSS requires regular model updates for marketers to value its data-driven insights as business assets worth their time, effort and money. According to our user research results, one to three model updates a month are a reasonable frequency to help the marketers efficiently perform their job tasks.

As a matter of fact, this user research identified three tasks the DSS tool should focus on to deliver value to the marketers: (1) offering a centralised overview of the marketing situation and effects on the business KPIs; (2) providing a smart budget planning tool; and (3) facilitating the communication between marketers and their top-management as well as between client-side marketers and their media agencies.

First of all, the interviewees unanimously admitted wishing for a reporting tool centralising all meaningful data and information in the same interface. As Innovator 3 accurately phrased it: *"The key here is to... once you start making sense out of all your data and collecting it into one place, all of the sudden you have all these incredible possibilities to do something with it."* (Appendix A Transcript 1025-02, quotation 27). Furthermore, Adopter 3 presented to the researcher, off the record, with a genuine enthusiasm, the tailored Adobe Analytics interface the company had made for them. He obviously loves getting the real-time overview of the business sales and other KPIs in just one glance wherever he is. Thus, the ML-based DSS should also provide a one-glance overview of the main marketing KPIs recent variations in real time provided it is coherent with the KPIs in question. For instance, some brand KPIs like brand awareness and brand attitudes evolve more slowly than digital KPIs such as click-outs that are monitored daily. The analysis and overview should also consider the media channels and KPIs inertia while designing the DSS not to lead marketers towards irrelevant

insights.

In addition, marketers should be able to customize their own overview interface so that they only see **what** they **want to** see, **when** they **want to** see it. It could also be helpful to allow marketers to input their marketing goals in term of KPIs and evaluate quickly how likely they are to reach them by the end of the month considering their current strategy. Indeed, marketers are more comfortable with figures tables than with charts and graphs. In practice, the interviewees speak about sales amount and percentages instead of describing curve and chart trends, particularly while demonstrating how they daily perform their jobs. Besides, they also constantly consult brand KPIs and target group information while defining strategies. Hence, a personalised centralised overview of the real time marketing situation with a connection to the brand KPIs and target group info appears essential for a useful and actionable ML-based DSS.

In addition to such a visual centralised overview, the DSS should consist in a budget planning support. Indeed, this study revealed that marketer mainly uses the data-driven insights to chose the media channels through which they should deliver their message as well as how much money and when they should invest in the media channel. While the Innovators clearly developed a smart planing tool able to optimise the media budget on its own based on the model, Adopter 3 removed print from his plans as they had clearly no impact on KPIs. Even Agency 4 regularly consults the model seasonality to optimise his clients' spend over the weeks. Hence, by integrating the data-driven insights into a budget planning tool, marketers would then be enable to directly play with the data and model. They would eventually own the extracted insights by testing their assumptions and making their own mistakes. Thus, they would understand the data, model, and related insights deeper. They would significantly reduce their dependence of the consultant presence. Like they enjoyed benefiting from being involved from the start in the introduction of MMM analysis, they would also benefit from involving themselves with the data on a more regular basis. Indeed, Innovator 2 states that: *"I think that for me it's been very good to be involved in even in the development of the first part of the project, because I have much better understanding"* (Appendix A Transcript 1025-0001, quotation 12) while Agency 4 claims that: *"that was really helpful I appreciate to be involved from the beginning and make it easier as well to understand what, of course what I'm looking at"* (Appendix A Transcript 1191-11, quotation 20). Eventually, such budget planning tool optimising and simulating budget scenarios based on mathematical algorithms would increase their sense of control and confidence over their budget plan choices.

Such confidence increase would lead to the last task the ML-based DSS

should comply with: enhancing the communication between marketers and their top management and between marketers and their media agency. Indeed, by introducing science and math into the marketing field, MMM analysis enable marketers to speak the language of their top management, to *"prove themselves"* as Adopter 2 stated (Appendix A Transcript 1191-10, quotation 24). Owing to the Econometric modelling analysis results, marketers are now able to prove and show that marketing has an effect on the KPIs, in particular on the sales. Therefore, the data-drive insights should be easily combined, presented and discusses by the marketers with top management and companies or clients' stakeholders. Likewise, the DSS should also be connected to the media agency own MMM tool or DSS. Indeed, by easily and quickly sharing the relevant KPIs evolution and latest model insights, both client side and media agencies marketers would increase their efficiency. From the media agency perspective, the work coordination efficiency would increase, like Agency 4 did: *"looking at the the estimates we're doing, they are pretty accurate. It's more helpful for the new people and for us to like coordinate them into the right focus areas and get them to understand why we're doing things in a particular way that they may be not used to do"* (Appendix A Transcript 1191-11, quotation 12). From a client-side perspective, marketers would be able to monitor their Media agency activities just like the Innovators do as Innovator 3 explains: *"One is once you get to learn how to keep track of every single penny that you pay somewhere, you also realize that if you have a media agency for example, you can see you soon as they screw up with something, you see that immediately."* (Appendix A Transcript 1025-02, quotation 16).

To conclude, the ML-based DSS should not necessarily provide simpler insights to marketers but instead wrap those inside a portable and pertinent tool supporting three main task accomplishments: a centralised monitoring overview of the marketing situation in real time, a smart planning budget tool and a communication tool. By complying with and improving these tasks efficiency and facilitating their execution, the ML-based would not only become a valuable business asset but it will increase the marketers control and confidence in their marketing strategies formulation.

Chapter 7

Validation of the design requirements

As explained in this thesis previous chapters, we interviewed marketers and analysed their job procedures and habits as well as their beliefs and expectations regarding ML-based data-driven insights. Chapter 6 even extracted 4 personas with their respective set of work-models and fundamental guidelines to design a user-centered DSS providing understandable and actionable data-driven insights for marketers. Eventually, the researcher needs to validate the accuracy and relevance of these results in order for them be used as well-funded base for future design work. To do so, the interviewees were invited to a final validation interview. During these 30-minute long validation interviews, their individual work models were reviewed, corrected and completed to reliably describe how they individually deal with marketing decisions on a daily basis. In addition, four slightly distinct medium-fidelity mock-ups were produced as embodiment of the design guidelines, based on the four persona profiles and goals. These mock-ups then motivated criticism. They opened the discussion between the researcher and the interviewees about both the personas and the design guidelines relevance. Therefore, this chapter first reports the validated work-models. It also presents the design process and the received feed-backs on the mock-ups embedding the design guidelines.

7.1 Work-models validation

This user research aims to produce one major outcome: the work-models, in particular the 4 personas' work-models. As developed in Chapter 5, the first manifest analysis generated four work-models per interviewee companies. In total, 8 sets of 4 work-models were reported and described in Chapter

5. Those work-models were then merged and synthesised into 4 sets of 4 work-model associated to the four final personas. In the aim to validate the four final sets, the researcher decided to review in details every work-models with the study participants. Indeed, ensuring both the correctness and completeness of every single work-models with the contribution of their main players would strongly consolidate the foundation of the synthesised sets of work-models represented by the personas. Therefore, the first part of the validation interviews was dedicated to a detailed presentation of the work-models and a thorough discussion and correction.

As illustrated by the table 4.2 in Chapter 4, only 8 out of 11 participants attended their validation interviews. Nevertheless, one of the interviewee was employed and co-working with another interviewee in the same company. As a result, his colleague validated their company related work-models for him. Therefore, 6 out of the 8 initial sets of work-models were discussed, corrected and eventually validated as reported in the next sections.

As the three Innovators validated their common company work-models together in a focus group session, a total of six interviews took place in the company of the interviewees. The work-models were presented on slides and corrected on A3 paper versions of the figures in the first section of Chapter 5. All interviews were recorded with the preliminary signed consent of the interviewees. The average length of the interviews was 38 minutes including approximately 25 minutes for the work-models validation and 13 minutes for the mock-ups discussion.

Notably, these validation interviews shared one unexpected feed-back: all interviewees participating in the validation were genuinely surprised and grateful to be delivered such visualisation of how they work, on paper, as noted in all six recordings. They all asked and kept their own printed copy. This spontaneous behaviour also represents a significant positive outcome of these validation interviews that also contributes of the validation and relevance of this study. Indeed, the interviewed marketers would not have expressed the desire to keep a copy of their work-models if they were not accurate nor representative enough of their working behaviours.

7.1.1 Innovators Work-model validation

The Innovator validation interview consisted in a focus group session. The researcher gathered the Innovator 1 as CEO, Innovator 2 as Business Controller and Innovator 3 as CMO of their company to review and correct the four work-models describing how, in practice and on daily basis, they take marketing decisions. As the audio recording of the first part of the interview about the work-models validation attests, the previous interviews were accu-

rately interpreted and represented in the work-models overall. However, some information was missing and needed more added details for the work-models to be completely correct.

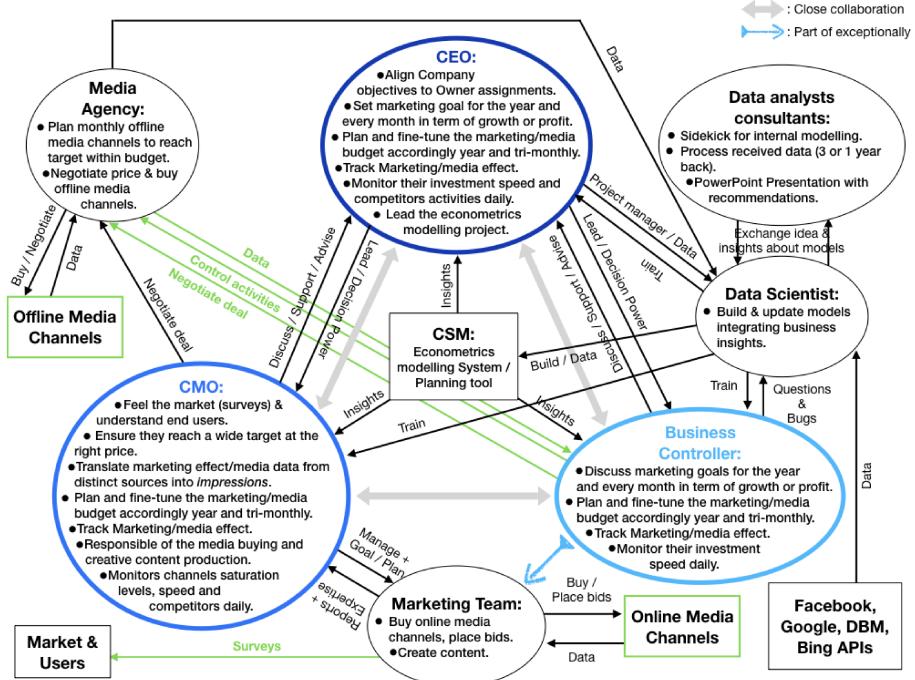


Figure 7.1: Innovators Flow model after validation focus group

For instance, the core of the Flow model was representative and accurate as illustrated in Figure 7.1. The three roles of CEO, CMO and Business Controller were complete in regards to the marketing decisions taking process as well as their individual relation with the data analysts consultants, their own data scientist and the CSM tool they built to interact with the Econometric modelling outcomes. However, two non-negligible adjustments were added to the original version of the Innovators Flow model owing to new data raised in the discussion.

First of all, the CMO, Innovator 3, clarified that the surveys of the market and service users (brand tracking studies) were actually handled by his marketing team and not directly by him. He is only responsible for ensuring these surveys are realised regularly. Thus, the arrow was moved to the Marketing Team node instead.

Furthermore, the Innovator 2 intervenes in the marketing decision process as both business controller as described in the original version of the Flow model in Figure 5.1 and as occasional member of the Marketing Team

as the blue arrow on Figure 7.1 highlights (Validation I audio recording: 9 min 32'). As such, she is the main contact between her company and the media agency they hired. Although they admitted it should be the responsibility of the CMO and the marketing team, she exceptionally deals with the daily communication with the media agency to share their workload in this relatively small company. She supports the CMO in the offline spent monitoring and reporting (Validation I audio recording: 6 min 32'). Consequently, the arrows were redirected from the CMO to the Business Controller in regards to the data collection and activities controlling. Both offline and online media channels were, as well, strictly separated in this new version of the Flow model to add more clarity to the final diagram. In addition, the deal negotiation arrow was also moved down to both the CMO and Business controller as the CEO is seldom involved in practice. He only initiates the deal then leaves the rest to them (Validation I audio recording: 8 min 22').

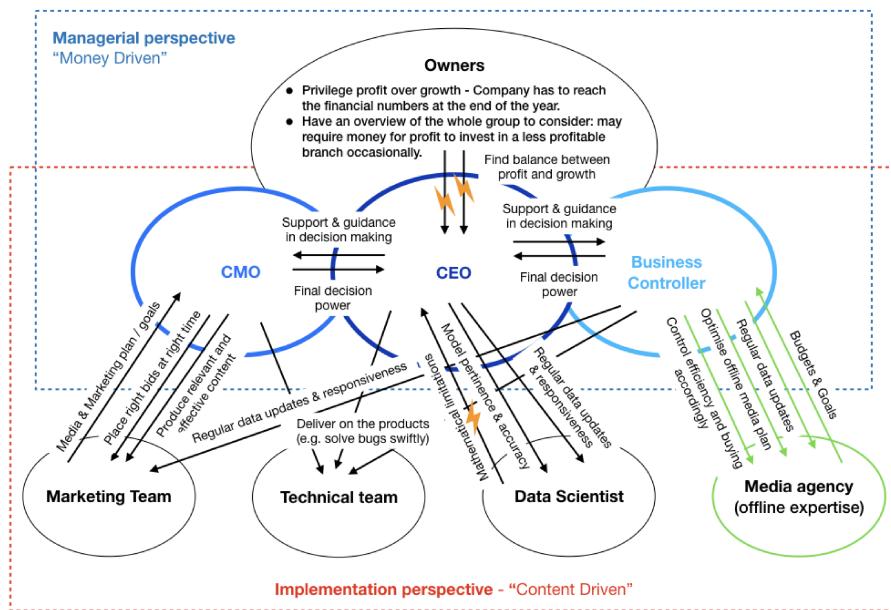


Figure 7.2: Innovators Cultural model after validation focus group

Likewise, the Innovators Cultural model changed according to this highlighted role of the Business Controller as part of the marketing team. As illustrated on Figure 7.2, the Media Agency node was moved to the far right compared to the previous Cultural model on Figure 5.2. Since most of the daily communication and work are handled by Innovator 2, the influence

is stronger upon the Business Controller in charge than on the CMO who is seldom involved. The rest of the Cultural model was left unchanged as approved by the three interviewees: *"This is the right picture"* Innovator 2 stated in the audio recording at 16 minutes 7 seconds.

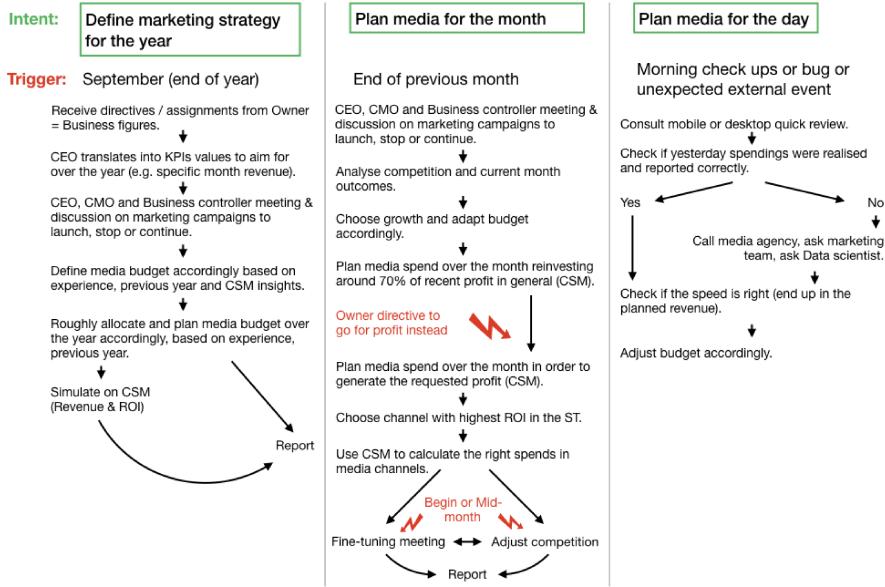


Figure 7.3: Innovators Sequence model after validation focus group

The Innovators Sequence Model was validated as such. The validated model on Figure 7.3 is identical to its initial version on Figure 7.3. Indeed, Innovator 2 praised the representation: *"Exactly! [the researcher]'s got it!"* she claimed, surprised (Validation I audio recording: 23 min 47'). According to her and her colleagues, the Sequence model is *"a very good overview of how it works"* (Validation I audio recording: 22 min 3'). Such validation is all the more strengthening that they just had their monthly meeting the day before. Thus, all their processes were still fresh in their memory when we reviewed the work-models. Innovator 1 even concluded by stating, half joking, half genuine, that this was the *"First time anyone told us what we do!"* (Validation I audio recording: 23 min 55').

Artifacts	CEO	Business Controller	CMO
• Google Analytics	✓	✓	✓
• CSM (and data consultants before that)	✓	✓	✓
• Enterprise system (external tool reporting click outs and revenues)	✓	✓	✓
• Internal Profit and Loss Google sheet	✓	✓	✓
• Long term and Short term assumptions (e.g. TV & Radio)	✓	✓	✓
• Surveys of users usage and brand awareness	✓	✓	✓
• Google spreadsheet to report and evaluate marketing effects	✓	✓	✓

Figure 7.4: Innovators Artifact model after validation focus group

Eventually, the first version of the Artifact model was though incomplete due to missing data. All listed artifacts in the initial version on Figure 5.4 are actually regularly used by all three players in the marketing strategies definition. Therefore, Figure 7.4 displays green ticks in all columns.

7.1.2 Adopters Work-model validation

Contrary to the Innovators, the validation of work-models took place in two individual interviews. Although, like the Innovators focus group session, all interviews were recorded with the preliminary signed consent of the interviewees. These recordings were then analysed to produced the following corrected, completed and validated work-models for half the Adopters group population: Adopter 2 and Adopter 3. Unfortunately, Adopter 1 was on sick leave and Adopter 4 unreachable for the whole period of the validation phase as Chapter 4 explained earlier.

7.1.2.1 Adopter 2 work-models validation

As we clarified in Chapter 4 and Chapter 5. Adopter 2's interview was shorter than the other interviews performed. Neither was it recorded. As a

result, her work-models were smaller and less detailed compared to the other produced work-models. Besides, information extracted from other interviews, in particular the one with her company media agency, contributed to fill few blanks in the overall decision taking process mentioned in the interview notes. While the Cultural, Sequence and Artifact model were practically all correct and representative, the Flow model displayed more gaps and flaws.

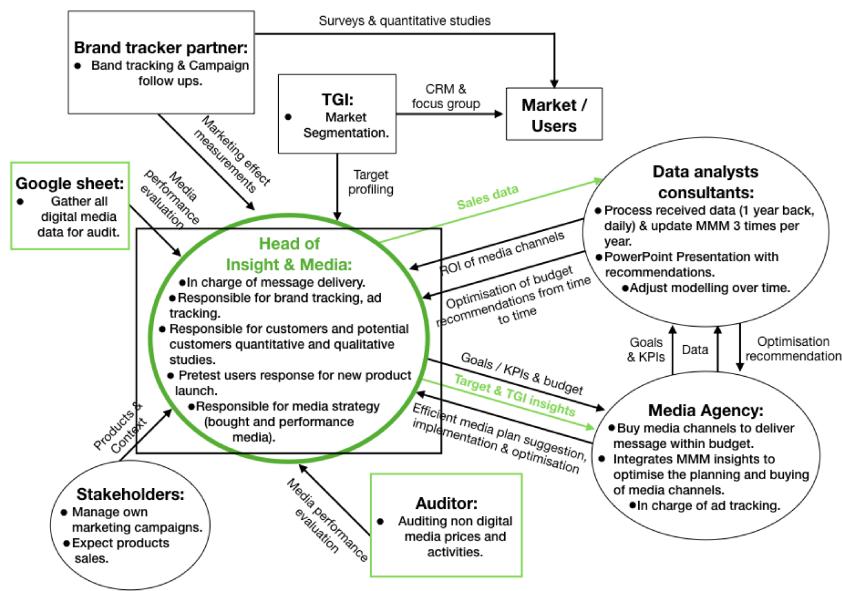


Figure 7.5: Adopter 2 Flow model after validation interview

The first flaw Adopter 2 corrected was her title: *"The CMO is it me? Because it is not my title. My title is Head of the Insight and Media"* (Validation AD2 audio recording: 2 min 27'). As her title was not mentioned nor discussed during the interview but rather her role and responsibilities in the marketing decision process, the researcher assumed she had a position close to the CMO based on the other Adopters and Innovator interviews. However, the researcher was wrong. The validation interview allowed us to more accurately define Adopter 2 roles, responsibilities and connection within her company.

As the Head of Insight and Media and not CMO, Adopter 2 is of course dealing with the marketing strategy along side her superior, the Communication and Marketing director. However, she is mostly in charge of the Media strategy in this regards. She works in close relationship with the me-

dia agency as described in the first version of the Flow model on Figure 5.6. Although, Adopter 2 not only provides the media agency with the goals, KPIs and budget for them to work with but she also transfers the market and branding data she receives directly from the TGI and Brand tracking partners as illustrated in the new version on the Flow model on Figure 7.5.

Besides, she does not entertain such a close and direct relationship with the data analysts consultants as we assumed she did based on the interview notes and the Media agency interview. As a matter of fact, the Media Agency themselves are mainly dealing with the data consultants. They are communicating the goals and most of the data. They also receive regular updates on the Econometric modellings while Adopter 2 only exchanges with them from time to time as illustrated on the new version of the Flow model on Figure 7.5. This is the reason why she chose to work with the current Data analysts consultants who are working directly with the media agency: *"It is easier to do it through the Media agency"* she claims about the data transmission (Validation AD2 audio recording: 4min 58').

In addition to correcting these flaws, the validation interview filled three gaps. Indeed three significant nodes were added to the Flow model to complete the overall picture of how the marketing decision are made in Adopter 2 company. First of all, an auditor company is hired to control the agency activities. The company stakeholders, including phones providers and manufacturers are also involved to some extent via their own independent marketing campaigns. Eventually, a Google spreadsheet is also exploited to provide an updated centralized overview of how digital are doing on a daily basis.

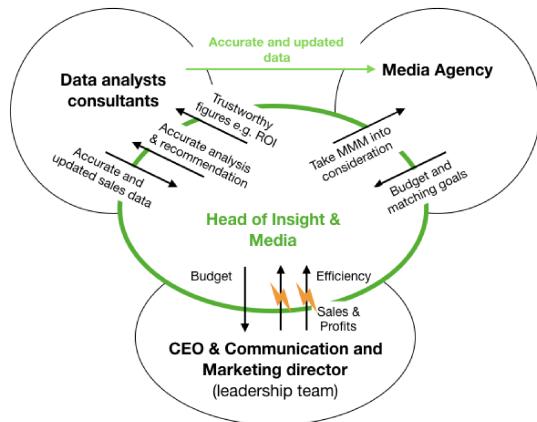


Figure 7.6: Adopter 2 Cultural model after validation interview

Nevertheless, the Cultural model depicted on Figure 5.6 was fundamentally accurate. Indeed, once we clarified the top management node as the leadership team gathering the CEO and the Communication and Marketing director who is the direct superior of Adopter 2, the model illustrated in Figure 7.6 is identical to its initial version, provided that we add a direct arrow regarding data accuracy expectations from the Data Analysts consultants towards the Media Agency. This is a logic consequence of the mostly indirect relationship between the Adopter 2 and the Data analyst team.

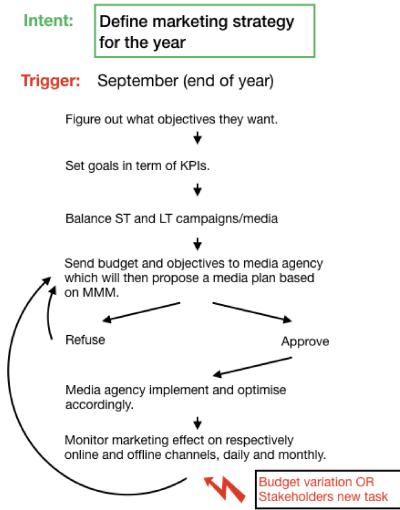


Figure 7.7: Adopter 2 Sequence model after validation interview

Likewise, the initial Sequence model originally reported on Figure 5.14 is essentially identical to its validated version on Figure 7.7. The only difference consists in an added detail in the final disruptive event that may occur: not only a budget variation but also a new task requested by the company stakeholders may redefine the marketing strategy as illustrated in Figure 7.7.

Artifacts

- Assumption that baseline represents LT effect of marketing trends.
- Long term and Short term assumptions (e.g. TV)
- Surveys of users usage and brand tracking.

Figure 7.8: Adopter 2 Artifact model after validation interview

Eventually, Adopter 2 approved the initial Artifact model as it was. Thus, the Artifact model on Figure 7.8 is a copy of its original version.

7.1.2.2 Adopter 3 work-models validation

Likewise Adopter 2, Adopter 3 validation interview significantly modified the Flow model while only slightly adjusting the three other work-models.

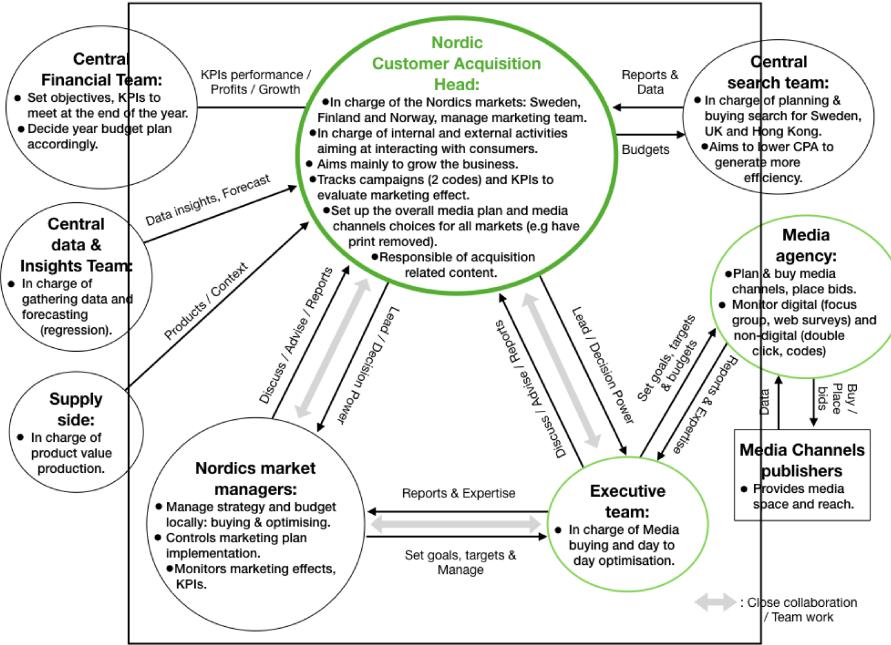


Figure 7.9: Adopter 3 Flow model after validation interview

Comparing the initially produced Flow model on Figure 5.7 to the new validated version of the Flow model above on Figure 7.9 reveals one major refinement owing to the validation interview. Indeed, the assumed close collaboration between the interviewee and his Nordics market managers and local teams have been corrected and redefined into a triangular close relationship, similar to the Innovators one on their own Flow model on Figure 7.1. Adopter 3 explained during his validation interview from 10 min 52' to 11 min 19' on the audio recording how his 6-member team is in fact constituted by the Nordics managers in charge of one market in the Nordics as well as the Executive team whose members manage specific channels independently of the country. All together, they work on the marketing strategies which was not as clear from the first interview as illustrated in the first Flow model mentioning local teams only managed by the Nordics managers instead.

Another valuable information was also collected during the validation interview that was not mentioned in the first interview: Adopter 3 company

hires a media agency. Their media agency manages all online and offline media channel planning, buying and monitoring in order to support Adopter 3 and his team in a daily basis as showed on Figure 7.9. Thus, the Nordics managers were not directly connected to the Programmatic Display Companies as formerly interpreted. Instead, the media agency receives the goals and KPIs from Adopter 3 team and directly buys the advertising space at the media channels providers.

Apart from those essential corrections and refinements, the remaining player nodes were correct and their integration in the flow diagram accurate. Therefore, the validated Flow Model conserved the initial representation of the Central Financial team, the Supply side and Central Data and Insights teams in this regards.

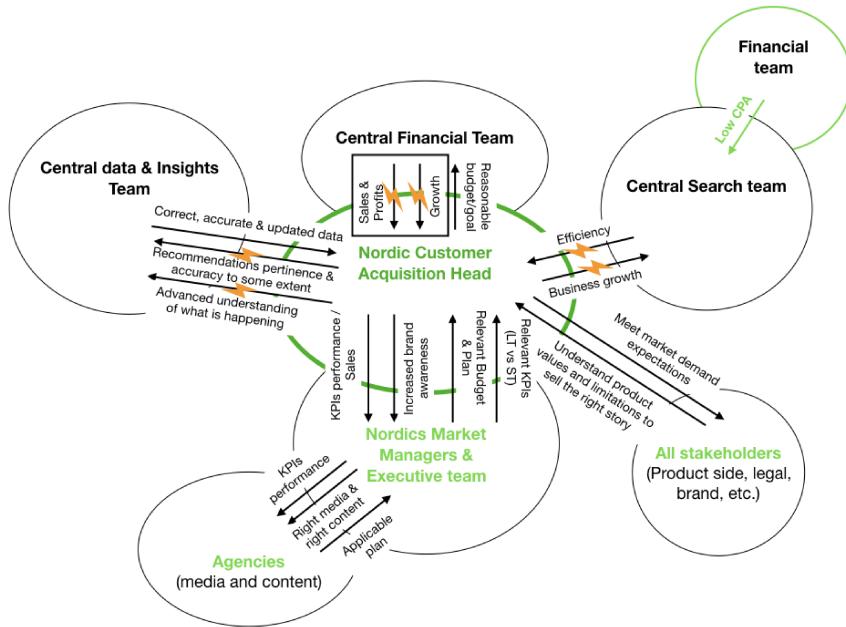


Figure 7.10: Adopter 3 Cultural model after validation interview

Nonetheless, the initial Cultural model described in Figure 5.11 underwent less structural modifications. One obvious difference is the added node above the Central research team. Indeed, Adopter 3 emphasised the weight that the central search team has to bear from their own Financial team. This Financial team following distinct scorecards than Adopter 3 Central Financial team generates the tension between the central search team and Adopter 3. Those conflicting objective of growth, profits and low CPA also generates

tension between the Adopter 3 and his central financial team. The validated Cultural model highlights these conflicting forces on Figure 7.10 compared to its original version.

Furthermore, Adopter 3 is closely related to his whole team replacing the Nordics Market managers unique node. Besides, they collaborate together in an agile process to define the marketing strategies. Hence, the conflicting arrows displayed in the initial Cultural model cause by a waterfall process hierarchy were softened. The yellow lighting removed.

Since the local team was thus replaced by the executive team who had moved up inside the Nordics Market managers node, the agencies took their place. Agencies are indeed dealing with the media and content details just like the misunderstood local teams were supposed to deal with.

Eventually, the supply side was extended to all stakeholders in the Adopter 3 multinational firm who may be impacted by an inadequate marketing strategy, such as the legal and the branding departments.



Figure 7.11: Adopter 3 Sequence model after validation interview

The validated Sequence model illustrated on Figure 7.11 resulted in a reorganisation of the initial proposition on Figure 5.15. Before segmenting the market, Adopter 3 defines the scorecards and decomposed the KPIs into

relevant marketing activities. The marketing budget and plan is then developed in a team work based on previous years, the data analysis and guts feeling. Eventually, it is delivered to the media agency who implements the strategy then reports back how the strategy is doing on a daily or weekly basis.

Artifacts

- Customised Adobe Analytics tool for reporting activity (specially designed for their company) instead of Google Analytics as they want to own the data.
- Conceptual model of LT/ST separation: most media channels are ST while LT effect can only be achieved by the customers experimenting something by themselves.
- Conceptual model of Search: Search not perceived as a real media channel as it does not drive customers by itself. Instead, powerful tool for conversions.
- Econometric modelling analysis (statistical studies and regression analysis) to some extent.
- Multitude of internal tools for reporting. *Thus, build their own tool gathering all relevant outcome on Excel.*

Figure 7.12: Adopter 3 Artifact model after validation interview

To conclude, the Artifact model illustrated on Figure 5.19 was validated as such with only one clarification. In both interviews, Adopter 3 emphasised how troublesome it was to have this many reporting tool all contradicting each other as explained in Chapter 5. However, in the validation interview, Adopter 3 first mentioned that they created their own reporting spreadsheet on Excel gathering all the relevant information they need to build sustainable and efficient marketing strategies. Therefore, the final validated Artifact model on Figure 7.12 integrates this non-negligible details.

7.1.3 Agencies Work-model validation

Three out of the four initial research participants attended their validation interview in the Agency group. Nevertheless, all media agency sets of work-models were discussed, corrected and validated. Indeed, the only interviewee who cancelled his validation session was supposed to attend a focus group with his colleague and superior who also participated in the study. As such, the Agency 2 and 4 work-models were validated by Agency 2 in an individual interview instead. As the Innovators globally enjoyed visualising how they work on paper, Agency 1, 2 and 3 were also grateful for these relatively complete diagram overview. They all actively contributed to their correction

and refinement. This section presents the results of this first validation phase with the Agency group.

7.1.3.1 Agency 1 work-models validation

During the review of his associated work-models, Agency 1 approved most of the interpretations and representations chosen to describe how he was working. Although, from time to time, he corrected some misunderstanding and filled some gaps for the models to more relevantly fit all sort of clients. Indeed, all along, he heavily stressed how these processes actually depends on the client: *"It differs from company to company"* (Validation AG1 audio recording: 3 min 23').

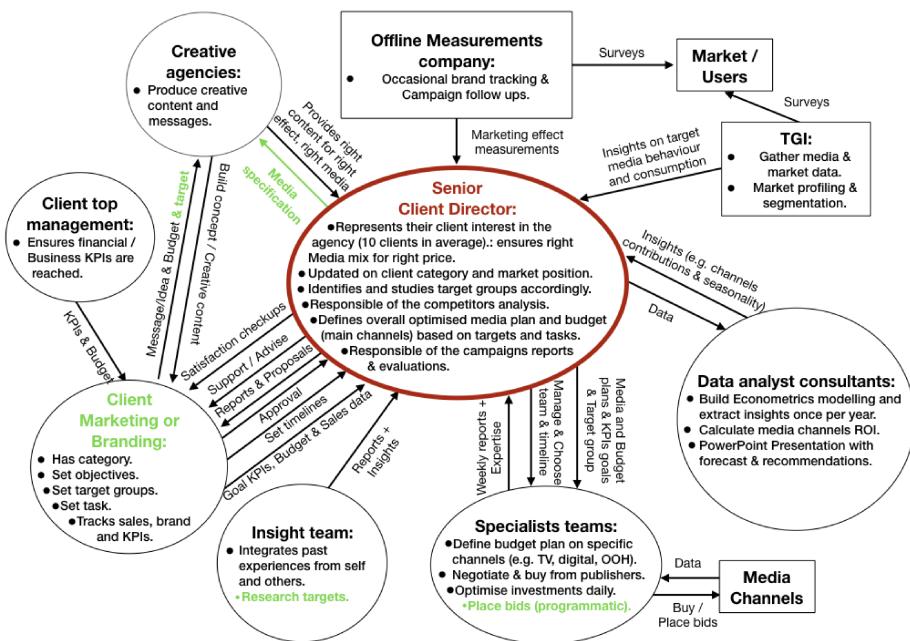


Figure 7.13: Agency 1 Flow model after validation interview

For instance, from the first interview analysis, the researcher assumed that Agency 1 as a Senior Client Director was mostly in contact with his client company CMO or other marketing managers equivalent as illustrated in Figure 5.21. However, Agency 1 explained that depending on the client company, his main contact could either be working in the Marketing or Branding department. Therefore, Figure 7.13 representing the validated version of

Agency 1 Flow model directly links the Senior Client Director to a single node representing his client contact be it in Marketing or Branding.

In addition, Agency 1 adjusted some roles and communication between those roles owing to new input information mentioned in the validation interview. From the validation interview, the target research appeared to be one of the major responsibility of the Insight Team. Thus, it was added to the validated Flow model. Likewise, Agency 1 felt the discussed Flow model did not stress enough the programmatic buying management realised by the Specialist team which is why this role now figures in the Specialist Team node. Besides, they report to Agency 1 every week and not everyday. This frequency is also highlighted in the validated version.

Eventually, Agency 1 detailed more the relationship with the creative agencies. For instance, creative agencies receive the message and the budget directly from their client but also the target group the creative message should aim for. They also receive from the media agency, from Agency 1 himself, the media specification. In a nutshell, Agency 1 daily work also consists in guiding the creative agencies in how to best use the Media Channel. Hence, the validated Flow model illustrated on Figure 7.13 preserve the structure yet enhance the marketer job communication and responsibilities representation first depicted in Figure 5.21.

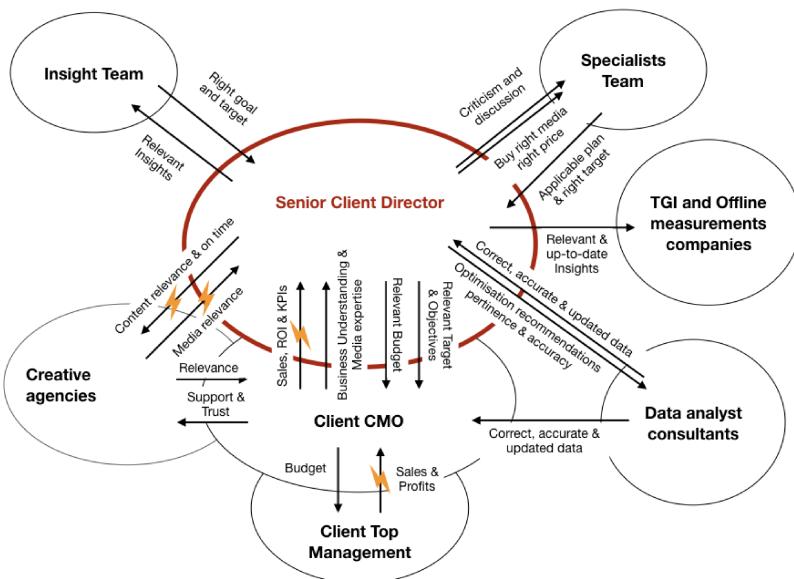


Figure 7.14: Agency 1 Cultural model after validation interview

Contrary to the Flow model, Agency 1 assessed the Cultural Model on Figure 5.24 accurate and correct. After approving the explanation and representation choice while they reviewed every arrows and nodes together, Agency 1 concluded the Cultural Model presentation by confidently stating: "*It's complete I think*" (Validation AG1 audio recording: 15 min 17'). Therefore, the validated version of the Cultural model on Figure 7.14 leaves the original version unchanged.

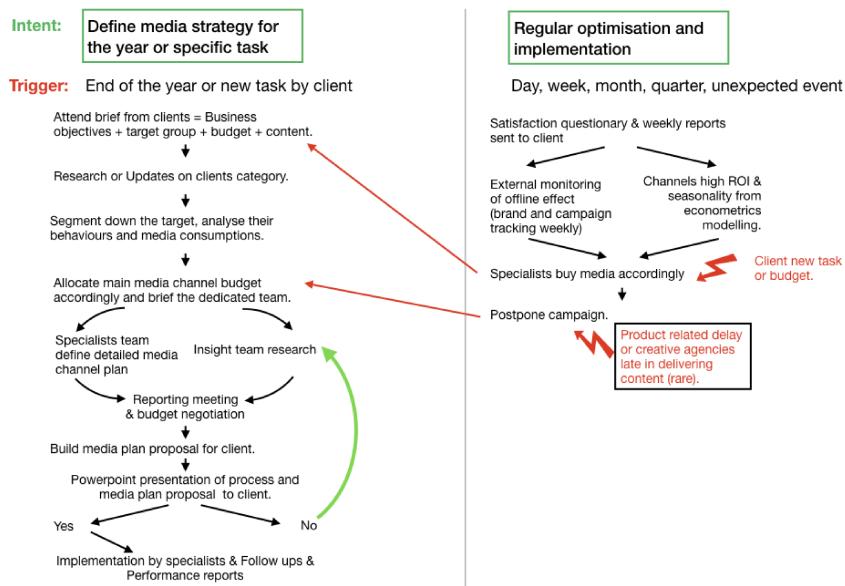


Figure 7.15: Agency 1 Sequence model after validation interview

Nonetheless, Agency 1 realised two adjustments on the Sequence model presented on Figure 5.27. The validated Sequence model illustrated on Figure 7.15 now explain that if their media plan proposal needs refinement according to the client, then the agile process start over not at the main media allocation step specifically but rather in the discussion and refinement loop involving the whole team to figure out the appropriate solution. Similarly, it is really rare that a delay in the media strategy implementation occurs due to a late creative agency delivery. As Agency 1 explains: "*That's not that common because... they have a task to deliver too*" (Validation AG1 audio recording: 20 min 15'). Thus, the disturbing event examples list was extended to also include client products related delay and emphasized the occasional aspect of such events as well.

Artifacts

- Econometrics modelling sometimes.
- Target profiling from TGI (Kantar Sifo)
- Surveys of users usage and brand tracking
- Internal budgeting tool.

Figure 7.16: Agency 1 Artifact model after validation interview

Likewise, one element was missing in the original Artifact model illustrated on Figure 5.30: the internal budgeting tools. They were thus added to the validated version on Figure 7.16 above.

7.1.3.2 Agency 2 and 4 work-models validation

As recalled earlier, Agency 2 attended the validation interview of the Agency 2 and 4 work-models on her own. She listened carefully to the presentation to eventually adjust and correct their common work-models.

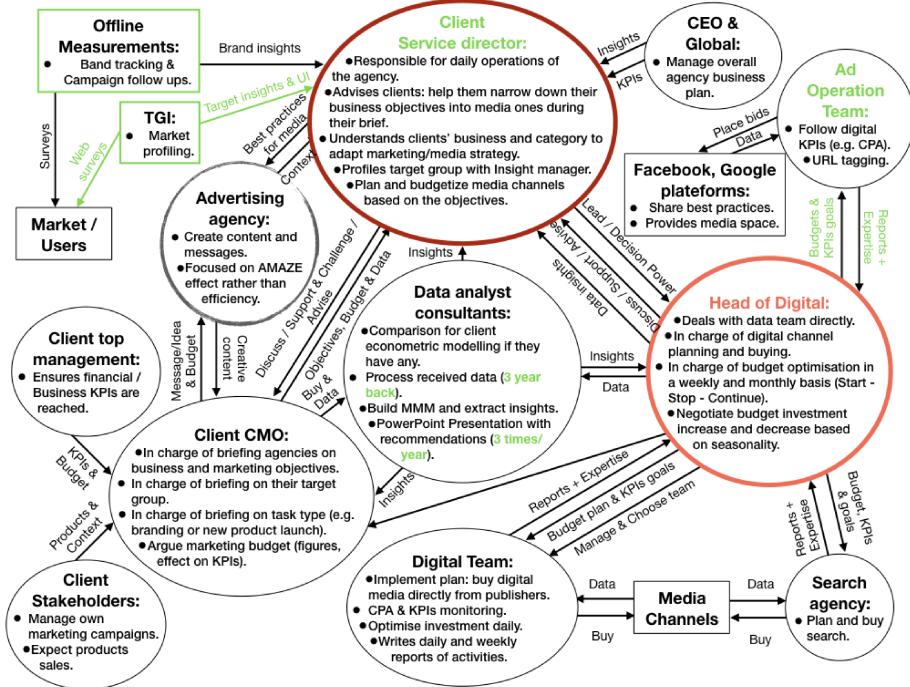


Figure 7.17: Agency 2 and 4 Flow model after validation interview

One major difference between the first version of the Flow model on Figure 5.22 and the validated version illustrated on Figure 7.17 is Agency 2 change of title. Agency 2 is as a matter of fact the COO of her company as stated on the first version of the work-models in Chapter 5. However, she is involved in the marketing strategy at her company clients level in the quality of the company Client Service director instead. She suddenly realised this inaccuracy of her title, in context, by the end of the interview: *"I think you should change the name... [...] When I hear you speaking now I think... because being the Chief Operative Officer is another kind of role. It is just... my role is like I kept Client Services role as well. I think Client Services Director is a lot better to describe. Sorry..."* (Validation AG24 audio recording: 30 min 48' to 31 min 20'). Therefore, all COO mentions were replaced by a CSD (Client Services Director) one in the final Flow model as well as in the three other work-models.

Moreover, from the beginning of the validation interview, Agency 2 strongly stressed how her decisions are in practice influenced by the aim, the objectives of her client. Hence, the media budget and plan is decided according to the client objectives rather than their target, to be more specific. Figure 7.17 also divided the Offline Measurements companies global into two distinct ones: the TGI in charge of the market profiling and the Offline Measurements partner in charge of the brand tracking. Those consists in two different entities Agency 2 heavily relies on to define her clients marketing strategies regarding message delivery. She is also working closely with the Data analyst consultants. These consultants are actually modelling over 3 year old data instead of 1 year old as assumed in the first Flow model version. Besides, they all meet a minimum of three times per year to discuss and update the model. The validated Flow model in Figure 7.17 includes these corrections.

Another refinement is noticeable on the validated Flow model. The entity dealing with media channel data and URL tagging the researcher extracted from the first interviews and represented in the Data team node is actually called the Ad Operation team in their agency. Eventually Agency 2 validation interview provided additional information about how Agency 4 relate to this team and where the media channel data and best practices comes from. Those are determinant in marketing decision making processes. They are described in the validated Flow model above on Figure 7.17.

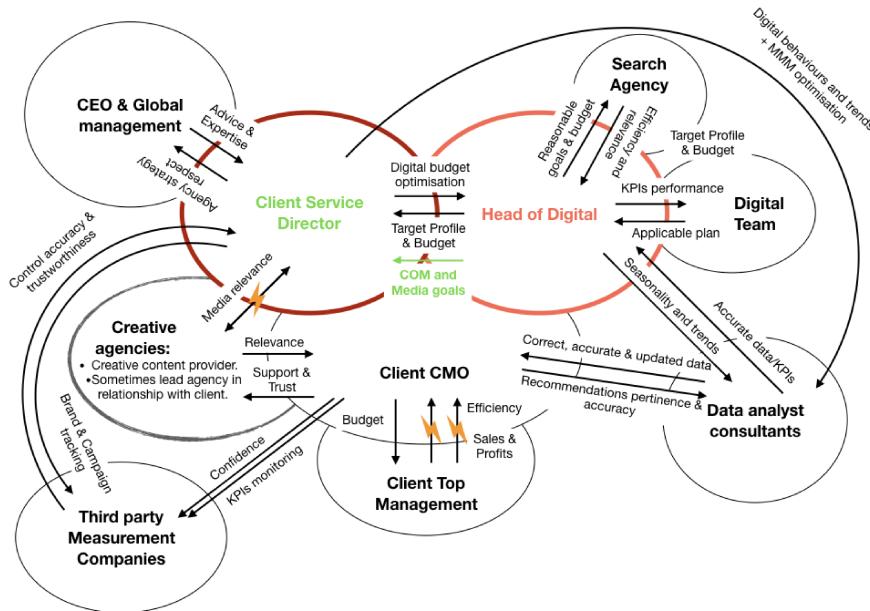


Figure 7.18: Agency 2 and 4 Cultural model after validation interview

Consequently to the change of title to more relevantly describe Agency 2 roles in the marketing decision processes, the validated Cultural model on Figure 7.18 registered the COO to CSD modification as well. Apart from this refinement, Agency 2 completed the final Cultural model by adding one missing valuable expectation: Agency 4 as Head of Digital expect from Agency 2, the Client Service Director, to provide relevant Communications and Media goals he can then translate into digital KPIs. Figure 7.18 displays this fundamental trust link between the two interviewees. Agency 4 trusting Agency 2 to deliver a quality job and vice versa.

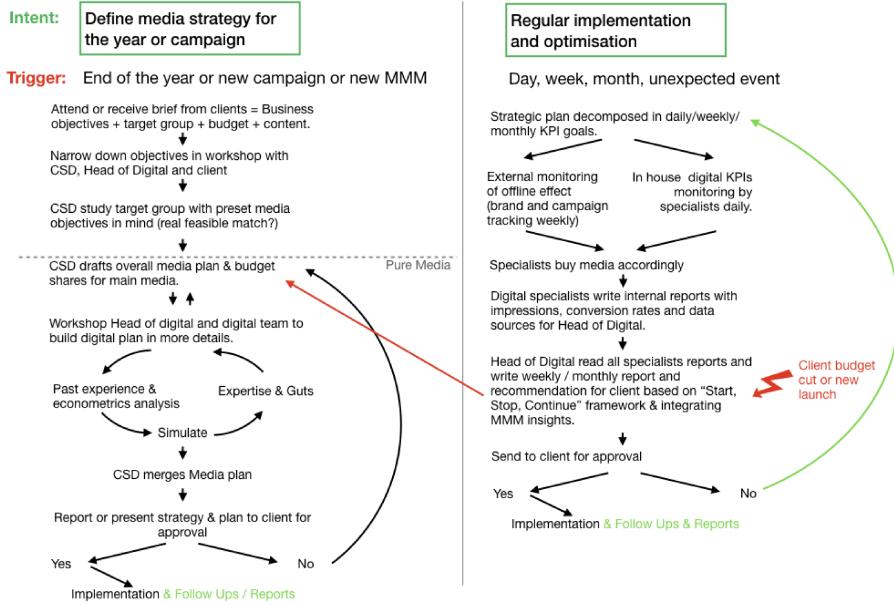


Figure 7.19: Agency 2 and 4 Sequence model after validation interview

Likewise, the validated Sequence model on Figure 7.19 differs from its original version due to the change of title from COO to CSD. However, the original version was also poorly representing the team work effort according to Agency 2: *"It's an interaction. It is not only me attending the brief. [...] We work as a team."* (Validation AG24 audio recording: from 30 min 26'). As a consequence, the new validated Sequence model includes the CSD into the workshop loop to some extent.

In addition, Agency 2 noted that few information were given once they start implementing the media strategy. Not only does the media agency implement the media strategy but they also follow up on the activities and report the campaign performance internally and to the client as well. This is on additional information compared to the first representation of the Sequence model on Figure 5.28.

Eventually, while the researcher presented the work model, both noticed an arrow went missing on the diagram second part in Figure 5.28. This unfortunate mistake was then corrected and adjusted after the validation interview as illustrated on Figure 7.19.

Artifacts (non exhaustive)	coo	Head of Digital
• Kantar Sifo data bank tool (target profiling)	✓	
• Digital audience behaviour Insight (Internally built tool)	✓	✓
• MMM (seasonality and trends)	✓	✓
• Surveys of users usage and brand awareness	✓	✓
• Internal daily and weekly report of activities and marketing effects		✓
• Internal monthly report of activities and marketing effects	✓	✓

Figure 7.20: Agency 2 and 4 Artifact model after validation interview

To conclude Agency 2 and 4 work-models validation, the Artifact model on Figure 5.31 was presented and discussed. Only one essential artifact according to Agency 2 was missing: the internal tool providing digital audience behaviour insights. This item was added to the final Artifact model on Figure 7.20.

7.1.3.3 Agency 3 work-models validation

Last but not least, Agency 3 work-models were also presented and corrected during an individual interview. Agency 3 interview lasted longer than an hour, thus twice as much as the other interviews. Since the validation interview took place right after a hectic work period for the interviewee, Agency 3 may have felt more relaxed and less time-constrained than the other participants. Thus, he was extremely talkative on that particular day and enjoyed developing his answers during the interview, which eventually ran overtime as the audio recording attests. Consequently, more information were collected by the researcher. New insights were then included in the validated version of his associated work-models.

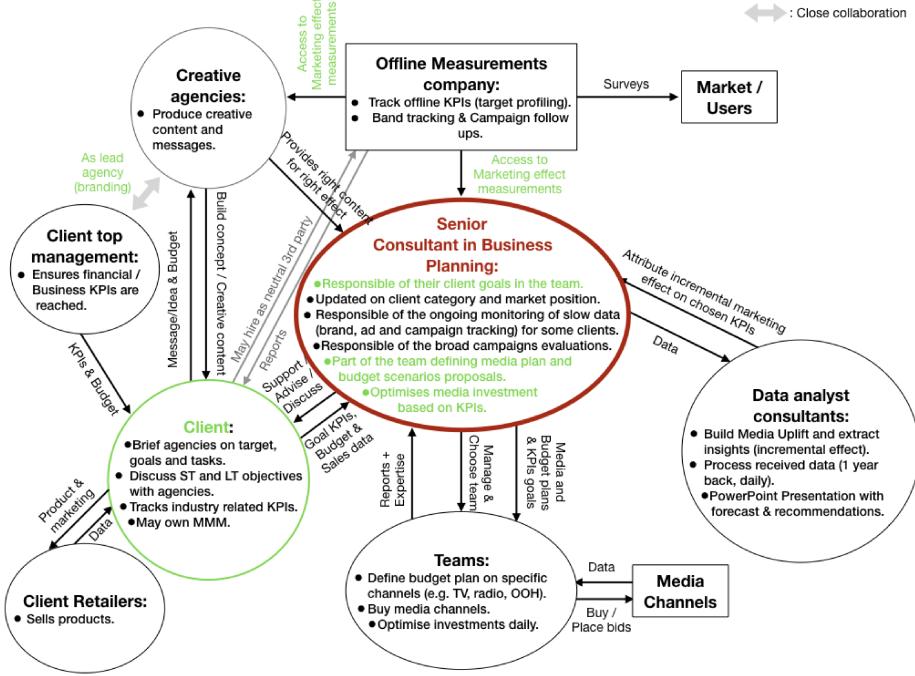


Figure 7.21: Agency 3 Flow model after validation interview

The validated Flow model on Figure 7.21 mainly differs from the first Flow model illustrated in Figure 5.23 on three refinements. The first noticeable modification concerns the responsibilities Agency 3 role as Senior Consultant in Business Planning implies. Instead of representing his client interests in the agency as originally interpreted from the first interview, Agency 3 is actually in charge of his clients goals in the business planning team. Together with this team, as a member rather than a manager, he defines the media plan and budget scenarios for his clients. Figure 7.21 takes these reviewed responsibilities and roles into considerations.

The second modification is related to the Client node. In the original interpretation, the Flow model wrongly assumed the client main contact would be in charge of marketing. Such assumption illustrated on Figure 5.23 is reductive. It does not consider the case where the media agency is mainly in contact with the Digital or the Branding department like Agency 1 also corrected. Thus, the CMO node was renamed the Client node in the validated version of the Flow model on Figure 7.21. In addition, the content of the node was also refined. The brief only occasionally involves all the agencies together. Besides, during the brief, the ST and LT objectives are also discussed and challenged. They are not just presented as the former Flow model implied.

The third main modification concerns the creative Agencies, in particular their relation with the Client top management. Indeed, as a lead agency the creative agencies entertains a strong and close relationship with the client that determines the marketing and media decision to some extent. Both the researcher and Agency 3 considered this close collaboration essential to describe the general work flow. Therefore, a new arrow was added in the model on Figure 7.21.

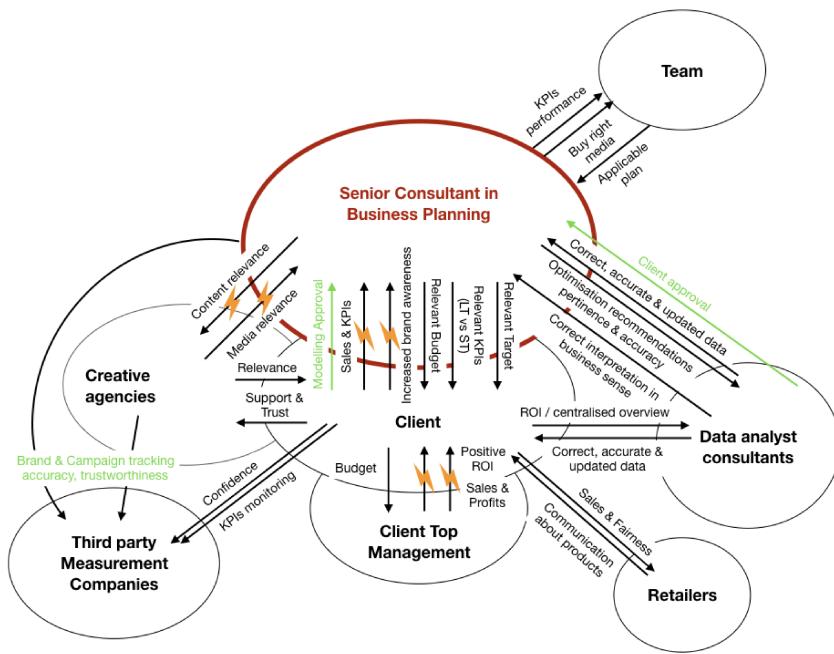


Figure 7.22: Agency 3 Cultural model after validation interview

Fewer corrections were added to the Cultural model. On Figure 5.26, the request for approval of an MMM study is directly sent and provided between the Data analyst consultants and the Client contact of the Media agency. However, in practice, the consultants seldom meet the client directly to initiate the MMM study. Instead, Agency 3 offer the MMM study analysis as an additional services to the media agency task package. If the client agrees then the Media agency involves the Data analysts in the process. Figure 7.22 illustrated this refined dependence between the three nodes. It also adjusts the expectations from both the media agency and the creative agencies towards the third party measurement companies which are identical.

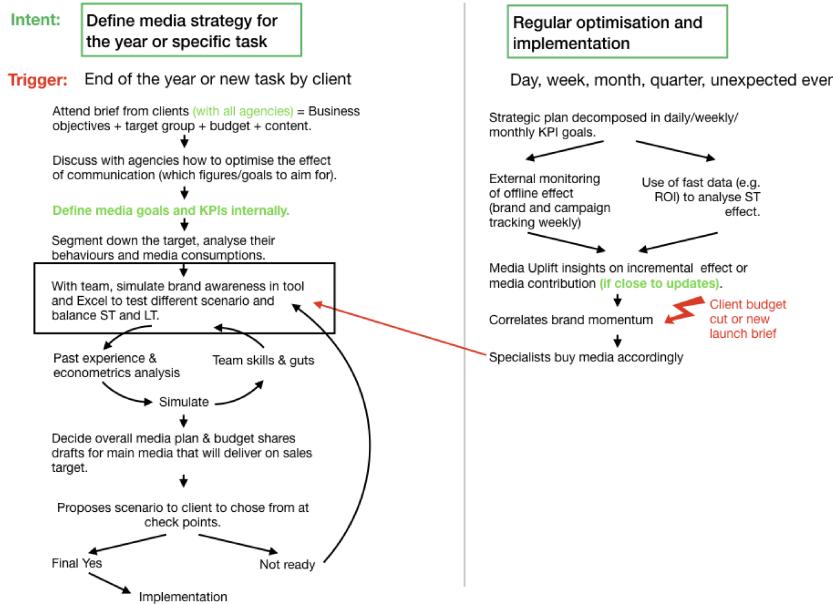


Figure 7.23: Agency 3 Sequence model after validation interview

As the Flow model review highlighted, not all agencies always attend the client brief together. The validated Sequence model on Figure 7.23 clarifies this point on the first step. It also introduces an additional non-negligible step that was overlooked in the first interview as Figure 7.23 showed in Chapter 5. Before segmenting down the market and after discussing with the different agencies involved how to optimise the communication effect, Agency 3 defines the media goals and KPIs just like Adopter 3 defines his scorecards. Eventually, the media plan and budget proposal is refined together with the client in an agile process. Until the proposal is approved, Agency 3 and his team usually loop back to the simulation steps and not to the segmentation step, which happen on very rare occasions. Besides, they only use the Econometric modelling insights if they are close to the last update. Later in time they are never consulted. Figure 7.23 illustrates the validated version of the Sequence model of Agency 3.



Figure 7.24: Agency 3 Artifact model after validation interview

Regarding the Artifact model, one small clarification was added to complete the first version on Figure 5.32. The measurement of the TV effect is explained on the validated version of the Artifact model on Figure 7.24. An external company specifically measure the TVC effects after a campaign launch.

7.1.4 Consequences on the Personas Work-models

The validation interviews regarding the work-models correction allowed the researcher to correct previous misconceptions and mostly collect complementary data in an individual scale. Such refinements were highly constructive for the company work-models accuracy assessment. However, since the personas work-models were constructed on common patterns among all the individual work-models, most of the corrections brought by the interviewee only rectified their own company specific behaviours. They hardly affected the personas' work-models. On the contrary, several refinements highlighted by the interview, including defining goals first, working closely with their marketing team or using personal spreadsheet to report their data, strengthen even more the general foundations of the personas' work-models. Owing to the interview validation, the identified patterns are therefore consolidated by an increasing number of data support.

Nonetheless, few corrections, in particular additional collected data, slightly reshaped some work-models, which are worth being reported in this section. In order to lighten the report, only the five required adjustments are listed here. The full validated work-models of each personas are provided in full page format in Appendix C.

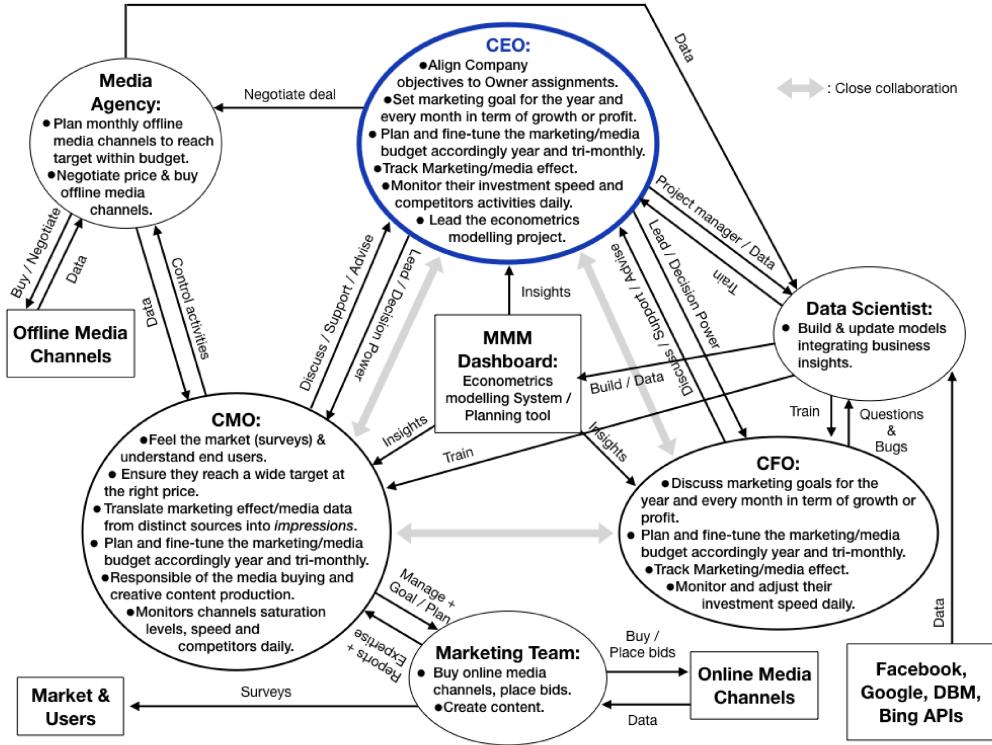


Figure 7.25: Validated Persona 1 Gina Anderson Flow Model

Gina's Flow model, like the Innovator's work-models, wrongly assumed that the surveys were realised by the CMO themselves. The survey is managed on a high level by the CMO but implemented by the Marketing team in practice. Therefore, the arrow now connects the Marketing team to the Markets and Users node like in the validated Innovators' Flow model as illustrated on Figure 7.25. Although, the Innovators' Flow model structural change regarding the Business controller roles had no influence on any personas as it is a company specific behaviour usually handled by the CMO or the marketing team.

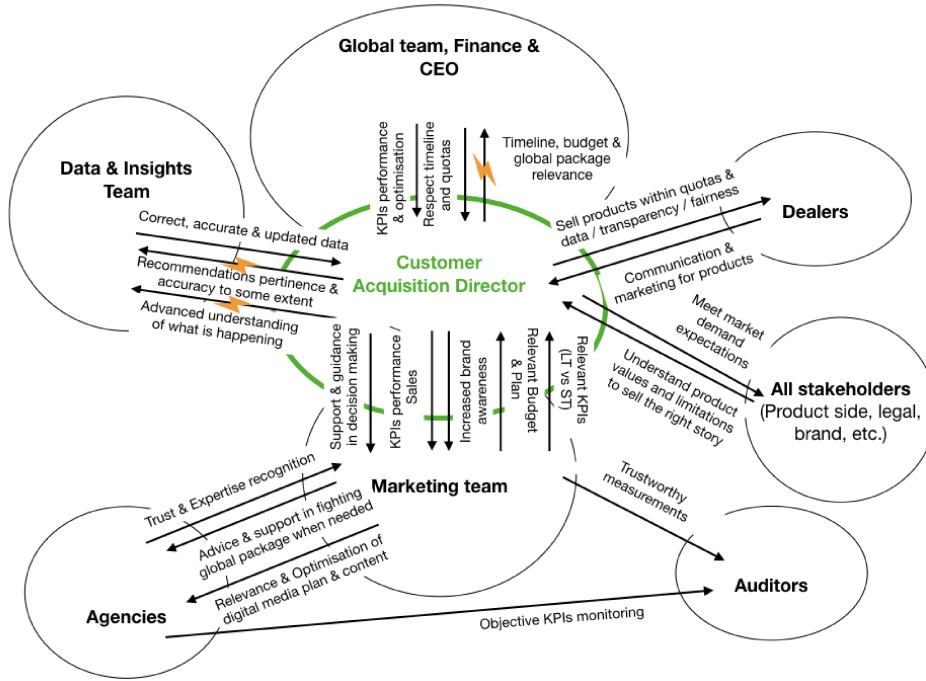


Figure 7.26: Validated Persona 2 Johan Åkeson Cultural Model

Likewise, the Adopter 3 team reorganisation reported on his Flow model left the personas work-models unchanged as most of the Company group interviewee had already reported closely working in teams. However, the non-negligible influence from all stakeholders in the company that Adopter 3 felt actually constraining his work was added on Persona 2 Johan Åkeson, also working in a multi national and centralised firm, Cultural model as Figure 7.26 shows. This new data indeed constitutes valuable information. The Third Party measurement company node was also renamed according to its actual name as well: the Auditors.

While the validation interviews only consolidate the work-models of Persona 2 Sara Martin, Persona 4 Sven Berg had his work-models more heavily adjusted in comparison. As complementary data were collected in the validation interviews, two aspects of the Agencies work-models that were initially isolated appeared to be commonly share by the three companies.

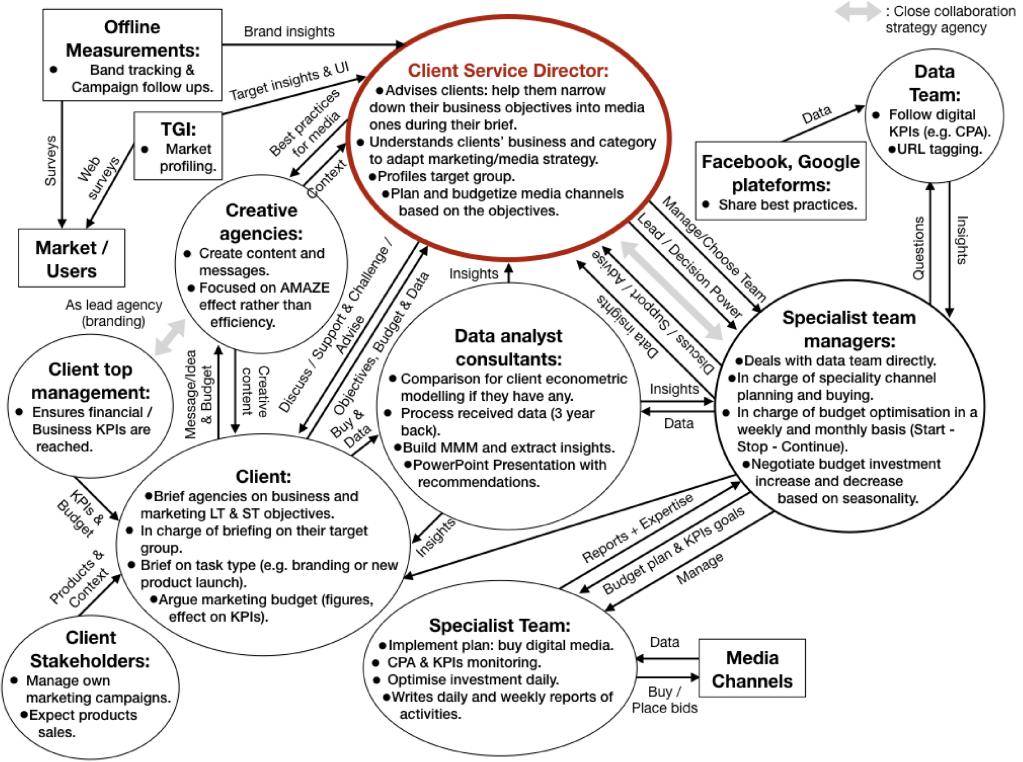


Figure 7.27: Validated Persona 4 Sven Berg Flow Model

First of all, all agencies managers significantly rely on the TGI data and reports. Besides, the brand tracking companies referred as the offline measurement companies in the work-models are completely different partners than the TGI companies according now to Agency 2, 3 and 4. Therefore, the initial single node was split in two separate nodes as illustrated on Figure 7.27: one offline measurements company dealing with the brand tracking data collection and one TGI node in charge of the target profiling. Likewise, in the validation interview, Agency 3 also mentioned the specific lead role of the creative agency over the media agency. Thus, Figure 7.27 displays the same arrow between the Client node and the Creative Agencies node as Adopter 3 Flow model on Figure 7.21.

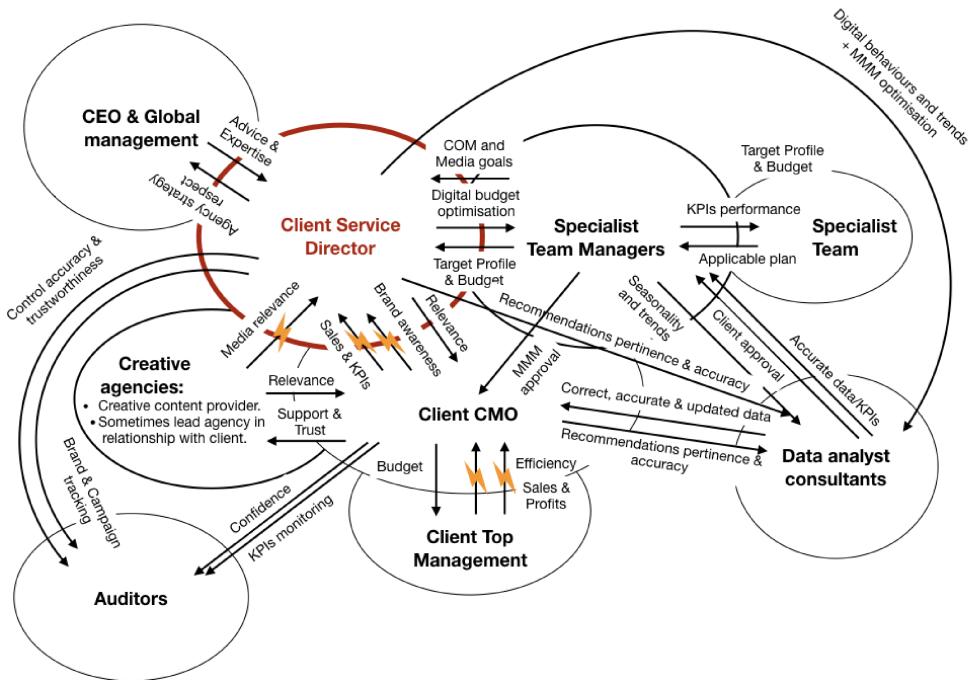


Figure 7.28: Validated Persona 4 Sven Berg Cultural Model

In addition, Agency 3 explained in his validation interview how the data analyst consultants were not actually initiating the relationship with the client. Instead, it is the media agency who set up the relationship with clients that are willing to invest in a MMM analysis. By going over the data again, this information made sense of pieces of information the researcher could not extract appropriately at the beginning. Indeed, both Adopters and Agencies implicitly mentioned this first step in the establishment of the relationship between the client company, the media agency and the data analysts consultancy. While company side interviewees such as the Innovators and Adopter 2 clearly initiated the process by directly seeking data analysts consultancy, others met the consultant through their media agency. Adopter 4 even stated that they were waiting for their new media agency to be up and running to decide together how to exactly proceed with further Econometric analysis: *"there was something else that we talked about as well with our new media agency, that we wanted to look at. That was quite interesting. But I can't really remember, now, what it was. Me, I am really interested in looking at the sort of the thing that then they can help us with. We just need to have a sit down and decide what we want to look at and follow up on it basically."*

(Appendix A Transcript 1322-00, quotation 11). Thus, Persona 4 Sven Berg represent this freshly extracted pattern on his validated Cultural model on Figure 7.28.

Artifacts

- Kantar Sifo data bank tool (target profiling - TGI)
- MMM (seasonality and trends)
- Surveys of users usage and brand awareness
- Post measurement of TVC effects by external company
- Internal daily and weekly report of activities and marketing effects
- Internal monthly report of activities and marketing effects
- Differentiation between LT and ST marketing campaigns.

Figure 7.29: Validated Persona 4 Sven Berg Artifact Model

Eventually, Figure 7.29 also refines the TV measurement as "Post measurement of TVC effects by an external company" to be perfectly accurate as Agency 3 noticed.

7.2 Personas and Design guidelines validation

Once the Flow model, the Cultural model, the Sequence model and the Artifact models were reviewed and corrected, the researcher switched to the second part of the validation interview: the personas and design guidelines validation. As explained in the beginning of this chapter, the validation interview was divided in two parts aiming to validate first the accuracy of the work-models and second the relevance of the design guidelines.

The design guidelines theoretically offers fundamental design requirements the researcher identified from the personas extracted from the two content analyses she performed. From the produced work-models and from the rationale and affect patterns extracted in these analyses then translated into personas, the researcher deduced in Chapter 6 three essential requirements to design a understandable and actionable marketer-centered ML-based DSS: portability, pertinence and task-compliance. This section aims to validate these deductions.

However, seldom are personas and guidelines directly validated with the end-users or customers they are actually supposed to represent. In the literature, personas and guidelines are considered valid as long as they are built upon a reasonable amount of user data. In practice, personas are refined and validated through their successful use, behaviour mimics, in context or specific scenarios (Nielsen, 2014). Although some researchers tend to involve end users or other stakeholders in a form of validation process, it always take place in a specific use context. For instance, Faily and Flechais (2011) presented in focus groups personas behaving in a specific user environment to test a security policy. This experiment led the end-users and stakeholders to discuss and refine the personas to some extent, even though it was firstly intended to discuss the policy (Faily and Flechais, 2011). Conversely, other studies attempt to test the personas validity as such, outside their potential use context and use scenario. Since several studies advocate the use of both quantitative and qualitative data collected from a statistically significant sample size, researchers start arguing the benefit of using an heuristic approach based on data-mining to build and validate personas like Thoma and Williams (2009) studied.

However, this master thesis study only relied on qualitative data collected from a relatively small statistical sample of marketers in comparison. Hence, such statistical methods, though highly promising, are inappropriate with our current data-set. Therefore, we opted for the validation through the use of personas in prototype conception. However, no product nor prototype were produced before this user research to test the personas against, in use context. Only a list of guidelines and requirements were generated in a narrative form, hardly testable as such. As a result, the researcher designed four mock-ups embedding the design guidelines in the ultimate aim to validate the personas and design guidelines accuracy and relevance through discussion.

7.2.1 Design of four medium-fidelity, functionality oriented mock-ups

Like Winkelmann et al. (2005) explained in their study, the mock-ups designed here aim to stimulate a deeper discussion over the narrative design guidelines listed in Chapter 6. These mock-up pages are not fully functioning prototypes of the final MMM tool digital platform. Instead, they constitutes an early intermediary design, preceding potential future and more detailed design production. This design only offer a concrete proposition to support the communication between the researcher and the interviewees, to easily convey the verbal design guidelines while triggering interviewees imagination. As

such, these mock-ups correspond to medium-fidelity prototypes as defined by Hartson and Pyla (2012a).

Indeed, Hartson and Pyla (2012a) explain how effectively medium-fidelity prototypes show the layout and the extent of a user interface. More detailed than low-fidelity paper prototypes yet less resources consuming to produce as high-fidelity prototypes, medium-fidelity prototypes ideally convey the look and feel of the user interface as well as the main functionality and interactions at a low cost. (Hartson and Pyla, 2012a) This thesis thus produces medium-prototypes in the form of mock-up pages focusing only on the design requirements we will later validate.

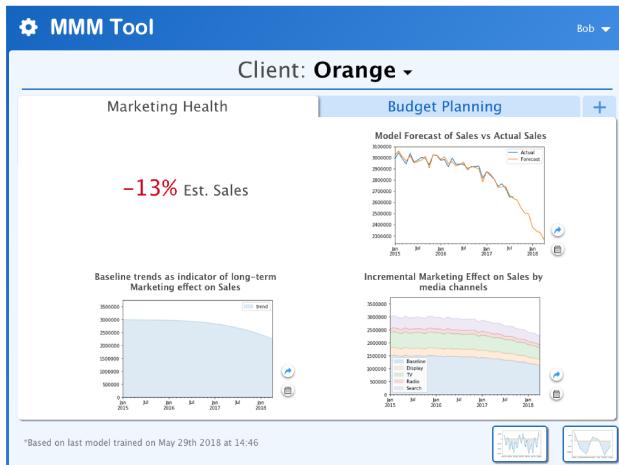
In order for the interviewees to naturally emphasize with the use context and easily imagine themselves trying out the MMM tool interface in their daily job, four adapted mock-ups were produced in total: the Innovator CSM mock-up, the big-scale company group mock-up, the small-scale company group mock-up and the agency group mock-up. As Figure 7.30 and Figure 7.31 attest, all mock-ups are identical in essence. Only slight adjustments were introduced to more accurately fit the interviewee work context. For instance, Figure 7.30 shows a dashboard overview gathering all clients or campaigns the Media Agency group interviewee manages whereas Figure 7.31 focuses on the only product a small-scale company is selling. Together, the different mock-ups constitute the different facets of the same MMM tool. Hence, to avoid any confusions, this thesis will ignore those slight differences and refer to all as the same medium-fidelity, functionality oriented mock-up in the report from now on.

The mock-up pages were drawn on the famous software Sketch enabling basic interactions through flexible links between the different pages. Owing to this tool properties, the mock-up pages were swiftly created with a neutral look and intuitive interactions facilitating a quick presentation of the design concepts in the 10-minute validation interview second part.

In order to validate the following three design requirements of portability, pertinence and task-compliance deduced in Chapter 6, the mock-up pages represents a digital interface with personal secured session. The overall design is neutral, clear and refined. The colour blue was strategically chosen to bring a neutral familiar texture to the interface, to bring the design to life without prevailing over the functionality we intent to test. In addition, the information on one page mostly kept sparse to easily fit any size of screen as illustrated on the Figures 7.30 and 7.31. The idea was to let the interviewee easily see how such tool would fit either their smart-phone, tablets or laptop screens.



(a) Dashboard overview



(b) Marketing state overview

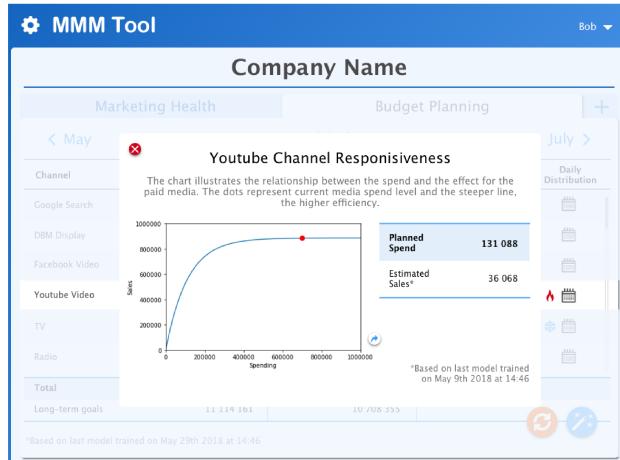


(c) Newly added and customized page

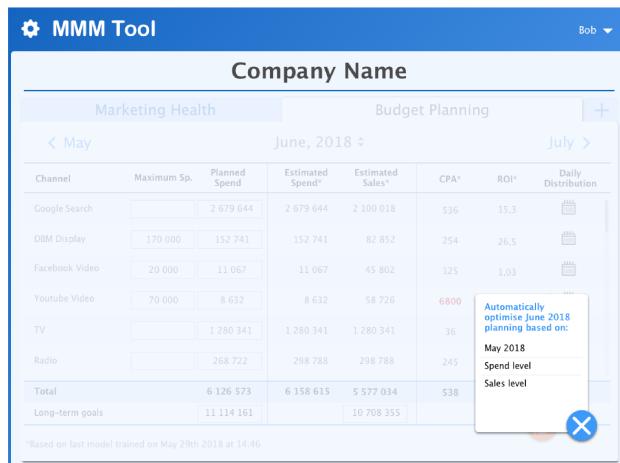
Figure 7.30: Agency group mock-up example pages complying with the centralised overview task



(a) Budgeting tool default interface



(b) Complementary information related to the saturation level of a specific media channel



(c) Automatic optimisation calculator

Figure 7.31: Small-scaled company group mock-up example pages complying with the budget planning task

Like the portability feature, the pertinence aspect was tricky to visually represent on the mock-up. Figures 7.30 and 7.31 display all a small legend noting when the last model update was performed: "**Based on last model trained on May 29th 2018 at 14:46*" - the validation interviews were conducted the first two weeks of June. Such information seems essential considering how several interviewees mentioned the importance of real-time data to relevantly represent their fast moving market. In addition, the pertinence is also particularly embedded in dashboard page on Figure 7.30 and on the saturation level of the media channels data computed by the MMM and provided right where they should require or request it. The pertinence visualisation is closely related to the design of the task-compliance concept.

Indeed, the mock up pages are built around the three main functions or better said jobs, they should help the marketers accomplish: monitoring the marketing activities state, planning the marketing and media budget and communicating with the agencies and top management teams from the Company group perspective or with the client from the Agency group perspective.

Figure 7.30 provides three examples of how the interface would enhance the marketing state monitoring. While the Dashboard Overview give a glimpse of how every client, campaign or products' marketing are performing, it also directs the marketer attention towards those under-performing like here, on Figure 7.30 (a), the agency client Orange (a French national Telecommunication company). It also provides a visual and quick interpretation that the model proposes based on the historical data: overspending in Youtube while underspending on TV for instance. Furthermore, by clicking on their respective thumbnail on the dashboard, marketers would gather and organise in a personalised manner all data-driven insights the MMM-tool may provide to asses the marketing health and trends as Figures 7.30 (b) and (c) illustrate.

Not only does the MMM tool provide the data-driven insights through the centralised overview of the marketing state but it also contributes to the media budget planing. Figure 7.31 displays a special tab hosting a page dedicated to budget planning related activities. On Figure 7.31 (a), marketers can input and test different media channel investment amounts; check how saturated the channel would be as illustrated on Figure 7.31 (b); or just directly fill the budget plan based on a calculated optimisation as shown on Figure 7.31 (c). Thus, all available data-driven insights are delivered to the marketers in the right context, while accomplishing a specific task. In such example, the task is attributing and planning the media channel budget for June.

At any moment in the process, marketers can also directly communicate their scenarios and export their graphs owing to the share button by the

bottom right corner of the diagram on Figures 7.30 (b), (c) and Figure 7.31 (b). They can as well adjust the time frame of any graph of their interest to the model capability extent as suggested by the calendar button, below the share button on Figures 7.30 (b) and (c).

The idea behind these mock-ups is to help the interviewees see, imagine and envision how, in what manner, such MMM-tool interface providing data-driven insights may contribute to their daily work, how differently they actually can interact with the MMM analysis outcomes. Eventually, we want the personas, hence the marketers, to independently act upon the data-driven insights. As we analysed in Chapter 6 that marketers do understand the model outcomes and can extract on their own the data-driven insights provided that they are familiar enough with the technology, the researcher used in the mock up design only data and insights visualisations the interviewees were already familiar with, to some extent. As a result, the interviewee discussion would be focused on the new interaction and data-driven insights delivery rather than on understanding or getting accustomed with a new data representation. The graph and tables are although filled with plausible yet made up data to preserve the interviewee confidentiality.

Likewise, the structure of the interface was kept simple and intuitive. The researcher exploited basic drag and drop interactions to customise the centralised overview on Figure 7.30 and a spreadsheet inspired layout for the budget planning tool on Figure 7.31. Therefore, the overall mock-up is meant to look relatively familiar to the interviewees with a low learning curve owing to basic UCD interactions.

Consequently, the mock-up constitutes an adequate tangible support for a time-efficient validation of the design guidelines and the personas relevance.

7.2.2 Feedback on the mock-up pages

This second part of the validation interview attempts to focus the attention of the interviewee on the design guidelines and principles rather than on the designed proposition itself. Thus, formal usability testing including A/B testing and heuristic evaluation are not appropriate to assess the relevance of our mock-up pages. Besides, the validation of the mock-up in this thesis consists in a complementary test to the main outcomes which are the work-models and the personas. The underlying purpose of the mock-up pages is to provide an example of solution to start a discussion with. Indeed, studies have proved that the use of example critiquing help user define preferences and desires that interviewees would hardly come by up-front (Faltings et al., 2004). Consequently, rapid evaluation methods presented by Hartson and Pyla (2012b) are more adequate in our context.

In particular, the researcher aims at exploring with the interviewees new features and interactions within well-known tasks performed to take a marketing decision. Thus, the researcher chose to conduct Quasi-Empirical UX Evaluations as proposed by Hartson and Pyla (2012b). Quasi-Empirical UX Evaluations do not require quantitative data to be collected as their ultimate objective are mainly to identify early UX problems through qualitative data in order to efficiently innovate. Flexible, freed from most of the UX evaluation formal protocol, they aim to maximize the helpful information gathered from different users in a constrained time period. (Hartson and Pyla, 2012b) Therefore, the researcher proceeded with such methodology to evaluate the design guidelines.

During this Quasi-Empirical UX evaluation, the medium-fidelity prototype was briefly presented. Then, the interviewee was invited to play with the tool and comment on any features of their choosing. By thinking out-loud while exploring the pages and playing freely with the interface, the interviewee brought to light UX issues or design improvement opportunities. Following the user flow and threads as they arise instead of preset steps constitutes the main asset of such techniques according to Hartson and Pyla (2012b). This second part of the validation interview was also recorded except for the Innovators focus group. Indeed, while still working on this master thesis project, the researcher was hired to design the interface of the Innovators CSM tool based on the thesis findings. Thus, the validation of the design guidelines was performed not via the mock-up described earlier but on a high-fidelity prototype specifically designed for their company. Hence, the audio recording authorisation for this interview part was not granted not to disclose company confidential information. Nevertheless, the high fidelity prototype of CSM actually constitutes a complete tailored version of the medium fidelity mock-up. Besides, it took place the first time they experienced with the prototype. Thus, the same methodology was applied for their validation interview as well. This section describes the received feed-backs.

Most of the interviewees welcomed the mock-ups potential with a sincere enthusiasm. In one hand, the Innovators company hired the researcher to design the interface based on their already existing and trained model. They approved the design on the validation interview. Thus, the researcher is currently implementing the CSM interface that all three Innovators already use every day at the time this thesis ends. On the other hand, the two Adopters and Agency 2 all displayed an obvious eagerness during the presentation and strongly affirmed they would use such tool if they had it as certified in all audio recordings. Indeed, the researcher made it clear from the beginning of the interview that the mock-up was only a conceptual presentation embedding the major functionalities and not a fully working prototype, even

though all functionalities are technically feasible if not already implemented.

Nevertheless, even Agency 3 displayed obvious signs of appreciation during the mock-up presentation. In particular, when the researcher moved to present the budget optimisation feature he could not restrain a clear interjection of surprised satisfaction as certified in Validation AG3 audio recording at 59 min 21 seconds. Even though he only prudently stated he "*might*" use the tool in his job, provided his clients chose to buy an MMM analysis. He still quickly understood how the tool worked and was particularly curious with what it had to offer. Likewise, Agency 2 swiftly understood what the tool was capable of. For the whole presentation of the mock-up starting on 34 minutes 35 seconds, she regularly assessed and even completed the sentences before the researcher regarding the different functions and options. Eventually, she praised the overall tool concept and design as being "*Brilliant!*" (Validation AG24 audio recording 40 min 24'). She declared enjoying the mix of media delivery and MMM analysis, thus providing relevant insight. Above all, Agency 2 appreciated the testing environment enabling her to ask the data "*What if we do like this? What id we do like that?*" (Validation AG24 audio recording 41 min 41'). Similarly, Adopter 2 and 3 enjoyed the centralised overview functionality and being able to try out activities and know what to be expected in the short term, what consequences would their decisions have. Adopter 2 also argues liking the budget optimisation feature and the tool easiness of use. As a matter of fact, she spontaneously started interacting with the mock-up pages, eager to explore more despite the limited enabled functions. Only Agency 1 showed less interest stating he would use the tool when it would have proved itself being easier and more efficient than the one they are already using in his company. All the other validation interview participants positively react to the tool dynamics. The mock-up opened for them new perspectives and excited new desires and expectations from the MMM analysis.

For instance, with regular model updates and real-time data they can see themselves monitoring the marketing activities and market trends as Adopter 2 and 3 concluded. Adopter 2, like Agency 3, ask if it was possible to connect the others data providers to such tool in order to gather all relevant data in the Dashboard. Agency 3 was even eager to know if the brands equity variables could also be included in the model. He would really use a robust and simple budget planning tool optimising for a LT goal in term of branding value based on the MMM (Validation AG3 audio recordings: 1 h 6 min 38' until the end).

The budget planning tool was the most appreciated feature as the audio recording attest. Most of the interviewees felt comfortable on this page and quickly start envisioning use cases, already adopting a specific vocabulary

like the Innovators spontaneously exchanging about *burning* money on a saturated channels or *freezing* with TV. The tool obviously made sense in their work environment. Agency 2 also immediately identified a functionality that would enhance the tool for her, in her daily job: the possibility to signal the model that some media channels investments were tactical and not up to them to change. For instance, some company have to invest a certain amount of money in the Youtube channel in order to be able to deliver their product through capital retailers (Validation AG24 audio recording: 38 min 39'). The MMM tool would actually highly benefit from the introduction of such function to constrain the model budget optimisation in accordance to the client or company policy as most of the interviewees agreed.

In addition to spot the absence of this political, tactical dimension within the design guidelines, this feedback constitutes the ultimate proof the interviewees understand the data-driven insight and cannot wait to act upon those in real life. Adopter 2 first reaction once the researcher completed the presentation of the mock-up speaks for itself: "*When is it going to be done?*" (Validation AD2 audio recording: 21min 55'). Besides, Adopter 2 was also the one expressing the desire to export the graphs. The share button on the mock-up were obviously too small and hardly visible. Even though, this feedback in particular highlights how relevant the compliance of the tool with the task of communicating the result is, just as providing a centralized overview and planning a budget.

To conclude, the design guidelines have proven to be all relevant, to some extent. The interviewees were comfortable using a computer based tool. Owing the regular update they could see the benefits and envision themselves using the tool on a daily basis. The Innovators are already heavily relying on the regularly updated model to define their company marketing strategies in any case. Eventually, the task compliance of the MMM outcomes and the delivery of data-driven insights in the right context of use clearly improved the understanding and brought the interviewees to want to act upon these insights on their own, on a daily basis. However, like Agency 1 made it clear from the beginning, the decision of adopting such tool is not him to take. Agency 1 and Agency 3 argued that they needed first secure clients willing to pay for the MMM analysis in the first place. Similarly, Adopter 3 warned the researcher that in order for such tool to be accepted and used in his team, his whole company and hierarchy should understand and adopt it along. Indeed, no matter how efficient the tool may be, if the other department do not understand nor value the MMM outcomes, the budget optimisation would not be executed and the tool would just become useless. Thus, the training phase to raise the marketers' awareness is determinant in how such ML-based DSS tool can be exploited.

Chapter 8

Discussion

Participants of this study appears to place value in ML-based DSS flexibility, pertinence and task compliance. Although these outcomes are coherent with previous research performed within the field of DSS design and user research, the current study is limited to some extent. This section addresses this paradox and discuss potential future work.

8.1 Research transferability

Among all the design guidelines generated in this user research, one is widely shared among the DSS design research field: the DSS portability. As described in this report, portability refers equally to the multi-platform adaptability from smart-phones to desktop computer screens; and to the use flexibility in the sense that the tool can adapts to different use case and user. As such, this feature is coherent with Orman (1984) characterisation of a DSS: "*The system should be flexible to accommodate new users and new requirements*". Not only flexibility and adaptability are fundamental principles of UCD but they also figure among the specifications of a successful DSS design.

In addition, Zikos (2017) listed the provision of dynamic predictions as an essential principle to consider while building a predictive DSS for clinicians. Although this DSS is meant for the healthcare fields instead of marketing, it is similar with the pertinence features that marketers unconsciously expect from the predictive function of the ML-based DSS. Just as 3 years old market data would not represent the current market behaviour appropriately, Zikos (2017) warns designers against what he calls the "*the Historical decision bias*". Obviously, such bias of reproducing wrong decisions based on past data-sets ought to be avoided as much as possible for clinicians as well as marketers, though in a less life-threatening environment. Thus, DSSs similar

in their functions, such as predicting, share non-negligible similarities.

Again in the healthcare field, Winkelmann et al. (2005) conducted a content analysis of patients interviews about the use of health information technologies. There, they extracted two main results closely related to this master thesis outcomes: the Illness Ownership and the Patient-driven Communication.

As a matter of fact, Winkelmann et al. (2005) define the Illness Ownership as the "*capacity of a patient to act on his or her own behalf when appropriate to directly influence his or her illness trajectory*". This exact formulation highlights the parallel with the marketer seeking control over the marketing strategy effect through a centralised overview of the market state. Surprisingly, the researchers herself untitled the main marketing overview page as the *Marketing health* on her mock-ups design on Figure 7.30. Moreover, the patient's quotation that Winkelmann et al. (2005) chose to support his claims contains two occurrences of the verb *to see*. This thesis also noticed this dominant use of a sight vocabulary in the context of seeking control over a situation, here the marketing state. Such similitude all the more strengthens this thesis design guidelines transferability that both Winkelmann et al. (2005) and an other independent researcher study revealed the importance of enabling communications via the DSS.

For instance, the first characterization that Orman (1984) listed in his research paper is that the DSS system ought to be general and shared. This is perfectly inline with this thesis conclusion regarding the use and adoption conditions in the previous chapter. The ML-based DSS must comply with enhancing the communication internally and externally of the company. It must also be accepted and adopted by enough internal co-workers to be effective and useful as several interviewees recalled in the previous chapter. Besides, Winkelmann et al. (2005) second major outcomes of their qualitative study is the Patient-driven Communication. They also emphasize how providing patients with such communication enhancer system could dramatically increase their personal control over their disease development and improve the communication with their doctors, just as it would for marketers regarding their own marketing strategy control and their top management relationships.

Eventually, all those previous similarities converged towards the task compliance principle. Indeed, Deaconescu (2017) confirmed that targeting a specific objective figures among the most capital step in any optimisation solving issue with a DSS. This strong affirmation is perfectly coherent with this user research findings.

However, Zikos (2017) also noted the importance of training just as this thesis did in order to provide DSS users with an optimal decision making experience. Just as marketers would learn to interpret and extract data-

driven insights thanks to preliminary training session, clinicians must be fully aware of the set of variables involved in the combined insight in order to take the best decision. Like marketers, they should also consider their own experience and own guts feeling to some extent to question the mathematical outcome when required.

Therefore, the design guidelines extracted in this thesis content analyses appears to be relatively general in the DSS design research fields. They can be easily transferred to any data-driven, model-driven or hybrid DSS involving managerial decisions takers contain

8.2 Limitations of the current user research

Nonetheless, as Winkelmann et al. (2005) cleverly noted, qualitative study results are extracted from narrative data including descriptions, notes and texts. Contrary to quantitative studies, qualitative study rely on the readers and audience acceptance of the researcher's interpretation of the conducted literature study and content analysis as fact or even truth. Although the researcher applied a systematic transparent and rigorous methodology during the study, uploaded a diary reporting her decisions and processes as explained in Chapter 4 and attached in Appendix B, such subjective analysis limits the generalisability of the resulting outcomes.

Even with the validation round of interviews, this master thesis may also have significantly benefited from a research team effort in interpreting the transcript and audio recordings. Indeed, most of the UCD or HCI research studies are conducted in teams. In this thesis context, the researcher conducted two strictly separated content analyses: one latent and one manifest. By separating the two analyses both spatially on different files and temporally by allowing one week break between the end of the manifest study and the beginning of the latent analysis, the researcher attempted to favouring the emergence of new and fresh perspectives. Such different point of views would have been more easily and more certainly obtained in a team work effort. As a result, the researcher transparently shared her processes and intermediaries findings and reasoning to palliate with this intrinsic limitation. Nevertheless, a rich narrative data and explanation of how marketers work on a daily basis as well as their personal perspective on the DSS have also their virtues. They are essential to accurately understand how to efficiently provide understandable and actionable data-driven insights.

One final limitation exists regarding this study: the interviewees and researcher personal biases. Indeed, the majority of the participants of this user research had already met and closely worked with Randl creators. Besides,

they all knew in advance what was the purpose of the research. The interview was meant to investigate how to improve the delivery of data-driven insights and how to integrate them in their own daily routine. As such, the collected data from the interviews may be considered as biased, to some extent, due to the human kindness tendency to please the interviewer or praise the algorithms creators. Likewise, the researcher herself may have unconsciously introduced her own bias when she started developing the mock-up design for the Innovators. Therefore, additional future work are strongly advised to either challenge or substantiate this thesis outcomes delivered in the form of the personas, work-models and design guidelines.

8.3 Future work

An obvious continuation for this study would be to actually start a design processes from the provided outcomes. By building a working prototype based on the results, with or without further interactions with the marketers community, designers can exploited evaluation methods including A/B testing and heuristic evaluations. Such quantitative evaluation would most likely add complementary insights. Those valuable tests would either validate or invalidate the current study results, pushing user centered ML-based DSS design further ahead.

In addition, the researcher implicitly assumed in this study that Randl services were useful and relevant in the marketing strategy formulations, as suggested by the interviewee experiences. In other words, the models were supposedly easing a pain in the marketing field as it has been empirically identified by the company founders as well.

Besides, the researcher also relied on the cognitive fit theory stating that reducing complexity can improve problem solving due to the limited human information processing. However, too much simplicity may dramatically decrease the perceived usefulness of the analytics for the end users. In a nutshell, the model interface complexity and its perceived use are opposite U-curves. The idea was then to find the right balance to challenge and involve the end users in overcoming an existing and recognized problem with a help of an assumed useful tool.

Since all interviewees claimed understanding the familiar visual support the data analysts were exploiting, the researcher did not investigate the data-driven insight visualisation form in itself, whether they were conveying useful enough information or not. Instead, this research mainly addresses the different ways in which those data-driven insights are or may be delivered in a wider context. Hence, investigating what to and how to visualise the data-

driven insights to help marketer understands and act upon those may also constitutes an interesting approach of this thesis research issue.

Chapter 9

Conclusions

This master thesis revealed that the current delivery of data-driven insights to marketers is either too complex or too simple. As a result, most marketers fail to identify useful and relevant information from the analysis of their own customers data without the support of their data analyst consultants. Besides, the models are based on three-year-old data and only updated once to three times per year. Thus, marketers consider their outcomes seldom representative of the current market state in the long run. As a matter of fact, this study shows that marketers would rather have a computer based test environment relying on regular model updates than occasional PowerPoint presentations.

In addition, all interviewees are already convinced and trusting the insights Econometric modelling provides. They are even judged business relevant and essential in their daily job. As a result, only a small step is now required to bring customised Machine-learning outcomes and data-driven insights to the reach of not only marketers but any non data scientist specialist. Indeed, the user research conducted in this master thesis has now addressed the initial research question: *How to design a user-friendly machine-learning based decision support system delivering understandable insights marketers act upon?*

To design a user center tool, designers obviously should focus on the end users of the DSS, the marketers, during the whole design process. This thorough user research in a rigorous Contextual Design framework produces four validated personas and work-models. They are all provided in A4 format in Appendix C to help designer keep marketers goals and expectations in mind in their future work. The interview transcripts can also be provided by the researcher to whomever requires further detailed material.

To generate understandable insights, this report identified no need to simplify nor vulgarize the model and algorithms more. On the contrary, mar-

keters are not interested in the mathematical algorithms behind the MMM analysis. Designing an intuitive and interactive tool that marketers can play with, customize and accomplish their main job tasks with would lead them to more relevantly understand and act upon the data-driven insights on their own.

Likewise, for marketers to act upon the insights, the modelling outcomes should be proven accurate, the data updated on real-time, the model trained regularly and the conclusions relevant for the marketers business.

To conclude, combining these pertinence, portability and task compliance design guidelines as described above in ML-based DSS design will significantly contribute to increase the marketers confidence in their decision and strategies. It will also help them convince their executives officers of the marketing efficiency. Indeed, by relevantly integrating data-driven insights in marketing decision processes and communication, marketing will become a valuable and valued business asset worth their companies spending money and efforts in. In addition, these thesis outcomes could relevantly be generalised and transferred to any ML-based DSS, not necessarily dedicated to marketer.

References

- American Marketing Association (2017). Definition of Marketing. [Online]. Available at: <https://www.ama.org/AboutAMA/Pages/Definition-of-Marketing.aspx> (Accessed: 23 January 2018).
- Bahl, H. C. and Hunt, R. G. (1984). Decision-making theory and dss design. *SIGMIS Database*, 15(4):10–14.
- Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, 2:8–14.
- Berg, B. L. (2004). Qualitative research methods for the social sciences.
- Binet, L. and Field, P. (2013). *The Long and the Short of It: Balancing Short and Long-Term Marketing Strategies*. Institute of Practitioners in Advertising.
- Blandford, A., Furniss, D., and Makri, S. (2016). Qualitative hci research: Going behind the scenes. *Synthesis Lectures on Human-Centered Informatics*, 9(1):1–115.
- Braun, V. and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2):77–101.
- Business Dictionary (2018). Definition of Econometric Modeling. [Online]. Available at: <http://www.businessdictionary.com/definition/econometric-modeling.html> (Accessed: 25 June 2018).
- Cooper, A. (1999). *The Inmates Are Running the Asylum*. Macmillan Publishing Co., Inc., Indianapolis, IN, USA.
- Curtis, P., Heiserman, T., Jobusch, D., Notess, M., and Webb, J. (1999). Customer-focused design data in a large, multi-site organization. In *Proceedings of the SIGCHI conference on Human Factors in Computing Systems*, pages 608–615. ACM.

- Deaconescu, A. (2017). Decision support system based on robust design methods. In *Proceedings of the 2017 4th International Conference on Biomedical and Bioinformatics Engineering*, ICBBE 2017, pages 109–114, New York, NY, USA. ACM.
- Elmqvist, N. (2011). Embodied human-data interaction. In *ACM CHI 2011 Workshop Embodied Interaction: Theory and Practice in HCI*, pages 104–107.
- Eom, S. and Kim, E. (2006). A survey of decision support system applications (1995-2001). *Journal of the Operational Research Society*, 57(11):1264–1278.
- Faily, S. and Flechais, I. (2011). Persona cases: A technique for grounding personas. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI ’11, pages 2267–2270, New York, NY, USA. ACM.
- Faltings, B., Pu, P., Torrens, M., and Viappiani, P. (2004). Designing example-critiquing interaction. In *Proceedings of the 9th International Conference on Intelligent User Interfaces*, IUI ’04, pages 22–29, New York, NY, USA. ACM.
- Hartson, R. and Pyla, P. S. (2012a). Chapter 11 - prototyping. In Hartson, R. and Pyla, P. S., editors, *The UX Book*, pages 391 – 425. Morgan Kaufmann, Boston.
- Hartson, R. and Pyla, P. S. (2012b). Chapter 13 - rapid evaluation methods. In Hartson, R. and Pyla, P. S., editors, *The UX Book*, pages 467 – 501. Morgan Kaufmann, Boston.
- Holtzblatt, K. and Beyer, H. R. (2014). Contextual design. In The Encyclopedia of Human-Computer Interaction, 2nd Ed. Chapter 8. 2014. [E-book]. Available at: <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/contextual-design> (Accessed 27 May 2018).
- Interaction Design Foundation (2018). User Centered Design. [Online]. Available at: <https://www.interaction-design.org/literature/topics/user-centered-design> (Accessed: 25 June 2018).
- Kamis, A., Koufaris, M., and Stern, T. (2008). Using an attribute-based decision support system for user-customized products online: an experimental investigation. *MIS Quarterly*, pages 159–177.

- Kim, J.-H. and Hyun, Y. J. (2011). A model to investigate the influence of marketing-mix efforts and corporate image on brand equity in the it software sector. *Industrial marketing management*, 40(3):424–438.
- LeRouge, C., Ma, J., Sneha, S., and Tolle, K. (2013). User profiles and personas in the design and development of consumer health technologies. *International Journal of Medical Informatics*, 82(11):e251 – e268.
- Lilien, G. L., Rangaswamy, A., Bruggen, G. H. V., and Starke, K. (2004). Dss effectiveness in marketing resource allocation decisions: Reality vs. perception. *Information Systems Research*, 15(3):216–235.
- Luan, Y. J. and Sudhir, K. (2010). Forecasting marketing-mix responsiveness for new products. *Journal of Marketing Research*, 47(3):444–457.
- Miaskiewicz, T. and Kozar, K. A. (2011). Personas and user-centered design: How can personas benefit product design processes? *Design Studies*, 32(5):417 – 430.
- Mihart, C. (2012). Modelling the influence of integrated marketing communication on consumer behaviour: An approach based on hierarchy of effects concept. *Procedia - Social and Behavioral Sciences*, 62:975 – 980. World Conference on Business, Economics and Management (BEM-2012), May 4-6 2012, Antalya, Turkey.
- Mortier, R., Haddadi, H., Henderson, T., McAuley, D., and Crowcroft, J. (2014a). Human-data interaction: The human face of the data-driven society. [Online]. Available at SSRN: <https://ssrn.com/abstract=2508051> or <http://dx.doi.org/10.2139/ssrn.2508051> (Accessed 16 January 2018).
- Mortier, R., Haddadi, H., Henderson, T., McAuley, D., Crowcroft, J., and Crabtree, A. (2014b). Human-data interaction. In The Encyclopedia of Human-Computer Interaction, 2nd Ed, 2014. Chapter 41. [E-book]. Available at: <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/human-data-interaction> (Accessed 26 May 2018).
- Nielsen, L. (2014). Personas. In The Encyclopedia of Human-Computer Interaction, 2nd Ed, 2014. Chapter 30. [E-book]. Available at: <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/personas> (Accessed 23 June 2018).

- Notess, M. (2004). Applying contextual design to educational software development. *Instructional design in the real world: a view from the trenches*.
- Notess, M. (2005). Using contextual design for digital library field studies. In *Workshop report: Studying Digital Library Users in the Wild*, page 21.
- Orman, L. (1984). A multilevel design architecture for decision support systems. *SIGMIS Database*, 15(3):3–10.
- Power, D. J. and Sharda, R. (2007). Model-driven decision support systems: Concepts and research directions. *Decision Support Systems*, 43(3):1044 – 1061. Integrated Decision Support.
- Power, D. J. and Sharda, R. (2009). *Decision Support Systems*, pages 1539– 1548. Springer Berlin Heidelberg, Berlin, Heidelberg.
- Pruitt, J. and Adlin, T. (2006). *Persona Lifecycle*. Morgan Kaufmann.
- Renner, M. and Taylor-Powell, E. (2003). Analyzing qualitative data. *Programme Development & Evaluation, University of Wisconsin-Extension Cooperative Extension*.
- Rockwell, C. (1999). Customer connection creates a winning product: building success with contextual techniques. *interactions*, 6(1):50–57.
- Russell, D. M., Stefk, M. J., Pirolli, P., and Card, S. K. (1993). The cost structure of sensemaking. In *Proceedings of the INTERACT '93 and CHI '93 Conference on Human Factors in Computing Systems*, CHI '93, pages 269–276, New York, NY, USA. ACM.
- Sharp, B., Dawes, J. G., Romaniuk, J. T., and Scriven, J. (2010). *How brands grow: What marketers don't know*. Oxford University Press: South Melbourne.
- The Economic Times (2018). Definition of Marketing Mix. [Online]. Available at: <https://economictimes.indiatimes.com/definition/marketing-mix> (Accessed: 27 July 2018).
- Thoma, V. and Williams, B. (2009). Developing and validating personas in e-commerce: A heuristic approach. In *Proceedings of the 12th IFIP TC 13 International Conference on Human-Computer Interaction: Part II*, INTERACT '09, pages 524–527, Berlin, Heidelberg. Springer-Verlag.

- Winkelman, W. J., Leonard, K. J., and Rossos, P. G. (2005). Patient-perceived usefulness of online electronic medical records: employing grounded theory in the development of information and communication technologies for use by patients living with chronic illness. *Journal of the American Medical Informatics Association*, 12(3):306–314.
- Zikos, D. (2017). A framework to design successful clinical decision support systems. In *Proceedings of the 10th International Conference on Pervasive Technologies Related to Assistive Environments*, PETRA '17, pages 185–188, New York, NY, USA. ACM.

Appendix A

Transcripts of first interview recordings

This appendix contains all the transcripts and notes analysed in this Master Thesis experiment.

For anonymity purposes, every single transcript, company and interviewee were attributed one distinct code according to a simple rule: two random numbers were picked for both the interviewee and their company while the transcript code was then defined with the company random number associated with two additional ciphers. The first cipher was set to 0 if they were a client side interviewee, to 1 if they were a media agency interviewee. As several interviewees worked in the same firm, the second cipher was set to 0, 1 or 2 to differentiate one interviewee from the others.

As a result, Adopters 1, coded interviewee 0771, who is working in the client side company 1126 where only one marketer was interviewed, was attributed the transcript code 1126-00. Likewise, Agency 4, coded interviewee 0975, works at the media agency 1191. Two marketers were interviewed there. His transcript code is consequently 1191-11.

To facilitate the transcription process, both transcript and recording were labelled with the same code.

A.1 Innovators audio recording transcripts

List of interviewee names in the report associated with their respective codes:

- Innovator 1: interviewee 0893 - transcript 1025-00001
- Innovator 2: interviewee 0132 - transcript 1025-00001
- Innovator 3: interviewee 0644 - transcript 1025-02

A.2 Adopters audio recording transcripts

List of interviewee names in the report associated with their respective codes:

- Adopter 1: interviewee 0771 - transcript 1126-00
- Adopter 2: interviewee 0431 - notes 1713-00
- Adopter 3: interviewee 0644 - transcript 1929-00
- Adopter 4: interviewee 0058 - transcript 1322-00

A.3 Agencies audio recording transcripts

List of interviewee names in the report associated with their respective codes:

- Agency 1: interviewee 0307 - transcript 1098-10
- Agency 2: interviewee 0521 - transcript 1191-10
- Agency 3: interviewee 0240 - transcript 1534-10
- Agency 4: interviewee 0975 - transcript 1191-11

Appendix B

Content analysis of first interview transcripts

As explained in the methods section, the content analysis was divided in two distinct content analyses focused on two major themes emerging from the interviews. The first analysis focused on answering **how, in practice**, marketers defines marketing strategies while the second analysis is centered around **the reasons why** marketers requires or rather feel the urge to use data and Econometric modelling in the process of defining marketing strategy. Thus, this appendix exhibits the two content analysis raw results separately.

B.1 How do marketers define marketing strategies in practice?

Answering this question lead in the separation of the interviewees set into three main groups presenting major distinctions in their handling of marketing strategies: the Innovators, the Adopters and the Agencies.

B.1.1 Innovators

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS143

Questions	Groups [1]	Subgroups [2]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Grounded	Main theme	Transcripts	Nb. Quotations
marketing strategies?	Company	Innovatus	3(1)	1 Daily adjustment for performance marketing mix 1 One entry in the month and one mode of the month based on end estimated revenue 1 Pay monthly spends 1 Gather data from user systems 1 Before modeling, they assumed logic offline marketing 1 Before modeling, created simple model to assess banner advertising brand-cliented 1 effects not only in term of click outs 1 Regression model for this price we will get this reach 1 Buy offline channel via media agencies 1 Buy online media via themselves 1 Owing to model, negotiate price with TV to get as much reach as cheap as possible 1 Model is a proof of ownership banner (leverage) negotiate lower price (will to pay for) 1 Get as much reach for the best price 1 Whether choose to increase or decrease the Cost of Revenue 1 Integrate order/guidelines from higher in the hierarchy 1 Set a specific reach and adapt accordingly 1 Set overall objective for the year 1 Choose other profit or growth mode 1 Know where they will end the month then adapt accordingly 1 Forecast 12-15 months ahead to establish yearly budget plan 1 Know is not certain the turnover you go in time 1 Compare money with money so to choose the best alternative according to preset objectives 1 Profit and Loss sheet 2 1 Backend sales system Enterprise 2 1 Google Analytics (critical eye)	adjustments frequency budget planning evaluating marketing effect media buying negotiating price predicting simulating tools	AF BP EME MB NP OS P S T	2 6 9 6 3 8 3 1 6	Formulating marketing strategies	1025-0001	29
			1(1)	1 Online systems 1 Check on platform as well 1 Estimate revenue at the end of the month within 3% error margin 1 Use econometrics in all decision relative to allocating marketing money 1 Depends on the occasions or relative to head executive for marketing team 1 Planning month and meeting in team 1 Buying offline channels 1 Check ROI to decide in which channels to spend the money 1 Consider both short term and long term ROI for channel choice and budgeting 1 Compare growth and profit modes 1 Compare what they planned and what they actually spent 1 Compare to be planned month with previous month 1 Compare planned spend with the spend if they continue spending in the same dynamic as yesterday 1 Budget application 1 It is a discussion process 1 Economic play every day 1 Beginning of month, middle and end of month 1 Search for high ROIs 1 Increase the relevant ROI 1 Consider what money they will get back for each investment while planning 1 Consider long term effect on future revenue as well (not only immediate return) 1 Calculate revenue estimates 1 See what happens if they continue as the month before 1 Compare planned spend with the spend if they continue spending in the same dynamic as yesterday 1 Outperform last year and meet the growth target 1 Choose the right speed 1 Adjust spend with the revenue you plan to earn (both increases or decreases)	econometrics modeling meetings & discussion offline media agency	EM MD OMA ROI	3 3 1 2	1025-0001 1025-02 13		
			frequency		4					
			ROI		4	Managing media budget				
					10		1025-02		16	
					7					

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 144

Questions	Groups [1]	Subgroups [2] top [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Grounded	Main theme	Transcripts	Nb. Quotations		
							Ba				
How do they define marketing strategies?	Company	Innovators	<ul style="list-style-type: none"> 2 Doing survey to know how many people aware of the brand 2 Plan next year marketing budget in September 2 Check monthly spend every month 2 Check channel saturation level 2 Analyse last year summer to plan the year summer 2 Test and try out different speed and budget and simulate respective revenue 2 Have o'ny numbers and know product use used and by whom in order to adapt 2 Introduce the unit of impressions 2 Before modelling, model calculated by hand/Excel 2 Buy channel in order to maximize the effect and minimize the cost 2 Use online interface to bid on online channels & communicate with media agencies 2 Change bids every day for online channels as what they are willing to pay for changes 2 Define how to target specific audience for acceptable price 2 Define how well-known brand is from competitors 2 Monitor Competitors Marketing activities/factions 2 At the beginning, hired a company to conduct survey and studies of bases the market 2 Gathering all the data in one place to better draw conclusion 2 Make data speak 2 Know what kind of expected output from decisions to stay competitive 2 Go back in time to compare and reflect on experience earned 2 Get feelings are not enough to be efficient 2 Very budget established in the management team 2 Reach the most people at the lowest price 2 Define target group to increase efficiency of marketing campaigns and accuracy of message 2 How product used, sold, perceived by user 2 Identify who is using the product 2 Economometrics to visualize what you buy and explain to others 2 Data to give insights and extract knowledge 2 Gathering all the data from different places in order to compare on a relevant and meaningful basis to evaluate worth 2 Compare their numbers with the numbers of external agencies or service providers 	<ul style="list-style-type: none"> brand awareness budget planning budget planning define target group media buying objectives setting brand awareness research benchmarking-competitors data gathering econometrics modeling experience analysis gut feelings meetings discussion objectives setting TGs TGs users analysis 	Bp	6	dTG	1	Formulating marketing strategies	1025-0001	20
		3(r)	<ul style="list-style-type: none"> 2 Transfer all the same currency = impressions with it 2 Meaningful basis to evaluate worth 2 Improve visualization of data to explore in others 2 Manual work decreased to improve discussion and decision making together 2 Choice of billboard company 2 September is to plan the next year 2 Markets and marketing environment move fast week by week 2 Control the performance of the media agency plan 2 Transport the budget and fine tuning to the media agency 2 Set bids for different marketing channels every day 2 Buy impressions, how many people are how many times they want to reach them 2 Do not buy blindly, trust your currency 2 Econometrics to visualize what you buy and explain to others 2 Trick to evaluate media because the change are frequent and fast thus it is trick to analyze 2 Analyze past experience and prediction to identify what is smart to buy more or less of something 2 Figure out in which channel it is smart to buy 2 Know which channels are expensive 		10	frequency	4	media agency plan		20	
				media buying	3			media evaluation	9	Managing media budget	

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 145

Questions	Groups [1]	Subgroups [2] n° [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Grounded	Main theme	Transcripts	Nb. Quotations
2			Evaluate, test out their own assumption						
2			Earn control over cost						
2			Important enough to spend a lot of time to evaluate						
2			Radio and TV price negotiation						
2			Sell for acceptable price						
2			No negotiation with online channels						
2			Billboards negotiations						
2			Simulate future to optimize cost/effect to stay competitive						
2			Simulation bigger impact than gut feelings, more reliable						
2			Control what you are spending and how you optimize things in order to compensate						
2			better ideas or higher budgets from competition						
2			Control over/underspending						
2			Simulate and calculate budget						
2			- Test and decide on the wises spent						
2			Model saturation curves for channels						
2			Reach the most people at the lowest price						
2			Buy in the smartest place						
2			Buy the more the cheaper as the aim is to target a wide audience						
2			Lower costs	strategic choice	7				

B.1.2 Adopters

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS147

Questions	Groups [1]	Subgroups [2]	Top. [3]	Extensive coding (2nd round) [4]	Categories [5]	dednes	Main theme	Transcripts	Nb. Quotations
				1 daily following of KPIs, sometimes adjustment when needed	adjustments frequency	9			
				1 Economic study once and campaign follow ups and brand tracking	brand awareness research	8			
				1 Brand tracking = survey two times a year with 500 people normally deeper study = more					
				1 Once a year big yearly budget planning and fine tuning					
				1 Campaign follow ups survey via external company					
				1 "work also with the budget, I work a lot with the budget as well"					
				1 Strongly based on and rely on the yearly established budget for day to day finetuning					
				1 Decide approximately budget according to incremental marketing effect last year					
				1 ROI on activities comparison of campaigns and channels					
				1 Analyze customers behaviours as well as non customers in order to better choose channels and messages	define target group	4			
				1 Research and setting up processes to analyse and evaluate investments					
				1 Organize team managers (social media, online, marketing, PR and CRM) and find right tool/statistics to grow up and have control over KPIs					
				1 Look at incremental marketing effect and effect on brand	evaluating marketing effect	20			
				1 Be as updated as we can on channel					
				1 Econometric modelling to answer question, to give facts					
				1 Add gut feelings to result analysis on channel as well					
				1 Discuss MMM					
				1 Add gut feelings to result analysis on channel as well	gut's feeling	4			
				1 In charge of strategy but leave the operational and details to subordinate	managing internal team	10			
				1 Interviewee in helicopter and operative have control over detailed implementation					
				1 Online buying done by themselves	media buying	8			
				1 Offline also bought by themselves, they just hired a global media manager	negotiating price	3			
				1 Negotiation with channel provider based on insight and data	not(presenting)	2			
				1 presenting expensive and their product is simple yet					
				1 AB for digital and some for offline new agency test					
				1 Work with overall structure and marketing plan					
				1 "First we decide what we want to achieve"	objectives setting	12			
				1 Google analytics					
				1 Facebook analytics					
				1 Internal tools including PR tool					
				1 Internal dashboard for report portfolio					
				1 figures, percentages, colours indicating variations					
				1 survey	tools	14			
								1322.00	35

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 148

Questions	Groups [1]	Subgroups [2]	Pop. [3]	Extensive coding (2nd round) [4]	Categories [5]	idatnes	Main theme	Transcripts	Nb. Quotations
How do they define marketing strategies?	Adopters	1 excel							
		1 own activity plan on excel with ROI of campaign and channels							
		1 Business intelligence (BI) system developed internally							
		1 Email							
How do they define marketing strategies?	4(4)	1 Google drive for company file							
		1 Survey of minimum 500 Sweets, 2 times a year							
		1 Significant KPI provided by analytics team							
		1 Research and setting up processes to analyse and evaluate investments							
How do they define marketing strategies?	4(4)	1 Provides reporting tools to help managers follow KPIs							
		1 Use external tools to track intake, database, variations							
		1 from sign up to pay from trial to pay and churn							
		1 Dashboard for intake, intake and churn							
How do they define marketing strategies?	4(4)	1 Some data are daily, some weekly basis, some can be tracked back one year, some half a year							
		1 MIM modeling to answer what campaigns are the best for both online and offline							
		1 "decide approximately"							
		1 Campaign follow ups survey via external company							
How do they define marketing strategies?	4(4)	1 Add gut feelings to result analysis on channel as well							
		1 "We have a lot of discussions, internally and externally"							
		1 Online buying done by themselves							
		1 Offline also bought by themselves, they just hired a global media manager							
How do they define marketing strategies?	4(4)	1 "First, we decide what we want to achieve"							
		1 Own Excel sheet with ROI on their activity							
		1 "So, we's actually very much use statistics."							
		1 analysing customers behaviours and looking at potential customers							
How do they define marketing strategies?	4(4)	1 "Have a very customer focused way of looking at marketing"							
		1 Customer behaviours analysis							
		1 customer likable values							
		1 To decide yearly budget, look at last year expense and incremental marketing effect							
How do they define marketing strategies?	4(4)	1 Follow and compare the campaigns							
		1 Calculate the CPA themselves							
		1 "So for the offline part it is very difficult to measure the CPA"							
		1 Interviewee own plan but operational deal with details and team							
How do they define marketing strategies?	4(4)	1 Several managers in charge of marketing aspects, one media							
		1 9 "we"							
		1 "So, we have a lot of discussions, internally and externally"							
		1 brand tracking surveys twice a year							
1126:00 15									

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS150

Questions	Groups [1]	Subgroups [2]	Top. [3]	Extensive coding (2nd round) [4]	Categories [5]	ideelles	Main theme	Transcripts	Nb. Quotations		
How do they define marketing strategies?	Adopters 4/4	2	Weekly adjustment with daily follow ups of KPIs for online	adjustments frequency	9						
		2	3 times per year possible adjustment consequence of analytics recommendations								
		2	Monthly adjustment for offline								
		2	Focus group (qualitative) and online surveys (quantitative)								
		2	Regarding TV which is long term effect if no drop then ok								
		2	Adjust budget to optimize marketing effect based on econometrics analysis and recommendations								
		2	Econometrics recommendations								
		2	Adjustment to adapt cuts and increases based on MMM								
		2	MMM causes we need to know what happens, understand and have ROI								
		2	Media agency for buying online (offline)								
At the beginning there were some CPM analysis and digital analysis, interviewee introduced MMM for ROI and KPIs follow up	Adopters 4/4	2	media, broad view vs client; more complex "you really understand"	media vs client sites	2						
		2	"First you have to figure out what do you want"	objectives setting	12						
		2	presenting product innovation naming, liking and message understanding	pretest.com	1						
		2	focus group and online research survey for products/message understanding	brand awareness research	4						
		2	Brand rating and brand tracker	business understanding	5						
		2	Need to understand what happens to optimize strategies (KPIs)	data gathering	13						
		2	At the beginning there were some CPM analysis and digital analysis, interviewee introduced MMM for ROI and KPIs follow up	econometric modelling	7						
		2	Initiated MMM modelling	media agencies	6						
		2	Data analysis presented to CMO and media agency to directly better optimisation of media effect.	meetings & discussion	5						
		2	Meetings with data analytics and media agencies	objectives setting	11						
2	"First you have to figure out what do you want"	ROI	2								
2	Need to know ROI to optimize strategies	team work	4								
2	Discussion about MMM with data analyst, company and agency	frequency	10								
2	follow what happen on a regular basis to optimize KPIs										
2	media plan adjustment every week for online every month for offline										
2	ideally in daily basis										
2	if no decrease in brand tracking survey then believes it is ok doing for L1 works alone expecting new media manager who free	gut feelings	9								
2	interviewee more time to look at data	limited time	5								
2	CRM and digital analysis and recently MMM for offline effects										
2	Regular follow ups to know what is happening	media evaluation	18								
2	MMM to understand their spendings and adjust and decision making	ROI	2								
2	Need to know ROI to optimize strategies										

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS151

Questions	Groups [1]	Subgroups [2]	Pop. [3]	Extensive coding (2nd round) [4]	Categories [5]	addresses	Main theme	Transcripts	Nb. Quotations
				2. MMM results contributes to decision making	simulating	5			
				2. Roi to optimize strategies					
				2. "First you have to figure out what do you want"	strategic choice	15			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS152

Questions	Groups [1]	Subgroups [2]	Top. [3]	Extensive coding (2nd round) [4]	Categories [5]	dedrees	Main theme	Transcripts	Nb. Quotations
How do they define				3 Monthly adjustment	adjustments frequency	9			
				3 First draft for the year of budget plan		4		1126-00	40
				3 Segmenting market to talk to the right consumers					
				3 Econometric modeling (data) = fact or effect					
				3 Gather data to analyze market, follow customers	evaluating marketing effect	20			
				3 conversion rates					
				3 Gut feelings that all on search would destroy all others					
				3 KPIs	guts feeling	4			
				3 Growth for interviewee CPA for central team conflict in budgeting				1713-00	11
				3 separate scorecard to reach compromise					
				3 centralized model cheaper and easier to make sure every market ok but misfit in management (no Swedish speaker for search for instance)					
				3 Marketing divided in 2 interviewees in charge of one customer acquisition, in charge of a team of 7, three countries	managing internal team	10	Formulating marketing strategies	1929-00	14
				3 one responsible head for each country					
				3 Travel to communicate as well as conferences online					
				3 Print no effect so only buying digital and traditional like COH	media buying	8			
				3 rely on guts feeling and instinct instead	not(pretesting)	2			
				3 "we want the consumer to do something that otherwise he shouldn't do in normal or short term,"					
				3 "our mission is to grow the business," IT growth with ST for financial obligations so that keep the demand up	objectives setting	12			
				3 Long term project				1322-00	35
				3 Both LT and ST interrelated but need to separate projects as e.g. ads cannot raise LT (no experience)					
				3 economic modeling but human very bad at predicting future	predicting	1			
				3 Adobe Analytics, Double click, Adobe creative suite, internal tool to audit digital add content, Tableau software for data and DA	tools	14			
				A multitude of reports inconsistent with one another so have to write own report. I would be great to really understand what has actually happened rather than predict future. Really know the causes.					
				As working on demand side and telling a story, have to know the supply side, understand what can actually be delivered to customers					
				3 Conflicting CPA between global search and desired gross by interviewee	CPA	2		1126-00	21
				3 attribution models					
				3 Regression analysis correlation	econometrics modelling	7			
				3 "attribute every click" "attribute everything"	experience analysis	3			
				3 campaign promotion CPC tracking				1713-00	6
				3 KPIs	guts feelings	5			
				3 "I do believe" ST positive effect					

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 153

Questions	Groups [1]	Subgroups [2]	Pop. [3]	Extensive coding (2nd round) [4]	Categories [5]	Index	Main theme	Transcripts	Nb. Quotations
marketing strategy S?									
	Adopters		4(4)						
3 "If you only look at the data you are in trouble" One basic thing about statistics is that just because you have a correlation doesn't mean you have two causes				marketing channels understanding	1				
3 "our mission is to grow the business" LT growth with ST for financial obligations so that keep the demand up				marketing channels understanding	1				
3 Choose either to go for a LT campaign or ST, can be added but not mixed				objectives setting	11				
3 multiple stakeholders, control Nordic markets by sending guidelines to respective heads while search is centralized and send back its own budget				project management	2				
3 print no significant effect on the data				statistics	6				
3 "try to calculate if you have any correlation of anything when we do print"				target group setting	3				
3 "if you only look at the data you are in trouble"				team work	4				
3 Segmenting market to talk to the right consumers									
3 It's a team effort"									
3 "You look at last year budget and you do some twist them to the market"				frequency	10				
3 Manage a team of 7"									
3 Discuss correlation relevance									
3 monthly adjustment									
3 first draft of yearly budget then quality adjustments									
3 In charge of three countries with some centralized activities like search or outsourced like programmatic display				global centralized scale	7				
3 Travels, online conferences, cultural and linguistic differences but cheaper and alignment									
3 If you look only at the data you are in trouble									
3 "I do believe" ST positive effect									
3 One basic thing about statistic is that "just because you have a correlation doesn't mean you have two causes"				gut feelings	9				
3 In my point of view ads are all ST									
3 when work limited time to look at data forecast then choose short term wins with what correlates									
3 No correlation with spendings and print them give up print									
3 Budget adjustment by locals for each country markets				media evaluation	18				
3 codes tracking and C-P tracking									
3 Marketing mix mainly digital									
3 budget divided by products and channels, yearly established then quality adjustments				media plan	8				
3 Adjustment based on forecast produced by regression analysis									
3 "We use the data to affect our marketing mix and that is also affecting our budget"				simulating	5				

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS154

Questions	Groups [1]	Subgroups [2]	Top. [3]	Extensive coding (2nd round) [4]	Categories [5]	ideelles	Main theme	Transcripts	Nb. Quotations
				"you need to know much more about what you have done and what you are trying to achieve." not to put everythin on search					
				3 not only focus on ST wins					
				3 Grow business by balancing ST and LT + meet financial goals					
				3 Long term projects involving free advertisement in locla papers					
				3 LT combined with ST camapign					
				3 Adjust course to better match goals based on reports					
						strategic choice 15			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS157

Questions	Groups [1]	Subgroups [2]	Top. [3]	Extensive coding (2nd round) [4]	Categories [5]	ideelles	Main theme	Transcripts	Nb. Quotations	
How do they define marketing strategies?	Adopters		4(4)	<p>4 Aware of difference of customers attitudes between competitor brand and theirs</p> <p>4 Continuous brand measurement via media agency & own weekly report for how the brand is doing</p> <p>4 Understand all the connection and customer traffic (journey) from dealer and also supply from manufacturers</p> <p>4 Media agencies turner away to know what is happening, need to know basis = frustration</p> <p>4 Following up KPIs and visits</p> <p>4 no strategy data aim strong KPIs like configuration rates, leads, model popularity, global reports</p> <p>4 Try to gather data from within... "try to feel the picture"</p> <p>4 + dealer</p> <p>4 URL tagging</p> <p>4 Third party tracking system (media data controlling) "It's everything from sold cars to the brand awareness to visits on site to leads to sort of everything that we measure" + social media (diesel gate)</p> <p>4 programmatic buying with specific segments and data layers + double click</p> <p>4 Only in charge of digital (online) aspects</p> <p>4 "we've done some econometric modelling"</p> <p>4 show us what sites have drawn traffic and which campaign has bigger impact on end results</p> <p>4 roughly 80% of media plan similar from year to year</p> <p>4 "Try to feel the picture"</p> <p>4 "So sometimes reports and data are good but sometimes also you basically know what to do just to make to sort of reach your goal. It's both would say."</p> <p>4 "big help" from media agency which implement on day to day basis</p> <p>4 "close relationship with the media agency", looking at media plan</p> <p>4 Media agency "do everything of the actual buying, actual sort of URL tagging and everything"</p> <p>4 brief together with media agency and advertising agency, share goals and give homework</p> <p>4 econometric modelling provided by previous media agency</p> <p>4 Meeting internal with CMO digital and non-digital to plan campaign</p> <p>4 brief with global then brief with agencies</p> <p>4 Monthly reporting meetings</p> <p>4 "Working towards the KPIs that we have set"</p>	<p>benchmarking+competitors brand awareness research</p> <p>business understanding</p>	time constraints tools	3 14			
					data gathering	13		1126:00	21	
					digital only	1				
					econometrics modelling	7				
					fixed budget	1				
					guts feelings	5				
					media agencies	6				
					Formulating media strategies					
								1929:00	15	

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS158

Questions	Groups [1]	Subgroups [2]	Top. [3]	Extensive coding (2nd round) [4]	Categories [5]	ideelles	Main theme	Transcripts	Nb. Quotations
4 "It's a bit political, which fights to take and which fights or not money and time constraints that define planning and reachable objectives					objectives setting	11			
4 Aim to reach but not exceed product quotas									
4 After or optimize marketing plan "Towards what we can actually deliver to the customers"									
4 Take into consideration customers' attitudes as well									
4 "That's one of the major digital project that I am involved with also"					project management	2		1322:00	27
4 "Looking at non users and users and sort of buying patterns"					target group setting	3			
4 "We pain the campaigns together with both the advertising agency and the media agency"					team work	4			
4 3 to pain the campaign: CMO, digital, non digital									
4 Frustration not to go deeper on a good campaign due to timing				time contrains	1				
4 "Trying to understand the whole customer journey"									
4 "Looking at non users and users and sort of buying patterns"					users analysis	5			
4 Look for abnormal data, have they reached average daily KPIs									
4 Third party tracking system to compare with media tracking				comparing	5				
4 Monthly reporting meetings				discussion-meetings	7				
4 daily weekly and monthly internal reports with recommendations				frequency	10				
4 some KPIs can only be checked up weekly others daily								1126:00	15
4 Dealer data and global reports to consider in analysis									
4 global marketing package to either follow or discuss									
4 Global plan delivered early so everything planned in advanced									
4 Media agency changed by global regardless of local preferences relationships									
4 global and CEO decide product quotas									
4 "Try to feel the picture"									
4 "So sometimes reports and data are good but sometimes you basically know what to do just to make to sort of reach your goal. It's both would say."				gut feelings	9				
4 Fight with global campaign information packages when time allows new TV commercial									
4 Campaigns are strongly time sensitive so sometimes only choice to go with global package									
4 Frustration not to go deeper on a good campaign due to timing				limited time	5			1929:00	14
4 Media agency plans and track campaigns					media agency plan	1			
4 Media agency buys everything					media buying	3			
4 What media to buy strongly influence by global imposed campaigns									
4 Follow KPIs and visits									

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS159

Questions	Groups [1]	Subgroups [2]	Top. [3]	Extensive coding (2nd round) [4]	Categories [5]	dedrees	Main theme	Transcripts	Nb. Quotations
				4 report all what happened daily, weekly and monthly 4 check may each average values of the KPIs on daily and weekly basis					
				4 third party tracking system for checking media data					
				4 Continuous brand measurement via media agency & own weekly report of how the brand is doing					
				4 monthly reporting meetings					
				4 MMM					
				4 Digital media plan by interviewee + do the sign off on the media plan					
				4 campaign planned by CMO, digital and non digital, in close relationships with media agencies					
				4 80% similar to previous year (good deals) 20% testing and look at incremental digital marketing effect					
				4 Budget also depends on how popular and how available products are ->boost or slow down					
				4 Media agency do all buying and tracking + third party	no(implementation)	3			
				4 Global negotiate media agency contract	price negotiations	3			
				4 Deal negotiation for the 80% fixed percent					
				4 New product launch					
				4 80% fixed to reach goals while 20% to play with, experiment					
				4 Products quotes	strategic choice	15			

B.1.3 Agencies

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS161

Questions	Groups [1]	Top: [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
1 Supports clients backing up budget negotiation with their top management				budget negotiations/com	9	1098-10		3
1 Several agencies involved, sometimes scheduled disturbed as client asked for creatives changes.				managing agencies	9	1534-10		6
1 Control every week with all agencies that every thing is where it should be				benchmarking-competitors	2			
1 How much competitors spend on media				brand awareness research	9			
1 Sometimes do brand tracking so can see brand awareness and preference								
1 First task is to know the category the client is working in to better adapt media plan								
1 Media plans differs depending on product launch or branding								
1 Important to state and know the place of the client in the category and competition landscape								
1 Brand tracking (ongoing or campaign related) and sales data from client sometimes								
1 Use bank data system to identify and characterize target								
1 econometric modelling for one client 2 years (good information)								
1 Do a report after every campaign on how it performed								
1 Insight team especially integrating experience from self and others								
1 Prepare "wide selection" of channels based on target group analysis to guide teams work								
1 "tell them what way we are going" and they do details selection for plan then buying								
1 Around 10 clients limits to be up to date on all category and efficient								
1 Long term relationship with clients or 5-6 years for some								
1 Client satisfaction regular check ups as well as daily contact								
1 Represents client inside the media agency								
1 coordinate work according to different agency working with same client for marketing thus have to coordinate work accordingly								
1 contact with client per week on average, more with their different agencies (involved in their daily work)								
1 Discuss what to do in the future and what to do less with client								
1 Team meeting to figure out what to do integrating into from colleagues and specialists								
1 Pre-divide budget shares for each channels then leave team to study if possible or not to reach goal, if not discuss money								
1 Help client to have the right mix for target group at the right price (good control on price and cost)								
1 Target group and task case, product launch or branding influence media strategy								
1 integrate year schedule of client in plan and media buying								
1 "I do the management for the projects in which includes planning and budgeting and make sure that I have the right" Creatives. And a great... And I have the right team, the right people to do the work. And make sure that we do the work within the timelines that have been set up, and so on."								
1 "tell them what way are we going. And then they come back to me and say exactly this is what we should do within TV, or within out-of-home or within the digital medias."								
		project management			7	1534-10		15

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS162

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]		Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
How do they define marketing strategies?	Agency	4(3)	1 Quarterly plan to follow and adapt to reality meeting and client new directives on regular basis 1 Manage budget for team channels 1 redesign and update media plan on the way 1 crisis handling 1 get a higher ROI 1 Get to know client target group and figure out how to reach them via media 1 Kantar Sifo target group program gathering data about those target groups 1 "First I allocate the target group " "what the media mix that the client should should be. And then I have team to support that" 1 Send questionnaire to clients to assess their satisfaction of services and what/how to improve 1 Write reports to discuss with client campaign performance and improve those 1 Owing to econometrics modelling abate to compare channels contribution to sales seasonality, etc. 1 Compare with competitor choices and budgets 1 Give his team a brief on target group with some overall media plan, team work on how to meet these goals then come back to discuss budget in more details 1 Discuss with client how the budget could be better exploited regularly 1 Sometimes client ask hard question to answer without figures/sales 1 Discuss with both clients and their respective agencies to coordinate the whole plan 1 Team meetings to build proposal 1 Meetings with client for more budget sometimes also 1 Discuss new budget shares internally 1 Two annual econometrics modelling reports 1 Econometrics modelling frequency depends on the category and worth the expense 1 Yearly plan then quarterly, then weekly optimization/adaptation of media budget plan 1 "I have to balance all of that criteria within themselves. So it's... Sometimes it is quite hard and sometimes it is quite easy. It depends on the target group really and what the target group want to do." "0307... We help our clients to invest on media, to do... to place in the right media, to have the right mix for our clients target group. And that the client should say what they should pay. We know what you should pay for full page in a certain magazine or whatever. We have quite good control about prices and costs." 1 Media buying changes as plan changes due to non controllable reasons 1 specialist in team in charge of the buying part 1 "Yeah, we redesign the media plan, we update and go back and do the bookings. And the specification for the agencies to make the material and so on and so on." 1 Evaluate which are the right media for each client	team work	client satisfaction	8			
					discussion-meetings	14	1098-10	25	
					frequency	13			
					gut feelings	4	1191-10	17	
					media buying	18			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS163

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
1	campaign evaluation reports+ client side sales data to correlate							
1	Sales info to complement campaign/brand tracking not always available			media evaluation	21			
1	Use econometrics modeling to evaluate media contribution to sales and when							
1	place the right media, help them have the right Mix							
1	Owing to econometrics able to choose the right period for media based on sales seasonality							
1	Some period of time are very important for the client theirs agency adapt media plan							
1	Based on yearly plan, adapt quarter by quarter and week by week							
1	Adapt plan to other agency schedule and imperatives (unexpected delay)							
1	Choose media with higher ROI	ROI	2					
1	Helps client "the client should pay what they should pay"							
1	"Just to find out the best, from the target group and make a strategy from that. And how to focus on the target group via media."							
1	depends on what the task is: product launch or branding							
1	Choose media to reach target group	strategic choice	27					
1	Balance target group and task's more performant media channels							
1	Depends on tasks and category they are in							
1	Also depends on how the client company and the media agency behave							
				1191-11			20	

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS164

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
2 Clients need to prove marketing effect on KPIs like sales to have power in top management meetings				budget negotiating/ecom	9		1098-10	3
2 Do profiling and consumers research that even may challenge the client assumptions (realism? reachable?)				define target group	2			
2 Mainly responsible for the distribution (KPIs as main objective is to distribute the message)				evaluating marketing effect	12			
Media and Communication business is changing thus borders between agencies are floating which is hard to manage for clients, themselves they offer new services (content, events)								
2 Need of work close with a advertising agency as provides content								
2 Advertising agencies considered as old fashioned as did not integrate digital world understanding in their presentations so that they have to also explain how to best use the channels and whom to reach through those								
2 Leads agency varied from clients to clients (adaptation bending)								
2 "It is really important that we nail down the objectives so that we agree with the client what is actually the objectives," only one or two business objectives decomposed in marketing objectives decomposed in communication objectives then media objectives. Walk client through				managing agencies	9		1534-10	6
2 Business understanding crucial thus what are competitors doing? Can other category be of help?				objectives setting	8		1191-11	18
2 Mostly working with brand tracking "brand awareness, attitude to brands, followed image attributes, message understanding"				brand awareness research	9			
2 Additional value for the profiling they sell; brand tracking								
2 Need to narrow down for the relevant objective for client business								
2 "The business understanding is really really important for us."				business understanding	11			
2 Understanding client target; "Deep dive" + know the category								
2 URL tagging; tracking digital behaviour and buy data from publishers								
2 offline research and insight bought from other companies but online done in house								
2 campaign follow up and brand perspective added to profiling and target studies								
2 "There is so many campaigns flowing through our system, together with publishers data and client own data, you've built layers and you can start to, you know, create a profile."				data gathering	19			
2 Clients not even aware of the amount of data they have								
2 Insight as well from global scene from colleagues in other countries								
2 Econometric modelling depending on client (valuable information)								
2 Highly reliable prediction from econometric modelling (MMM)				econometrics modelling	11			
2 "I can get the sense" Based on experience "You needed more frequency to cut through and that's logical but we can actually see that: from noisy current environment, personal perception				experience analysis	10		1098-10	33
2 "I can't say that from the first week but I can get the sense, if you have a some kind of cut through in our advertising,				gut's feelings	2			
2 "I work more as an advisor" for client on how to efficiently and effectively deliver their message								
2 Need to contain greediness of clients in term of objectives as well as work close with their chosen creative agencies				handling clients	19			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 165

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
How do they define marketing strategies?	Agency	4(3)	<p>old fashioned creative agency: "all the things that they believe in still; we need to convince them that they are no longer there. So, a lot of our work is helping the creative agency understand how we can reach our target."</p> <p>Discuss in a meeting with client who is the target and how to better reach them</p> <p>Workshop with client to figure out better message distribution strategy according to their business and market keys</p> <p>Brief in person or in writing if long-term client then later meet for discuss strategy</p> <p>Challenge target and goal assumptions from client side like feasibility and realism</p> <p>"It is really important that we nail down the objectives so that we agree with the client what is actually the objectives" during brief</p> <p>several meeting, it is an ongoing business</p> <p>digital head direct contact with data guys upstairs</p> <p>Find best way to reach whatever challenge or barriers clients have</p> <p>Clients pay for an investment plan reaching a specific goal</p> <p>Identify problems then determine how to overcome it via message distribution</p> <p>Narrow down target to reach in order to come up with relevant and effective recommendations</p> <p>Discuss and challenge clients goals</p> <p>Check realism and feasibility for target group to actually deliver on KPIs (market availability e.g.)</p> <p>"It is really important that we nail down the objectives so that we agree with the client what is actually the objectives," only one or two</p> <p>Also considers how to make the best of distribution channels from creative perspective as well</p> <p>business objectives decomposed in marketing objectives decomposed in communication objectives then media objectives Walk client through to eventually know what and where to buy</p> <p>"It's also targets group understanding and analysis. Profiling."</p> <p>Target is first point they address when brief with client</p> <p>Check if target group match with target sales</p> <p>Target group is major info given by client</p> <p>First thing to do while defining a strategy "Deep dive into the target. Understanding them."</p> <p>Understanding and data from publishers rather than focus group "To better understand who is it that we actually are distributing the message, the advertising to. Based on, on the behavioral digital behaviors and so on."</p> <p>"It is both on a campaign follow-up and brand perspective but it's also targets group understanding and analysis. Profiling."</p> <p>First thing to do while defining a strategy "Deep dive into the target. Understanding them."</p> <p>To present strategy to client: "It depends on what we want. And it also depends on what kind client it is. Most of the time we like to draw a picture or, or who we are and who we want to reach, you know."</p> <p>Seasonality of consumers, which day is the best at driving sales</p> <p>Test different media budget plan scenario</p>	objectives setting	22	1191-10	26	
				target group setting	11			
				users analysis	6			
					14			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 166

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	Categories [5]	Main theme	Nb. Quotations
2	Work together with all the other client agencies			discussion-meetings		Transcripts	14
2	Optimization based on numbers have, every week for all but have also to be patient when they web eg to reach a target 4 time in three weeks, have to wait three weeks before reflecting on performance			frequency		1098-10	25
2	Depends on who is campaign message sender to see effect: B2B = 2 years, system logic get instantaneous from historical job "now, we have broaden our scope, you can say that both in the content side with events and content production and so on. But we are also towards more insights. So, more insights and contents increase performance			implementation/optimizat		1191-10	17
2	Online optimized based on in house evaluation while offline relied on external evaluation						
2	Use numbers for ongoing optimizations						
2	Use spot on prediction of econometric modelling to optimize budget						
2	"It is built on a campaign follow-up and brand perspective, (brand awareness, attitude to brands, followed image attributes, message understanding, you know...) but it's also targets group, understanding and analysis (url tagging). Profiling."			insights			
2	not focus group but tag up advertising and buy data from publishers						
2	offline insight research very specific measuring methods, need to hire specialist						
2	Both the agency and the clients buy help to implement strategy		media buying		18		
2	Platform preach on best practices						
2	"The offline campaign is built on studies made from independent agency. Data, traffic data, when it comes to out of door, you know, following people, you know, all that kind of studies. Umm... For TV, it's people meet your systems and then so it's, it's different for the, for different offline channels."						
2	Online tracking in house while offline external company						
2	media behaviour data thanks to econometrics modeling						
2	both econometric modelling and campaign follow up and tracking to evaluate campaign performance in reach and content						
2	gather all media KPIs either daily or weekly						
2	Need to allow some time to campaign before drawing conclusion depending on type of clients (B2B or System/Budget)						
2	KPIs seasonality help define strategic media plan		media plan		21		
2	"We have quite good control about prices and costs." of media channels reach						
2	Negotiate price for all kinds of media		price negotiations		2		
2	A lot is involved in driving sales but having simulation increases top management's interest for marketing						
2	Use MMM as prediction tool						
2	"To better understand who is it that we actually are distributing the message, the advertising to. Based on, on the behavioral, digital behaviors and so on."						
2	narrow down the objectives						

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 167

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
			business objectives decomposed in marketing objectives decomposed in communication objectives then media objectives. Walk client through to eventually know what and where to buy.	strategic choice	27	1191-11	20	
	2	"when the clients also say that we need to make a budget cut of 20%." Okay. So where should we take those 20% from? Should we stop TV or outdoor? Or could we reduce digital and then G&R has helped us scenario planning. So if we reduce the budget, you know linearly or so 20% on all media? Or if we just take it on TV? Which would be the optional for the minimum effect."						

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS168

Questions	Groups [1]	Top: [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
3 Clients need to prove marketing effect on KPIs like sales, showing positive ROI to have power in top management meetings + give a more holistic way of looking into budgeting'				budget negotiating/recom	9		1098-10	3
3 Use MMM and Uplift to suggest an optimized channel budget plan towards pre set objectives				budget planning	4			
3 Brand evaluation of performance through KPIs like ad awareness, brand preferences or intent to buy (mid, long term perspective)								
3 Some in house brand evaluation, some external bought by clients Follow sales and other KPIs to assess impact of Media and Communication, also measure ROI (Media Uplift)				evaluating marketing effec	12			
3 Long term relationship with clients compared to advertising agencies								
3 Because a logistic nightmare to change as they are in charge of buying, planning and implementing, coordinate materials and campaigns broaden scope of buying media, hire events organizers, in order "to capitalize or gain the most effect out of the creatives and the key messages or the key things that the clients, they are trying, want to communicate so it's a combination, we work together with them"								
3 Media evaluation mainly based on brand and ad tracking (ongoing surveys), brand development takes time so different media consumption, sometimes conflicting with ST sales objectives, have to combine both								
3 First tracking of ongoing momentum of brand (125 Swedes per week with fixed questionnaires). Second: campaign evaluation also web-based more centered on an ad e.g.								
3 Monitor ongoing tracking and use Media Uplift to fine tune on more ST results								
3 Be conscious of the stakeholders involved in the business (car retailers) collect data through sampling (125 interviewees per week) campaign tracking data from client				business understanding	11		1534-10	6
3 Client track sales and other KPIs as well								
3 Customize campaign and ad tracking yet try to be consistent and constant in time for future evaluation in order to compare				data gathering	19			
3 Ongoing brand tracking and also data from client to feed Media Uplift (car configuration, sales...)								
3 In some cases MMM								
3 Media Uplift to finetune campaign by campaign to optimize budget allocation on media channels				econometrics modeling	11			
3 Include finding from MMM and Media uplift in decision making for budget plan								
3 Rely on Media Uplift forecast for future 4 month (more relevant as daily data on a year rather than 3 years weekly)								
3 Ongoing brand monitoring (selected brand equity variable) correlated to media spend and other KPIs over time to optimize media budget plan "then if we had the ongoing brand tracking as measurement or evaluation on the long term brand development, and we see that during the period of the last 2 or 3-4 years we could see that the shift in communication or the strategies that have been implemented had a positive effect on the brand then we can be quite confident that the things that we do actually contribute to the aims, according to the brand."								

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 169

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
"we have to use the brief, and the knowledge and the media plan, the local knowledge about how to buy media and how to optimize the media from the machines so to say and the tools that we have with the skill that we have within the team"	3							10
"It's very easy to look back use past experience very often	3							
Need to understand what has been done in order to relevantly interpret the modelling and its updates	3							
Depending on client business activity, different need to match, adapt modelling: Media uplift or MMM	3							
3 or 4 key agencies per client. One common brief. Ad agency build concept with client while media agency delivers the message with maximum impact	3							
Can employ event organiser agency also to capitalize the most effect (social media agency as well)	3							
Adapt to client goal	3							
"Need to have the client on board regarding modelling to understand how to use them"	3							
Discussion with client about go or not go with Media Uplift	3							
Brief with client then discuss budget accordingly	3							
Brief with all agencies involved	3							
Discuss with different agencies on how to maximize effect on what you want to communicate	3							
Discuss model with both client and data analyst team together to best interpret and gain from modeling insights	3							
Depending on client aims and target different modelling requirements and media strategy	3							
Client KPIs to reach: "One thing is that within the communications and the aim for the advertising and communication is to, in the end of the day, it's sales".	3			objectives setting	22			
"in real annual budget roughly that we knew will deliver on the sales target we can use, if we have this annual budget we can start allocate an optimize budget throughout the years"	3							
"You need something that would have to possibility to create the effect that you need" interim of creative content to distribute	3							
"not only doing the strategies, we are also doing the buying and the planning, and the implementation of everything and coordinate all the materials, all the campaigns so it is quite a large logistic operation as well;"	3			project management	7			
ROI crucial for some clients	3							
Use Excel functionality to reverse engineer the budget/reach	3			statistics	1			
"first we will start to think about ok, who is the main target for that kind of messages?"	3							
"one part is that this is something that we need to communicate to a wide audience of Swedes, but then you can go in more niche or sub segment!"	3							
"if you can segment down and see ok, we have these two really important segments then we can start looking into ok what's their behaviour? Their media consumption?"	3			users analysis	6			
Optimization are for the client	3							
Evaluation of the marketing campaign in house up to client preferences	3							

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 170

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS171

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
			this is very important because you can't just rely in the statisticians or engineers, you need the business understanding which is not the case with ML as it learns on its own	gut feelings	4			
3			"So, if you understand, in some cases the tool, yes it is good to have but then when you have anomalies of market that don't behave like a normal market we cannot really use it."					
3			optimization in 2 steps (brands eval then sales eval) but with MMM only one step because see media contribution and it calculates budget optimizations					
3			Uses fast data to optimize media budget on a ST perspective (ROI)					
3			In charge of implementing budget plan					
3			optimizer based on ongoing brand tracking measurements as well as Media uplift use (fine-tuning)					
3			"Then you use the media uplift outcome to fine tune and calibrate and see how to increase the effectiveness campaign by campaign, or quarter by quarter, or what interval to DC and MMM for more overall view					
3			"to optimize the yearly budget and the lighting and the timing of the year in a tool that we call media for growth," to which you can feed Media uplift outcome if you have it					
3			Optimization considering client and their agencies					
3			client give specific budget to play with which is sometimes too small	limited budget	2			
3			fast data as foundation of media buying					
3			"We don't produce ads, we are just working with the media buying, the media placement and the media strategy"					
3			"We are also doing the buying, and the planning, and the implementation of everything and coordinate all the materials, all the campaigns so it is quite a large logistic operation as well."	media buying	18			
3			bought media like TV, Radio and outdoors					
3			"down to some evaluation of communication effects based on mostly on what we call slow data. Ummmm, I mean some regular tracking data etc, some branding KPIs, I am no that much into the fast moving or the fast data from internet and and all that, that are available."					
3			"And then you monitor them, ummm, on an ongoing basis, and correlate them with media spend and other things. And sometimes you correlate them with sales or some other, another metric also to evaluate, umm to see the the long, the mid, or the long term evaluation of brand based on that."					
3			"the brand evaluation or the brand, umm, development is something that actually takes time and you need to work on it as I said, mid or long term perspective."					
3			"We have chosen some KPIs that we monitor. But, we combine some other kind of campaign evaluation also based on the web service, when we use material from the campaigns and set up a web survey where we use					
3			campaign material as a stimuli for the respondents and ask them questions." "It's the first kind of ongoing momentum of the brand, it is more to look at items and the long term development but, no, not going into the actual execution and then do this other kind of machine learning to be."					
3			"in some cases we do, umm, this kind of work, in house together with our clients."	media evaluation	21			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS172

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
3			tailored questionnaire: "you dig into certain campaign or then we are trying to customize it as much as possible because we don't think that, Irs, that's, umm... one size fits all"					
3			"And then if we had the ongoing brand tracking as a measurement or evaluation on the long term brand development, and we see that during the period or the last 2 or 3-4 years we could see that the shift in communication or the strategies that have been implemented had a positive effect on the brand then we can be quite confident that the things that we do actually contribute to the aims, according to the brand" +					
3			Media Uplift to evaluate incremental value on chosen KPIs (configured cars, visit on websites)					
3			"The uplift to see how we can optimize the effect by looking at media contribution to increase the uplift from the base level," not evaluating the total contribution of media to the sales					
3			"Then you use the media uplift outcome to fine tune and calibrate and see how to increase the effectiveness, campaign by campaign or quarter by quarter, or what interval to do" and MMM for more overall view					
3			Allocate budget to channel over time					
3			"In these cases, then you end up in talking about how to allocate budgets, how to maximize, optimize budgets, you can see it is two steps", one with media uplift					
3			"So try to work how to use fast data also in a way that you can have it as a foundation for media planning or media buying as well"					
3			3 in charge of media placement					
3			do the planning					
3			use media uplift to "reallocatate or try to maximize the effect on top of all we have done					
3			"So, in the communication that we planned, or what we say most of the planning advertising and all the brand campaigns, one aim is to, ummm, cut through and make people aware of the brand and also drive people to the voicocars se home page"					
3			"we still think that Media Uplift contributed to our way of working, our way of planning."					
3			Modelling used for media allocation					
3			"And also, that, in our, in COMPANY1534 they, the.. some tools for media planning as well how to optimize the yearly budget and the flighting and the timing of the year in a tool that we call media for growth."					
3			High ROI are essential for clients mainly concerned with driving sales ST					
3			When they have MMM use simulation to have an optimization of budgets based on channels most contributing in sales/profits					
3			"we could see that the shift in communication or the strategies that have been implemented had a positive effect on the brand then we can be quite confident that the things that we do actually contribute to the aims, according to the brand."					
				media plan	21			
				ROI	2			
				simulating	4			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 173

Questions	Groups [1]	Topic [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
			"the aim for the advertising and communication is to, in the end of the day, it's sales, but sales it is influenced by a lot of different things and you also have a lot of retailers because it's the retailers not own by Yovo that's the retailers that actually do the, ummm, point of sales. So, in the communication that we planned, or what we say most of the planning advertising and all the brand campaigns, our aim is to ummm, cut through and make people aware of the brand and also drive people to the Yovocars, see home page.."					
3			"So, it two different way of using the media uplift and two different mindset of the clients"					
3			Balance client and them;" and the different usefulness for the clients but we still think that Media Uplift contributed to our way of working our way of planning. But we have some not hard discussions, but some discussions about this."					
3			"real annual budget roughly that we knew will deliver on the sales target" + "They say this is the campaign where we will launch a new model and we will launch some other things according to the brand so we need. " So, they could set up some other targets within the brief that we also have to take into consideration that"					
3			"to capitalize or gain the most effect out of the creatives and the key messages or the key things that the clients, they are trying want to communicate so it's a combination, we work together with them;" them = creative agencies					
3			"we have a figure that we are aiming for"					
					27	119-11	20	

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 174

Questions	Groups [1]	Top: [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
4 Weekly				adjustments frequency	1			
4 Brand awareness as KPIs for some clients (give insights)				brand awareness	1			
4 Weekly and monthly discussion on budget plan optimization with clients, based on recommendation								
4 If campaign not working, signal client and suggest improvement like moving budget or rethink creatives for instance								
4 Suggestions on how to reach the main goal (budgeting)								
4 Ask for budget increase in case of very successful campaigns (significant impact on sales KPIs)								
4 Suggests campaign budget plans based on seasonality and trends (more money for this campaign)								
4 Discuss campaign budget plans changes (adaptations based on seasonality and trends, more money on more efficient month)								
4 Suggests campaign budget plans based on seasonality and trends (more money for this campaign)								
4 Client plans budget on quarters, they are suggesting optimized quarter plan based on trends and seasonalities								
4 Budget planning complexity increases as the number of KPIs/brand measurements are rising								
4 Choose channel based on target (TV=wide audience, Facebook=younger audience)				define target group	2			
4 Optimization of campaigns budget, on weekly and monthly basis with client								
4 Compare creatives from one campaign to the other, compare CPA and others KPIs								
4 Monthly basis they look at big picture, what creatives/campaigns/products are coming next month, how to optimize from media perspective								
4 Signal when campaign is not working and help adaptation process								
4 Contribute to redefining goals if current campaign or budget plan will not meet the end goal								
4 Report trends and potential of channels in driving KPIs (sales) to clients								
4 involved in the relationship with Data scientists and client for major client, evaluate, "We need to focus on reach, frequency and all the KPIs observations brand awareness, preference, traffic and sales."				evaluating marketing effec	12			
4 responsible for strategic part of digital buying								
4 Coordination of their digital team buying according to plan								
4 Choose who is need in the team, what need to be bought most of client budget for buying TV								
4 "I'm the overall brief from the client, what's the purpose with the digital the coming year? what's the main goals; what are we... what are we trying to achieve? everything from brand awareness to observation preferences, traffic, leads, etc."								
4 Brief to understand what client wants								
4 Transfer KPIs to team in charge of buying so that they have an objective to work towards								
4 Write target define strategy								
4 Target upper, mid or lower funnel								
4 depending on target, media channels choice				media buying	4			
				objectives setting	8			
						1191-11		18

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 175

Questions	Groups [1]	Top: [3]	Extensive coding (2nd round) [4]		Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
4 Use MMM to predict future trends.					predicting	1			
4 Simulating to see if campaign works									
4 Use seasonality, trends, and potential (MMM) for client recommendations					simulating	3			
4 "I think their modeling are helping us to understand what to expect during the, we can say, during the different quarters of the year, help optimize budgets and plans									
4 Outlook					tools	1			
4 Brand awareness as part of objectives them part of KPIs to monitor company occasionally launching campaigns)					brand awareness research	9			
4 Limited budget from client outside their control					budget constraints	1			
4 For monthly optimization, consider the "whole picture", what is also going to happen in the future, from client business + take into consideration others stakeholders									
4 As a planner "you don't have the time to deep dive into things and trying to understand okay what why is this happening here" which is very linked to business of client (smartphone brands)									
4 MMM helps understand what to expect in the different quarters of the client active year									
4 Understand business and company for efficient communication with client companies and changing responsible, better consistency of strategy									
4 Look at CPA for digital media buying					CPA	1			
4 Define KPIs to track with client									
4 Specialist look into details of their respective KPIs then report to him weekly and monthly									
4 Uses detailed numbers for daily optimization then send report to manager for him to dig									
4 Sends weekly report to client reporting health of campaigns then suggest improvements for next week					data gathering	19			
4 Weekly and monthly internal reports gather everything from impressions to conversion rates to what kind of data sources we are using at the moment									
4 Sales numbers									
4 Depending on clients needs more or less data gathered									
4 Uses econometric modelling for better meet the goal with client									
4 Use econometric modelling for seasonality (where to better place money)									
4 Use MMM for seasonality, as well as trends and potential (steady increase or KPI for next 14 days)					econometrics modelling	11			
4 Use MMM to identify channel with most potential=to get the most bank for the buck." Also to plan full year									
4 "First of all we are looking into, of course, what we've done like the previous years."									
4 Based on what worked and did not work, proposes improvements									
4 Prepares strategic digital plan for team to then detailed buy'									
4 Contribute to the strategic plan for the year to meet client goals then optimizes during the year									
4 Proposes a plan, directives then coordinates implementations									
							1098-10		33

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS176

Questions	Groups [1]	Top: [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations	
How do they define marketing strategies?	Agency	4(3)	<p>4 Gives the overall picture then delegate daily optimization to specialists in team; control weekly</p> <p>4 Consultant's status: if campaign not doing well; suggests potential solution to overcome it at the end of the week</p> <p>4 Not to loose client, does not give details, figures. Instead, recommends how to reach the goal, guidelines</p> <p>4 Guidelines to increase profit or growth (more investment) in case of successful campaigns</p> <p>4 "We're using MMM a tool to like strengthen our recommendations"</p> <p>4 When campaigns down: "do anybody have like good idea on how we can like proceed and make the... make an uplift in the campaigns."</p> <p>4 Planner perspective: "you're always like trying to deliver deliver deliver since they are a lot of campaigns going on at the same time"</p> <p>Earn trust from client implies more freedom to take initiatives and think outside the box. New plan, new relationship needs more approval and client involvement but not too much because they would think agency unable to think by itself without permission</p> <p>4 No dwell on too many details in reports, just state overall picture and recommendations on how to do better</p> <p>4 A lot of employee mobility in client company which implies to have strong and concise back up argumentation for planning over long period of time</p> <p>4 Different approach depending on client objectives: traditional vs targeted</p> <p>4 Implementation as the last step after brief and validation of plan by client</p> <p>4 Search handled by other agency, more specialized, outsourced</p> <p>4 Set up strategic plan together with client then together with specialist team implement plan</p> <p>4 "pretty big workshop" with specialist team to implement goal plan into buying plan</p> <p>4 3 steps: 1-brief and workshop with client 2-workshop proposal 3- implementation and daily optimization</p> <p>4 Weekly and monthly optimization are more discussion with client</p> <p>4 "strategic parts of the digital planning"</p> <p>4 "strategic media buying"</p> <p>4 "what's the purpose with the digital the coming year?"</p> <p>4 "They just want to hear how we are going to reach the main goal of the campaign."</p> <p>4 "Trying to figure out ok where are we going to get the most bang for the buck."</p> <p>4 Target group define reach and frequency choices</p> <p>4 Report status weekly and monthly then discuss with client what to improve, change budgets</p> <p>4 highlights what is of interest for the client, what they will earn before asking for increase of investment</p> <p>4 Use MMM figures "strengthen our recommendations"</p> <p>4 Use MMM reports to to like coordinate [new responsible] into the right focus areas and get them to understand why we're doing things in a particular way that they may be not used to do"</p> <p>4 Depending on target group allocate resources</p>	handing clients	19	1191-10	26		
			meetings & discussion	19					
			objectives setting	22					
			reporting to clients	4					
			target group setting	11					

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS177

Questions	Groups [1]	Topics [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
4 As leader, shares task among team members expertise								
4 Big workshop to set the strategic plan with all specialist together								
4 Social media specialist								
4 programmatic specialist								
4 "Of course we are sitting like in a team just Tele2 and Connivé teams."								
4 Build trust with client, team spirit: each has its role and is expected to deliver on it								
4 Specialists have expertise and answer, leader consults them regularly								
4 Specific time duration for campaigns imposed by clients								
4 Depending of client users, different media approaches								
4 Needs approval from client for major plan								
4 Need to build a relationship of trust with client in order to be freer, have more space to test and optimize on their own without seeking approval								
4 Keep client satisfied by optimizing regularly toward their goals								
4 Specialist compares daily live data to buy at right price for right effect on KPIs								
4 Do not consider only current campaigns but also those of stakeholders like Samsung, Apple, etc.								
4 Try to reach the most at the least price								
4 specialist look at CPA to buy the right media								
4 Present with client for objectives then meeting with specialists to implement								
4 Presentations, follow up meetings and workshop with clients as well as data analysis								
4 3 steps: 1-brief and workshop with client 2-workshop proposal 3- implementation and daily optimization								
4 Yearly plan for client								
4 Weekly report of improvement suggestions								
4 Weekly and monthly reports to clients - daily buying optimization								
4 Implementation done by internal specialist based on strategic plan								
4 3 steps: 1-brief and workshop with client 2-workshop proposal 3- implementation and daily optimization								
4 Specialist execute the plan on a daily basis								
4 Give every clients limited time yet as max as possible to buy in daily basis								
4 Move budget to more reach cheaper price								
4 Internal reports from specialist of daily optimizations over all systems								
4 Daily stats reports as all team sitting in the same area intel company								
4 Use the numbers from internal weekly report to choose START STOP								
4 CONTINUE for client								
4 non profit organization has very constrained media budget for them to work with								
4 As a specialist (planner) you do not have time to reflect on the why as you focus only on how to deliver on daily basis and there is several campaigns going on at the same time								
4 some campaign are limited in time which constrain the budget use								
			limited budget	2				
			limited time	2				
					119-10	17		

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 178

Questions	Groups [1]	Top [3]	Extensive coding (2nd round) [4]	Categories [5]	dednet	Main theme	Transcripts	Nb. Quotations
4 External search agency in charge of this part of media plan				media agency plan	1			
4 Media buying in digital areas: "Everything from like the programmatic to Facebook and social strategies"								
4 "Do the planning on like you know, sites we are going to use, platforms, data points."								
4 buy media to implement and execute digital media plan								
4 specialist look at key metrics to buy programmatic and social specialist; only focus on the plan execution in one focus area								
4 Specialist in one area for all clients + have to deliver on daily basis								
4 hard to structure buying dev as a lot happens all the time								
4 With client trust there is more flexibility in the buying part either for cheaper price or more verifiable channels (need of justify though)								
4 Use modelling to evaluate overall media then ongoing monitoring of digital KPIs				media evaluation	21			
4 Define strategic plan with client to work towards								
4 "looking into, ok what type of seasonabilities do we have? What would we like accelerate when it comes to digital? Where can we find the most potential in the digital plan to prioritize and meet the goals of the clients? So that's like the basic stuff we are doing when we start with the strategic plan for the year."								
4 Plan based on brief then execute plan				media plan	21			
4 Do plan on all digital channels except search								
4 "It's more of like when it creating like a new setup or a new plan or a new media plan, you need to get that one like approval before you can do anything else"			no(implementation)		1			
4 Not in charge of implementation			simulating		4			
4 simulate seasonality to know when an where place the right budget								
4 "So we start with [previous year + the clients goals] and then like collect my team with the specialists: all from like social, programmatic and also the planning, going through, ok this would be the main focus areas this year." "During the year, we'll be, pretty keen to to optimize the campaigns for almost daily basis to reach the goals / also have follow-up meetings with clients, both on a weekly basis but also on a monthly basis"								
4 execute plan to meet client goal								
4 "So it's like, it's a lot of like things to have in mind when we are doing the optimization as well. Cause we are not only going to satisfy the client, Tele2 and Comviq but we are also going to satisfy Samsung, Apple, Huawei and everybody else"								
4 "We can see that the conversion rates are increasing heavily at the moment. So our recommendation is to put in more money into this campaign since we're gonna drive a lot of more customers."								
4 "We are just focusing on like reach and frequency when we have the campaigns"								
4 Adapt to client; some tradition who wants reach thus they are going for TV mainly								
					27	1.19-1.11	20	

B.2 Why do marketers need data and Econometric modelling?

Regarding the rationale and attitudes towards data and Econometric modelling exploitation in marketing strategies, the three groups found some common ground. As a result, this second analysis considers all interviewees as equal, regardless of their group.

B.2.1 Rationale behind the use of data and Econometric modelling

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS180

Questions	Groups [1]	Subgroups [2], opt. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme
<i>Innovators</i>						
<i>Innovators</i>		1 Their previous handmade model was "accurate enough"				
<i>Innovators</i>		2 Accurately improve the optimization of budget has a more significant impact than gut feelings plan				
<i>Innovators</i>		2 "He's probably going to say that the biggest revolution from implementing an econometrics solution is we can buy..."	accuracy			
<i>Innovators</i>		2 Built a trustworthy currency to accurately estimates the reach of billboards and other channels				
<i>Innovators</i>		2 "So we need one solution to do everything."				
<i>Innovators</i>		1 "093: ... what everyone else is doing so you have to adapt and the system now adapts. And tells us what will happen if we keep running like we..."				
<i>Innovators</i>		1 Their previous handmade model was "not advanced enough!"				
<i>Innovators</i>		2 Need UI to harness insight and meaning outside of data number series and their illustration and try to figure out from a statistical method how things interact and that is the definition of econometrics"				
<i>Innovators</i>		2 Data analysis will give you so much insights and knowledge if you learn how to actually extract it. That's... once you start doing that you can stop because then.. It feels like you are blinded."				
<i>Innovators</i>		2 Their current model "it definitely gives us a better overview and better inside than anything we've had before.."				
<i>Innovators</i>		2 Need UI to harness insight and meaning outside of data people who can do that and if everybody needs to go there and ask them"				
<i>Innovators</i>		1 We need someone trained into looking at the databases and.. And honestly most companies only have a couple of people who can do that, and everybody needs to go there and ask them"				
<i>Innovators</i>		2 "And then, we realize that we spend about 70% of... all the money that we bring in we spend back on advertising because that's how competitive this market is."				
<i>Innovators</i>		Then you can negotiate better with the people you need to buy from. Because, when you're in the position that I am, where want to reach everybody, as cost-efficient as possible, there are only few sources big enough with reach so you can reach a lot of people at the same time."				
<i>Innovators</i>		2 "You have competitors who are, with more money, they're going to just buy more reach and have better idea. Then you have to, somehow, get a handle on how you optimize things."				
<i>Innovators</i>		1 "We realized that the model that we have was not complete enough because it did not include offline marketing"				
<i>Innovators</i>		1 Changes immediately visible on the system				
<i>Innovators</i>		2 "So, that was one of the ideas being thrown into econometrics. The other one was that, if you can find a way to visualize what you actually buys, so can explain it to others."				
<i>Innovators</i>		2 "It definitely gives us a better overview and better insight than anything we've had before."				
<i>Innovators</i>		"But it's probably the best thing with it that it gives you an oversight into how we're doing. It could take me an hour to figure out how things were going before. Cuz I had to go in and look in every channel and see.. try to compile things in Excel or do.."				
<i>Innovators</i>		2 "This is how we started getting it, realizing that if you want to do this, we need to get it all sources, all marketing spend into one tool. Otherwise this is not going to work."				
<i>Innovators</i>		That was very hard because when you had budget from all different online sources, in different tools and in different places, and you had a TV budget over here and the radio budget over there and some extra money lying around to buy something over there. Once you get all that together, it's a lot easier to see just say, but wait a minute, look at this, this doesn't add up. We're buying too much of this, let's stop, let's move that money here and do something better with it."				
<i>Innovators</i>		2 "So, would say, that's a big win that everybody is looking at the same data." It was not that simple before				
<i>Innovators</i>		2 "You get an oversight of how is everything doing, how my budget planned, how much will I get back..."				
<i>Innovators</i>		2 "01:32: And you'd say that everyone feels very secure now. Cuz very early in the month you kind of realize where we going to end and that makes it so much easier to to kind of take the right decisions, at the moment so."				
<i>Innovators</i>		2 You can negotiate better with the people you need to buy from;" as you have your own accurate and trustworthy data				
<i>Innovators</i>		2 "Once you start doing that you can't stop because then.. It feels like you are blinded. You.. You wouldn't know what you are doing.."				
<i>Innovators</i>		2 "But you only have their own numbers to go to look at. And they're not there's no way to tell if that's really true or not if work for you."				
<i>Innovators</i>		2 "Because, if you optimize the 70% of your costs, of course, we will make a big impact on the bottom line of things. If you can just improve that by 2 or 3%, that's a lot of money compared to just buying whatever feels right!"				
<i>Innovators</i>		2 "I would say that the biggest thing is we can lower prices on what we have to buy (laugh)"				
			complete centralized over 9 confidence			
				5		

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 181

Questions	Groups [1]	Subgroups [2], op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme
<i>Innovators</i>			2 "You have competitors who are... with more money, they're going to just buy more reach and have better idea. Then you have to somehow get a handle on how you optimize things. And that's... I think that's where data comes in."			
<i>Innovators</i>			2 "But you only have their own numbers to go to look at. And they're not, there's no way to tell if that's really true or not, if it's always going to be exaggerated or not. So you have to somehow find a currency that you trust and you think will work for you."			
<i>Innovators</i>	3(1)		2 "Once you have all the data in place and you have control over your costs then you can calculate... simulate was need one solution to do everything" instead of partial models based on part of data and not even all channels which			
<i>Innovators</i>			"So becomes a tool for all the things, this performance of not only what you buy yourself but what others do for you, that's extremely helpful. Because um... you... it's also very good way of seeing how much money are we spending right now and do we need to spend more or less to reach targets that we have set for ourselves."			
<i>Innovators</i>			2 "Since you get an oversight of how is everything doing, how is my budget planned, how much will I get back. Those are all my responsibilities that are taken care of in the tool"			
<i>Innovators</i>			2 "That's their job to do in... but that they can figure out either notice in the tool that why aren't you spending as much as we planned or why are we spending more than we planned? control over team activity for buying"			
<i>Innovators</i>			1 "test planning scenario and see..." you plan something but you immediately deviate from the plan."			
<i>Innovators</i>			2 "you also realize that if you have a media agency for example, you can see you soon as they screw up with something you see that immediately."			
<i>Innovators</i>			2 "Leverage to negotiate billboards as data more accurate. But also, that they performed much better if you only look at the direct effect they are giving. So we gave them the insight or the we confirmed them that yes our campaign has a much bigger effect than what can be measured in Google Analytics."			
<i>Innovators</i>			1 "So then we decided, we need to have our own data. A better data than who we are buying from. Because otherwise we have no leverage from when we try to negotiate."			
<i>Innovators</i>			2 "We thought we would use it to negotiate and be able to find new smart places to buy."			
<i>Innovators</i>			2 "So we started realizing that we will have to somehow know before we buy things, what kind of output can we expect from this. And that's when we started getting into econometrics and trying to figure out is it smart to buy from... those competitors who are... with more money, they're going to just buy more reach and have better idea. Then you have to, somehow, get a handle on how you optimize things."			
<i>Innovators</i>			2 "But you only have their own numbers to go to look at. And they're not, there's no way to tell if that's really true or not, if it's always going to be exaggerated or not. So you have to somehow find a currency that you trust and you think will work for you."			
<i>Innovators</i>			2 "I use the planning to simulate some kind of alternate future that... (laughs)" optimize plan towards goal			
<i>Innovators</i>			2 "We use it to create budget. We use it for... We made the budget for this year in, I think, September for example. And then we just let our tool calculate how much money will we make this month if we spend this much. And then we have a budget done already. You don't have to go into every line and set numbers for every source and every ad channel and every. That's just done, which makes budget work so much easier."			
<i>Innovators</i>			2 "we will have to somehow we buy things, what kind of output can we expect from this?"			
<i>Innovators</i>			2 "once you start doing that you can't stop because then... it feels like you are blindfolded. You... You wouldn't know what you are doing"			
<i>Innovators</i>			2 "So I can do that a couple of months in advance instead of having... yeah. So I have a fair idea of how I should spend my budget this summer" simulate, this summer"			
<i>Innovators</i>			2 "let our tool calculate how much money will we make this month if we spend this much. And then we have a budget done already."			
<i>Innovators</i>			1 "Well we wouldn't be profitable enough if we were not, because we would spend 73% of our revenue is marketing, so it is a huge impact on profitability from the wrong decisions."			
<i>Innovators</i>			2 "We thought we would use it to negotiate and be able to find new smart places to buy. But it, a lot of other things have actually come from it!"			
<i>Innovators</i>			2 "Currency that you trust to evaluate and also simulate with relevance"			
<i>Innovators</i>			2 "Once you have all the data in place and you have control over your costs then you can calculate... either you start with I have so much money and I want to spend... how should I spend as good as I can? or I need this much reach, how much do I need to pay for that? You can calculate from anyway you want."			
<i>Innovators</i>			2 "And then I use that to simulate... this summer by saying ok maybe I'll spend more money on this channel instead what will happen then?" Instead of doing whatever I did last summer..."			
				5		

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 182

Questions	Groups [1]	Subgroups [2], opt. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme
<i>Innovators</i>	<i>Innovators</i>		2 "we just let let our tool calculate how much money will we make this month if we spend this much. And then we have a budget done already."			
<i>Innovators</i>	<i>Innovators</i>		2 "What if I move with this budget here instead? What's likely going to happen?"			
<i>Innovators</i>	<i>Innovators</i>		1 Old model "not fast enough"			
<i>Innovators</i>	<i>Innovators</i>		1 "The idea is so, we want to have it sort of in real time to make fast decisions and... Cause after 3 months, I mean, the opportunity is gone."			
<i>Innovators</i>	<i>Innovators</i>		2 "You don't have to go into every line and set numbers for every source and every ad channel and every... That's just done, which makes budget work so much easier."			
<i>Innovators</i>	<i>Innovators</i>		2 "But, it's still a lot umm... a lot of work that was very manual and very tough to know if you were doing all right and that is still been automated away, would say."			
<i>Company</i>	<i>Innovators</i>		2 "The downside of that is that we develop it very fast, meaning that you have to teach people how to use it, all the time."			
<i>Adapters</i>	<i>Innovators</i>		4 Econometrics modeling more specific than others methods			
<i>Adapters</i>	<i>Innovators</i>		1 Do research and set up process as users' from users analysis in order to understand and optimize marketing activities			
<i>Adapters</i>	<i>Innovators</i>		1 Hard to offline impact of marketing activities which is why she chose to go for a M&M analysis			
<i>Adapters</i>	<i>Innovators</i>		1 "I don't know what happens in this model, this mathematical model and then the result shows, umm... The result shows the incremental effect on different channels, the incremental effect on inline, umm, and, umm it can also show you to what extent your investments are bad ones or if you have overspend or maybe you have done an underspend."			
<i>Adapters</i>	<i>Innovators</i>		1 "So much want to understand the effect of TV compared to our other investments. To that point that where we actually invested in such analysis."			
<i>Adapters</i>	<i>Innovators</i>		2 "We need to understand what happens"			
<i>Adapters</i>	<i>Innovators</i>		3 "When we do print, with or without any other campaign. And what we saw was basically... We could not find any correlation. It was not there basically. And then you can say hello, that's because A, B and C"			
<i>Adapters</i>	<i>Innovators</i>		"If we are not succeeding in predicting the future that's one thing but if we do not understand what has actually happened then that's something, something completely else. And, in my point of view, we are trying to explain what has happened and we are not even close to it. We need to know exactly all the causes and that would be great to have."			
<i>Adapters</i>	<i>Innovators</i>		4 "Trying to explain as I would say, basic as possible what happened in the last month. Why it has happened, a couple theories of what we can do better and maybe something that we've done good, or great, in some month."			
<i>Adapters</i>	<i>Innovators</i>		4 "You just try to gather data from within and try to make ummm... Try to feel the picture basically. But sometimes we don't and there is of course frustration but yeah!"			
<i>Adapters</i>	<i>Innovators</i>		4 Econometrics modelling helps understand: "Just try to get the right Media mix in place because sometimes it's really hard Talking about should we have cinema, should we have outdoor, or is it more important to have big takeovers online? So for me that was a really interesting partnership we had!"			
<i>Adapters</i>	<i>Innovators</i>		4 Would want to understand users and non users behaviours (buying patterns) as well			
<i>Adapters</i>	<i>Innovators</i>		"They showed us basically, from that campaign, that this are the sites that have drawn traffic to our website and looking at their data they could see that we were underspending on maybe site A, compared to the other ones. So one sort of good takeaway from that thing was that if we do this campaign again then we should consider to maybe double the budget on this site one"			
<i>Adapters</i>	<i>Innovators</i>		4 "Basically, if you are on the client side, you have all the information that that sort of goes on. But, on the agency side, you might not get all that information. Basically you're on the need to know basis sometimes"			
<i>Adapters</i>	<i>Innovators</i>		1 Gets help from deal team to refine data out, "the rest is to myself. The CPA said the ROI"			
<i>Adapters</i>	<i>Innovators</i>		4 Need to distance themselves from media agencies: "So we actually have a third party system that ensure we get back everything that we buy basically"			
<i>Adapters</i>	<i>Innovators</i>		4 "And on a monthly basis, put together a short internal report send it out to the stakeholders in the company"			
<i>Adapters</i>	<i>Innovators</i>		4 "I would say in our monthly sort of meetings about reporting, we talk about it. How much... basically it is everything from sold cars to the brand awareness to visits on site to leads to sort of everything that we measure, we sort of talk about and go through"			
<i>Adapters</i>	<i>Innovators</i>		4 "But think we also feel that we need to have a better connection between the media agency and the ones doing the..." reports			
<i>Adapters</i>	<i>Innovators</i>		4 "We tried to be as open as possible with our consultants. Because we believe that if we tried to work together as a team, we will do better things together. But my experience, sometimes working with clients on the agency side it is really... We have to do this and then you ask why? And they say just because. And you just have to do the best of it!"			
<i>Adapters</i>	<i>Innovators</i>		1 "So for now I need to ask this, our analysts people for a certain campaign for example, each time I want it. So, it is not very easy but it is manageable."			
			communication tool	4		

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS183

Questions	Groups [1]	Subgroups [2], typ. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme
Adopters		3 "Adobe Analytics, yeah take a look. It's a huge program that you can put together different sources level umm every consumer."				
Adopters		4 "So, we follow everything that have been said in media, or in digital media, or in social media. So, we do quite a lot of measuring." for monthly reports meetings with stakeholders				
Adopters		1 But, as long as I work together with people that I feel confidence in. Well then it is a well known company that we are hiring, I feel comfortable in the result and, yeah, also I trust the ML and the people doing the analysis.				
Adopters		4 "So we actually have a third party system that ensure we get back everything that we buy basically."				
Adopters		4 "It was not just clicker to the site, it was also post impressions basically. So, the ones that have the chance or the opportunity to his clicker on the site has a sort of bigger impact on the end results, for the campaigns."				
Adopters		4 "And then we can also see post impressions and post click but not in this sort of the data-driven way that they presented it, so the modelling best thing."				
Adopters		4 "But, of course, it's bit umm, I would say, it's a bit less specific, would say then what we did there and then with R&G."				
Adopters		1 "a lot of my work is also to help follow up and find the right, umm statistics and, you know, the right tools to grow up and be able to have control on our KPIs."				
Adopters		2 Integrate MMM results in what they do and their media agency is also attending and working on MMM recommendations for media planning and buying				
Adopters		4 Making sure twice that everything ok, no strange data				
Adopters		4 "making sure that everything is tagged so we can sort of reverse look it up and see what this specific banner gave us in traffic, in configured cars and..."				
Adopters		4 "So we actually have a third party system that ensure we get back everything that we buy basically."				
Adopters		4 "we have like sort of weekly reports on how things are going for the brand.."				
Adopters		4 "So, we follow everything that have been said in media, or in digital media, or in social media. So, we do quite a lot of measuring"				
Adopters		4 "you have been started to talk to our media agency and, they just had a new hired head of analysis there and we started talking about doing something similar with them as well."				
Adopters		4 We also talked about maybe doing something looking at more users and users and sort of the buying patterns or if,				
Adopters		4 Yeah, there is a couple of different sort of areas as well that we are looking at"				
Adopters		4 "of course we look on what it brings for digital the sort of traffic to the site and all the KPIs that we talked about. But also if we can see any spikes or any data in the overall brand tracking and such as."				
Adopters		4 "sometimes reports and data are good but sometimes also you basically know what to do just to make, to sort of reach your goal. It's both I would say"				
Adopters		3 "which allows us to follow the Nordic Market in real time. So, I can see on the product level, umm, every consumer. How its navigation on the website, mostly on certain parts and if they start applying, if they start applying or not."				
Adopters		4 Daily check on average visits and other data				
Adopters		3 "I've a lot and what of control on planes and on the move for daily health check of company marketing activities				
Adopters		1 also show you what extent, your investments are bad or ones or if you have overspend or maybe you have done an underspend, underspending."				
Adopters		2 Model adapt and is used to optimize media strategies				
Adopters		3 "We use the data to affect our marketing mix and that is also affecting our budget. So our budget is divided by product and channel. And, the data basically give us, umm, the first draft of budget every year and then we do adjustments"				
Adopters		4 Econometrics modelling help in choosing the right Mix				
Adopters		4 Economics modelling control over and underspending as well as gives them insight on which channel to use to have under spend, underspending."				
Adopters		2 Model adapt and is used to optimize media strategies				
Adopters		3 "We use the data to affect our marketing mix and that is also affecting our budget. So our budget is divided by product and channel. And, the data basically give us, umm, the first draft of budget every year and then we do adjustments"				
Adopters		4 Econometrics modelling help in choosing the right Mix				
Adopters		4 Economics modelling control over and underspending as well as gives them insight on which channel to use to have under spend, underspending."				
Adopters		2 Model adapt and is used to optimize media strategies				
Adopters		3 "So, sometimes reports and data are good but sometimes also you basically know what to do just to make, to sort of reach your goal. It's both I would say."				
Adopters		4 "we have written down how much we will invest, how many intake we have in our forecast, and so on. So both things happen and sometimes we just need to do extra investments depending on the outcomes of course, on pay basis and in take. So, we actually very much use statistics."				
Adopters		3 "so the data basically give us, umm, the first draft of budget every year and then we do adjustments."				
Adopters		4 Because we think it's really important and I think it is really interesting to see, of course."				
Adopters		4 "So, sometimes reports and data are good but sometimes also you basically know what to do just to make, to sort of reach your goal. It's both I would say."				
Adopters		2 MMW very useful from the beginning				
					6	
					4	

Why using data
and
econometrics
modelling

control/monitoring

immediate feedback

2

mobile

1

optimization

6

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 184

Questions	Groups [1]	Subgroups [2] / opt. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme		
Why do they require data analytics	Adopters		"So one sort of good takeaway from that thing was that if we do this campaign again then we should consider to maybe double the budget on this one, or on this two advertises because they are really performing when it comes to leads that have the chance or the opportunity to this adver... on the site. It was also post-impressions basically. So, the ones that have the chance or the opportunity to this adver... on the site have sort of a bigger impact on the end results, for the campaigns."		profitability	2		
		Adopters	"We are following them on a daily basis and umm, I mean in the best of worlds you know what would happen more often, umm, we have written down how much we will invest, where we will invest it, how many investments depending on the outcomes less because you have your marketing plan, you have your activities planned, I mean in our plan we have, we have, and so on. So but, things happen and sometimes we just need to just do extra investments depending on the outcomes of course, on pay base and in take. So, we, actually very much use statistics."					
		Adopters	"And so the data basically give us, umm, the first draft of budget every year and then we do adjustments. So quality adjustments as I use to call them."					
		Adopters	"Just try to get the right Media mix in place because sometimes it's really hard. Talking about should we have cinema, "					
	Adopters	4	"So one sort of good takeaway from that thing was that if we do this campaign again then we should consider to maybe double the budget on this one."					
		4	"So, for now I need to ask our analysts people for a certain campaign for example, each time I want it. So, it is not very easy but it is manageable."					
		3	"And so the data basically give us, umm, the first draft of budget every year and then we do adjustments. So quality adjustments as I use to call them."					
		4	"Just try to get the right Media mix in place because sometimes it's really hard. Talking about should we have cinema,					
		5	"So one sort of good takeaway from that thing was that if we do this campaign again then we should consider to maybe double the budget on this one."					
		5	"So, for now I need to ask our analysts people for a certain campaign for example, each time I want it. So, it is not very easy but it is manageable."					
		5	"Just try to get the right Media mix in place because sometimes it's really hard. Talking about should we have cinema,"					
Agency	Agency	2	"You are measuring outdoor in a specific way. And then, that's an independent company measuring outdoor. And it's the same for TV. And I video or web TV whatever you like to call it."					
		2	check target proposed from client and there were not enough people left on the market for it to be profitable					
		2	"We are working a lot with trying to explain how to make the best use of each and every platform"					
	Agency	4	"One big difference between our work with Tele2 and other clients since we have data pretty accurate when it comes to like follow up the year, looking up on these were the KPIs we had, these were the estimated traffic from G&R and it's almost spot on so I think that's that's something that's mostly useful for us, looking into the planning."					
		4	"And looking at the estimates they are pretty accurate," rather than say, this is my belief					
		4	Adapts the budget to the need of every channels according to specialist when possible					
		4	"It depends on what we want. And it also depends on what kind client it is."					
	Agency	2	"To have a feeling of break through or not you need to wait a certain amount of time" "It depends on which media it is, which media channel, when it comes to the media KPIs.					
		2	"I love it because it's, it can, I can play around with it (laughs), you know, you can you can build your target," taking about the Kantar Shio bank data interface		adapting	5		
		3	"And that made Media uplift very interested, interesting for us because we can, we could isolate to one single KPI umm and not sales, because we said we could sessions on Volvo cars see the combination of this and the configurations."					
		3	"We are still using it. It is very good information we got from that. Because it is based in sales"					
Agency	1	"We are still using it. It is very good information we got from that. Because it is based in sales"						
	1	"On the digital behavior, find out, though from all the data that we have collected so we can ask our tacky guys, they are up there so I mean, I need to have, umm, give me some profile of how students behave in the digital world based on all time period"						
	2	"So it is both on a campaign follow-up and brand perspective but it also targets group understanding and analysis.						
	2	"Profiling."						
	2	"So, we can populate the data that we have. To better understand who is it that we actually are distributing the message, the advertising to. Based on the behavioral digital behaviors and so on."						
Agency	2	"You need to really understand who are we actually addressing? who are we talking to? And what do we need to be aware of, umm.... when setting down the strategy."						
	2	"On the digital behavior, find out, though from all the data that we have collected so we can ask our tacky guys, they are up there so I mean, I need to have, umm, give me some profile of how students behave in the digital world based on all the aggregated data that we have worked with."						
	2	"Need to understand how to make the best out of media channel in order to use them efficiently"						
	2	"So that kind of information and data that we dealing with this for example business understanding and if we are doing the best we can for the brand"						
	2	"about economic modelling output." "That data, that information is valuable to us. When we put down the strategy or not, you know. That's one kind of data. And then we have the data like saying that the media behavior"						
	2	"About econometric modelling." "We use it to help marketing explain the effects of our investments."						

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS185

Questions	Groups [1]	Subgroups [2], opt. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme
and econometric S?	Agency	2 about Kantar site tool: "For understanding the target yes. Together with our digital behavior data that we have."				
	Agency	3 In various project where you need to find the correlation between media, media's contribution to the KPIs you go for				
	Agency	4 M&M				
	Agency	4 Us econometric modeling for seasonality, potential in media channels, accelerate digital or not when planning yearly plan				
	Agency	4 "since you don't get much of the input that G&R are doing. It's harder to see and like and like, we can say take learnings from that because you're always like trying to deliver deliver deliver"				
	Agency	4 "She is the specialist in handling all the data and all the creatives, and all the data, she like in 99% of the times knows what to do and knows the answers"				
	Agency	4 "I think their modelling are helping us to understand what to expect during me, we can say, during the different quarters of the year."				
	Agency	4 And looking at the estimates we're doing, they are pretty accurate. It's more helpful for the new people and for us to like coordinate them into the right focus areas and get them to understand why were doing things in a particular way that they may be not used to do."				
	Agency	2 "And then, I can find out the data myself" about Kantar site interface				
	Agency	3 have their own tool but the client company also developing their own M&M so media walls to see their results instead (more complete)				
	Agency	3 "In the first time, worked my own data in a very easy context, looking at graphs and trying to find some correlation very simple."				
	Agency	4 Make recommendations "Because my contact, my client at the moment, they need support sometimes within their own 1 company, to make their voice heard and make like the marketing department needs this amount of money to be able to do the work."				
	Agency	2 "To be able to reach and then come to an understanding with the client, we need to make it more understandable, visible or easier to digest, I would say (laughs)"				
	Agency	2 "OK that is some kind of data that you need to bring into the equation as well. Okay, so our content is not strong enough. Then we can go back to the advertising, the creative agency"				
	Agency	2 "you should be able to explain for the client"				
	Agency	2 about marketing people view of the management team table: "They haven't been able to prove that there is some kind of link on what they do with, with the results. And that's where R&G has come into the picture."				
	Agency	2 "Because they can explain, based on numbers and umm...modelling, that maybe it's only... everything you do is it's a macro things that that's actually is... I mean, it's the majority of the things that affect the sales but if you could say that 20% of what we do in marketing actually has an effect on our sales figures, suddenly you get someone listening to you. So, that's why the really good marketing people they want to be able to, to talk the language of the others in in the management team"				
	Agency	2 "So the client that has been working with G&R, they want to be able to, to explain the marketing investment they do, that they did actually has an effect on the sales, or driving people to the store, or driving people to the website, whatever app they have built the model on..."				
	Agency	2 "It's very much story telling. And that's what R&G is really good at. Umhum, it's ummm... that's that's hard to... The language of understanding, I would say. It's the most succinct language to speak with clients (laughs) that they feel that you actually understand their business or the challenges and you can put whatever you do in the context of their world rather than being some consultants that comes in and out, talking about my stuff and not linking it to their actual everyday work."				
	Agency	2 It is a communication tool as a common ground				
	Agency	2 about econometric modeling "We use it to help marketing explain the effects of our investments."				
	Agency	3 "And then it is more easy for them to go to their management and explain that Media and Communication is ummm, something that contributes to sales and also have some effectiveness cause you have a positive ROI."				
	Agency	3 when we found out that the central team was doing a M&M, we said ok let's wait for that and use that instead, ummm, because then it will help us for, to answering the questions that we that we have"				
	Agency	4 Write down recommendation based on data on regular report to client				
	Agency	4 "They just want to hear how we are going to reach the main goal of the campaign" makes figures more striking				
	Agency	4 "And also, of course, the numbers, I'm not digging into ok exactly where are we buying the impressions" claims more interested by explanations and recommendations than list of figures				
	Agency	4 "Then of course they can take that kind of data, going to their department and say ok we need more money, we are going to get more clients and that's the way."				
	Agency	4 "But also when it comes to recommendation and get the client to understand what we are, why we are planning in a different way and have M&M as a supporting tool is so crucial for us."				

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 186

Questions	Groups [1]	Subgroups [2] / op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme
Agency			"And looking at the the estimates we're doing, they are pretty accurate. It's more helpful for the new people and for us to do like coordinate them into the right focus areas and get them to understand why we're doing things in a particular way that they may be not used to do. But for us internally, I think it's... Yeah, on a scale of like 1 to 10, I would say an 8... when it comes to crucial. Since it is giving us a lot of information which I don't know what we should find it anywhere..."			
Agency			1 "How much the competitors, how much money do they spend on the media. How is our shares voice within this category? Is it lower, is it higher?"			
Agency			3 "But, in the Stadium case, they have previously done proper MMM, the total MMM, they were more into see the total contribution of media to the sales, not only the uplift on the sales."			
Agency			4 "They were more in need of a MMM instead because they needed to have the figures that MMM delivers is more on the total contribution, the contribution of media and communication item in context of the whole marketing activities."			
Agency			3 "And it also give them a better way of looking into, a more holistic way of looking into budgeting and main media allocation. The media uplift is some is a quicker way of using it."			
Agency			4 Specialist look at details on everyday basis while head of digital receive all reports and has an overall centralized view of what is currently happening.			
Agency			4 "It's much more like using all kinds of data for us to see the whole picture as well. Not just looking at the actual campaigns, since we need more like the input from the client as well"			
Agency			4 "And also, of course, not digging into ok exactly where are we buying the impressions", but overall behaviour and explanation to refine from specialists			
Agency			4 "I would give like the overall picture, they are like first responses in how... okay how I think we should do this or that in order to achieve that. Of course take their inputs, they are the specialist in their specific area"			
Agency			4 "It is harder to follow up on the bigger picture. To see, okay, why are we like driving more traffic during this period of time, since you don't get much of the input that G&R are doing."			
Agency			4 "We are always working with recommendation before we are doing any big changes and also keep them in the loop to let them know what we are seeing in real time from the data we're getting in."			
Agency			4 "And also, of course, the numbers. In not digging into ok exactly where are we buying the impressions", but overall behaviour and explanation to refine from specialists			
Agency			4 "Since we have data pretty accurate when it comes to like follow up the year, looking into ok, these were the KPIs we had. These were the estimated traffic from G&R and it's almost spot on so I think that's something that's mostly useful for us, looking into the planning."			
Agency			4 Head of digital hold the overview to better coordinate the specialist that are inside the forest of details			
Agency			4 "It tells media contribution, seasonality, into and right speed." So it has been a very good tool for us to use."			
Agency			4 "And then this way, I have the firm from 3 years back to support my argument and my, my recommendations. And... and it has quite hard for others to like sit aside and say no, I don't think so, but here is the truth, here is the sales figures. And it's quite hard for other agencies, like advertising agencies, to say no, I don't think so. Yes this is the truth, because this is how the sales have developed. So, this has been a great tool for me."			
Agency			4 "For Kantar sifo data. "And from that, I set up that I do the target group analysis."			
Agency			1 "Of course, that recommendation does not always go through within the client, but it is a recommendation. Because my contact, my client at the moment, they need support sometimes within their own company, to make their voice heard			
Agency			1 "And then this way, I have the firm from 3 years back to support my argument and my, my recommendations. And... and it has quite hard for others to like sit aside and say no, I don't think so, but here is the truth, here is the sales figures. And it's quite hard for other agencies, like advertising agencies, to say no, I don't think so. Yes this is the truth, because this is how the sales have developed. So, this has been a great tool for me."			
Agency			2 "rely on external company to measure offline effect as, "It's a business standard as well. It is an industry standard"			
Agency			2 "Based on that, we do recommendations on how to reach those targets. That's what we do."			
Agency			2 "Used numbers to convince client their target were not realistic and client changed			
Agency			2 "...This is how we see it. This is, this is how we believe you should do it. This is our proposed strategy..."			
Agency			2 "But we like to work with numbers. In mean, we are optimizing, you know, on going. So, it's all built on data, on numbers and some facts for us."			
Agency			2 "All the things that they believe in still, we need to convince them that they are no longer there. So, a lot of our work is helping the creative agency understand how we can reach our target."			
Agency			2 "That data, that information is valuable to us. When we put down the strategy or, you know."			
Agency			2 "So that's some input based on data as well."			
Agency			2 "But you should be able to explain for the client okay if this is our business objective to sell more, we need to increase awareness in order to increase sales awareness, we need to, you know, Bla bla bla."			
Agency			2 logical but we can actually see that. So, if, had to speak to a client you can't judge, you can't say Oh nothing is happening. Well, you have to wait two weeks before you know. It takes longer nowadays, Bla bla bla."			
Agency			2 "Well, the sales person has had but not the marketing, you know they work with a lot of fluff, you know. They haven't been able to prove that there is some kind of link on what they do with, with the results. And that's, that's where R&G has come into the picture."			
Agency			2 "Because they can explain, based on numbers and umm... modelling, that maybe it's only... everything you do is it's a micro things that actually is... I mean, it's the majority of the things that affect the sales"			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS187

Questions	Groups [1]	Subgroups [2] / op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme
Agency			"So the client that has been working with G&R, they want to be able to, to explain the marketing investment they do, that they did actually has an effect on the sales, or driving people to the store, or driving people, people to the website."			
Agency			whatever for they have built the model on."			
Agency			3 "That's one thing that we do customize it but then we try to evaluate in the same way every time so that you can compare the different scores with each other during a longer period"			
Agency			and we see that during the period of the last 2 or 3 years we could see that the shift in communication or the 3 strategies that have been implemented had a positive effect on the brand then we can be quite confident that the things that we do actually contribute to the aims, according to the brand."			
Agency			3 "But we still think that Media Uplift contributed to our way of working, our way of planning."			
Agency			"we can say that, look at this figures, the media contribution to sales, of the media contribution to whatever KPI you have is 50% so, and we have an ROI of 5:0. And then it is more easy for them to go to their management and explain that Media and Communication is ummm, something that contributes to sales and also have some effectiveness because you have a positive ROI + in the MMM, it is a more slow moving mid long term budget allocation but I think it could be more useful for the marketing director in they, in their perspective to the top management and the finance."		confidence	
Agency			3 "we can set a, umm, a real annual budget roughly that we knew will deliver on the sales target + "And the tool would help us to maximize the allocation week by week umm based on sales if that is the KPI that we want to use."			
Agency			3 "the comparison between media uplift and MMM, because Media Uplift is, as I would explain, said it is quicker umm, just rely on the machine, we will use our software to trying to learn, learn, learn, learn, and then we have some outcome of that so. And in that context and in what they have presented for us and so on, I rely on the figures, yes, I do that."			
Agency			4 "use data to supports reports and recommendations to clients"			
Agency			4 "we're not going to reach the main goal so you can say sales, from this campaign that's why I think we should do it this way to optimise campaigns overall"			
Agency			4 "if I see that ok or my god we got conversion rate of 50% which is like enormous. Then I can take those numbers to the client and say ok, we can see that the sales numbers are increasing every day. " ask for more money			
Agency			4 "in June we will know that we're gonna drive sales. We can see that the conversion rates are increasing heavily at the moment. So our recommendation is..."			
Agency			4 "we're using MMM, a tool to like sum up all our recommendations and that's one big things and one big difference between our work with Tele2 and other clients, as data, pretty accurate, spot on"			
Agency			4 "But also when it comes to recommend and get the client to understand what we are, why we are planning in a different way and have MMM as a supporting tools is so crucial for us."			
Agency			4 "And looking at the estimates, we are pretty accurate, it's more helpful for the new people and for us to like coordinate them into the right focus areas and get them to understand why were doing things in a particular way that they may be not used to do, + internally to do the daily job"			
Agency			4 "ok, but with these amazing information that you are providing to the clients how can we like translate that into the media plans and executed on it?"			
Agency			1 control contribution and seasonality of media			
Agency			1 some period are crucial for clients and it is important to behave efficiently then			
Agency			1 Kantar Sifo tool essential to understand target behaviour, do target analysis			
Agency			2 "That kind of insight as well. So it is both on a campaign follow-up and brand perspective but it's also targets group understanding and analysis. Profiling."			
Agency			2 tools, tagged advertising and buy data from publishers for target analysis			
Agency			2 "And then we have the follow up saying that oh we see that the campaign observation"			
Agency			2 use econometric modelling to monitor KPIs the model is based on			
Agency			3 "And then you monitor them, ummm, on an ongoing basis, and correlate them with media spend and other things"			
Agency			3 external company to evaluates every TMCs in the Nordics, if you standardize it then you cue up every large database with lot of evaluations of different TMCs so then you can use that for some robust analysis."			
Agency			3 "then if we had the ongoing brand tracking as a measurement or evaluation or the long term brand development" + try to maximize the effect on top of all we have done"			
Agency			3 Use Media Uplift for yearly plan and fine-tuning thanks to monitoring on daily/weekly basis			
Agency			4 "so, they are looking into like the key metrics in the systems for buying media daily, control CPA, and all			
				control/monitoring	17	

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 188

Questions	Groups [1]	Subgroups [2], opt. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme
Agency			4 "It's much more like using all kinds of data for us to see the whole picture as well"			
Agency			4 because I don't have the time to like handling with all the systems, looking through all the numbers but they are sending me like weekly reports."			
Agency			4 "And also, of course, the numbers. I'm not digging into ok exactly where are we buying the impressions."			
Agency			1 "is quite hard to answer if you don't have any data that supports that question."			
Agency			1 "Then they do their work and come back and see if it is possible for them to do it. And print people may come back and say no I can't do this within this budget and then we have to discuss about this."			
Agency			2 "...This is how we see it. This is, this is how we believe you should do it. This is our proposed strategy."			
Agency			2 "the really good marketing people they want to be able to, to talk the language of the others in in the management team or otherwise they will not let, you know,			
Agency			2 how can they otherwise say that we need more money in marketing in order to reach the sales figures, you know. They haven't been able to prove themselves before."			
Agency			2 "So the client that has been working with G&R, they want to be able to, to explain the marketing investment they do, that they did actually has an effect on the sales, or driving people to the store, or driving people to the website, whatever top they have build the model on."			
Agency			4 "Sometimes people are coming in to Tel2 and say ok we are going to do this because it is my belief, but we can say ok but looking into the reports from the things we are doing and have been doing for the last 24 months, it's saying this and that. And looking at the the estimates we are doing, they are pretty accurate. It's more helpful for the new people and for us to like coordinate them into the right focus areas and get them to understand why we're doing things in a particular way that they may be not used to do".			
Agency			1 use monitoring data to open discussion about how to do things better			
Agency			1 Use econometrics to optimize media choices in the right period at the right speed of maximize effect			
Agency			1 target analysis via Kantar site to optimize message & delivery			
Agency			2 "I mean, we are optimizing, you know, on going. So, it's all built on data, on numbers, and some facts for us."			
Agency			2 "That information is valuable to us. When we put down the strategy or not, you know, about econometric modelling output			
Agency			2 based on the baseline and everything we have done for 3 years, what would be your best estimate for our transactions for the coming 6 month, on a monthly basis"			
Agency			2 "When G&R has helped us scenario planning. So, we reduce the budget, you know linearly or so 20% on all media? Or if we just take it on 10%, which would be the option for the minimum effect."			
Agency			3 "And also in that case that I have been working together with Rikard and Gustav and their Media Uplift project because in budget setting, and budget allocation			
Agency			3 If you do think then you have to see the contribution of media and then have some budget optimization and within that you also can have some, some allocation between channels umm to maximize sharepoints or the client."			
Agency			3 "miximize the ROI on sales."			
Agency			3 "There are different techniques how to use that and see that could be a more, umm, effective way to use media to, in more of a short term of the marketing and the contribution for media communication"			
Agency			3 "If you evaluated now to reallocate or try to maximize the effect on top of all we have done so to say so in that case the uplift was something that suited very well into the our way of working as to do to look at the uplift session for the brand"			
Agency			3 "In the Volvo cases they were happy and pleased the the, the mythical ummm. The uplift to see how we can optimize the effect by booking a media contribution to increase the uplift from the base level!"			
Agency			3 "Media Uplift contributed to the way of working, our way of planning."			
Agency			3 "Then you use the media uplift outcome to fine tune and calibrate and see how to increase the effectiveness, campaign by campaign, or quarter, or quarter, or what interval to do, think it is, it could be a very good tool to use"			
Agency			3 use econometric modelling for budget allocation optimization both cases			
Agency			4 "If we have this annual budget we can use the planning tool to start allocate an optimize budget throughout the years based. And the tool would help us to maximize the allocation week by week umm based on sales if that is the KPI that we want to use."			
Agency			4 "Where can we find the most potential in the digital plan to provide and meet the goals of the clients?"			
Agency			4 look at data for daily optimization			
Agency			4 use data to optimize			
				6		
				24		

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 189

Questions	Groups [1]	Subgroups [2] / op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Code	Main theme
Agency	Agency	4 "OK we're not going to reach the main goal so you can say sales from this campaign that's why I think we should do it				
Agency	Agency	4 locking to the MMM for "trying to figure out where are we going to get the most bang for the buck."				
Agency	Agency	4 Use MMM to choose the right month to with the right media maximize effect of campaigns				
Agency	Agency	1 try to predict on which media to go for in specific period of year for client				
Agency	Agency	2 "On a specific date or time or so on" for media consumption				
Agency	Agency	2 "And also that's a prediction tool."				
Agency	Agency	"Based on the baseline and everything we have done for 3 years, what would be your best estimate for our transactions for the coming 6 month, on a monthly basis? And then they can then say, based on the model and the numbers we've had, the model gives us this but just doesn't have to be the truth."				
Agency	Agency	3 "A real annual budget roughly that we knew will deliver on the sales target."				
Agency	Agency	4 "And then we collect all that information and put it down in an email to the client say ok the campaign isn't working at all, maybe you should take a look at the creatives, or we have a suggestion that we can move the budget or do this or do that in order to see better the results."				
Agency	Agency	4 Is it possible to give us like 100k extra for this campaign since then we're going to continue to drive sales and it's gonna give you this much amount of more clients into you."				
Agency	Agency	4 "In June we will know that we're gonna drive sales. We can see that the conversion rates are increasing heavily at the moment. So our recommendation is to put in more money into this campaign since we're gonna drive a lot of more customers. So that's like the main things I'm using when looking into the future as well. And that's why we were using R&G MMM report to like see the trends and also see where we can find the we can say, the potential in like driving sales and increase sales."				
Agency	Agency	4 As previous estimates were accurate strengthen the recommendation based on future estimates				
Agency	Agency	1 based on how sales have done choose strategy				
Agency	Agency	3 Thanks to MMM find correlation with media and KPIs so profitable strategy can be implemented				
Agency	Agency	3 "Some allocation between channels umm to maximize sales/profits for the client."				
Agency	Agency	3 "But also, how to maximize the ROI on sales."				
Agency	Agency	3 "Then you use the media uplift outcome to fine tune and calibrate and see how to increase the effectiveness, campaign by campaign or quarter by quarter, or what interval to do."				
Agency	Agency	3 "And then it is more easy for them to go to their management and explain that Media and Communication is ummm, something that contributes to sales and also have some effectiveness cause you have a positive ROI."				
Agency	Agency	2 Ask question to data and deploy different scenario to optimize choice				
Agency	Agency	2 "Use MMM to choose where to take the money out due to cut in order to minimize the marketing effect decrease				
Agency	Agency	3 "So try to work how to use past data also in a way that you can have it as a foundation for media planning or media use media"				
Agency	Agency	3 "Buying as well. There are different techniques how to use that and see if that could be a more, umm, effective way to use media"				
Agency	Agency	3 MMM gives "a more holistic way of looking into budgeting and main media allocation"				
Agency	Agency	3 optimize and maximize effect week by week				
Agency	Agency	4 Ask question to data and deploy different scenario to optimize choice				
Agency	Agency	4 "Can we improve? Do we need more budget umm, to like increase sales?" Or do we need less budget this month of the year because we know from the modelling that it have this seasonality, it goes in waves."				
Agency	Agency	4 "We have a suggestion that we can move the budget or do this or do that in order to see better the results"				
Agency	Agency	4 "We're not going to reach the main goal so you can say sales, from this campaign that's why I think we should do it this way to optimise campaigns overall."				
Agency	Agency	4 "Is it possible to give us like 100k extra for this campaign since then we're going to continue to drive sales and it's gonna give you this much amount of more clients into you!"				
Agency	Agency	4 "we were using R&G MMM report to like see the trends and also see where we can find the, we can say, the potential in like driving sales and increase sales."				
Agency	Agency	4 help new people to get on board thanks to spot on estimations				
Agency	Agency	2 "you have daily data but sometimes need to wait before drawing tight conclusions				
Agency	Agency	3 "about online daily data: "it is more the impression of fast, would say," have to wait a bit to see real trends				
Agency	Agency	3 "because Media Uplift is, as I would explain, said, it is quicker I mean, you use more, ummm, fresh data as it is built up."	speed/responsiveness/time	3		

B.2.2 Attitudes towards data and Econometric modelling

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 191

Questions	Groups [1]	Subgroups [2]	Op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Indic.	Main theme
				"Things are moving so fast in this area that it's tough for people to keep up with what seems to be the right thing to do all the time. Sometimes, I think we're moving too fast, actually."			
Innovators				"I definitely gives us a better overview and better insights than anything we've had before. But it's also very tricky because you realize that there are so many small things you need to fix, all the time, for different channels for different data sources for different... and everything has its own. So it's a very tricky puzzle to fit together."			
Innovators				"Those are good things that actually came from. But they probably would have come just by organizing all the data 2 and all the different sources and everything, even if we would have done it into a different model or a different... The key here is to once you start making sense out of all your data and collecting it into one place, all of the sudden you have all these incredible possibilities to do something with it."			
Innovators				"And that I think it's the big win for the whole project. Another thing is that everybody starts looking at the data 2 because there's nobody... Believe that it was just Ohhh it's so much! You have to go into this tool and look at it there and extract it. But now, it's there. You don't have any excuses, you can always say well look at the data."			
Innovators				"You have to somehow get a handle on how you optimize things."			
Innovators				"It took a while to collect that. That's the tough job is to get everything in one place and then in one database and in 2 one. But once it's done, that can be used for so much more than just trying to figure out if it's smarter to buy in one ad channel than in another. And that, I think, it's the big win for the whole project."			
Innovators				"But we know how to develop systems here. So we are not getting scared if things are going wrong it is just a challenge so..."			
Innovators				1 "That the system can kind of distribute the right amount of Revenue to the right media I think that is quite fascinating."			
Innovators				2 "What if I move with this budget here instead? What's likely going to happen? In a lot of times, it's like that seems like 2 very stupid idea but at least them I know that I don't have to think about doing that!"			
Innovators				"I am the product owner of the project so I basically tell our data specialist which direction to go and he solves the problems. We discuss the solutions him and I."			
Innovators				"I think that for me it's been very good to be involved in even in the development of the first part of the project, because I have much better understanding."			
Innovators				1 "I am into the details except for the pure mathematics."			
Innovators				1 "If we tell someone that we are at 3% error margin of estimated revenue, that's going to be like wow! No one has that in any system, in any business!"			
Innovators				1 "Actually being an engineer in a... from the beginning, I had pretty good understanding of all the general concept but I couldn't do it myself."			
Innovators				1 "I fully understand the concept and the well sort of design this in that sense! Well, I am the product owner of the project"			
Innovators				1 "I think that for me it's been very good to be involved in even in the development of the first part of the project, because I have much better understanding."			
Innovators				2 "But, it's still a lot umm... a lot of work that was very manual and very tough to know if you were doing all right and that is still been automated away." I would say."			
Innovators				2 "And then we have a budget done already. You don't have to go into every line and set numbers for every source and every ad channel and every... That's just done, which makes budget work so much easier."			
Innovators				2 // religion for you have to trust the system for it to work but better as at least based on numbers			
Innovators				1 "I initiated the project and wanted it to happen so. And I was also fighting internally"			
Innovators				2 "One day we would probably build some kind of connection to buy at least online media just directly. But we haven't done that yet."			
Innovators				"They cannot measure the offline part. So, for the offline part, it is very difficult to measure the CPA and the CMV because we do not expect intake from that. I mean, we, we expect intake to come further down in the funnel even though this marketing mix modelling analysis can't show that the correlation between offline marketing and some part from intake."			
Adopters				"If you only look at the data you are in trouble because that's what the attribution models that we have basically what the data says is put everything on search and stop using search for CCM PAY 1925 or for our product. So the models of our products will go down and people will stop... stop using searching for CCM PAY 1925 or for our product. So the attribution model within digital marketing is completely wrong in my point of view."			
Adopters				3 with that, that's how now, if we do that, we will cover our sales. Because the models of our products will go down and people will stop... stop using searching for CCM PAY 1925 or for our product. So the attribution model within digital marketing is completely wrong in my point of view."			
Adopters				"Predict the future, that would be great. But, I think that a Nobel prize, if you get that one (both laugh). But, then, if 3 you do not care about predicting the future, something that can tell you actually how it was, truly how it was, not the betting it but truly, in a model, that would be great."			
Adopters				4 "Because we think it's really important and I think it is really interesting to see, of course. But I think we also feel that we need to have a better connection between the media agency and the ones doing the... the reports."			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 192

Questions	Groups [1]	Subgroups [2]	Op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Indir.	Main theme
Adopters			4 did not figure out what they really want so "this is important but we want to do it right, I would say before we decide anything"				
Adopters			4 "So, sometimes reports and data are good but sometimes also you basically know what to do just to make, to sort of reach your goal. It's born I would say."				
Adopters			3 "Our version, our version, yes. But it is a standard product from Adobe that is sold to many companies. But our version of Adobe Analytics was definitely developed by and for us."				
Adopters			4 to our media agency and they just had a new hired head of analysis there and we started talking about doing something similar with them as well"				
Adopters			4 "Me, I am really interested in looking at the sort of the thing that then they can help us with. We just need to have a sit down and decide what we want to look at and follow up on it basically"				
Adopters			3 "so much want to understand the effect of TV compared to our other investments. To that point that where we actually invested in such analysis." "So, hopefully, it will turn out profitable and good." So, I can answer the questions right now, as don't know but I have a... think it will be good, I think it will be good."				
Adopters			2 "In an ideal world," if more time she would like to see more				
Adopters			"Adobe Analytics, yeah take a look. It's a huge program that you can have put together different sources, database sources that you have which allows us to follow the Nordic Market in real time. So, I can see on the product level, um, every consumer. How's it navigating on the website, mostly on certain parts and if they start applying, if they have converted or not. How does the conversion rates look like, which products they have applied for and how is that factor over time, as well? That's one part. But I can also see it is mobile usage etc., etc., etc."				
Adopters			4 "So for me that was a really interesting partnership we had!"				
Adopters			4 "Me, I am really interested in looking at the sort of the thing that then they can help us with"				
Adopters			4 "And for me that was really really interesting, because then you get away from just banner and click and then on-site action so..."				
Adopters			4 "As for now, we don't have a connected CMS, which would like to have. But we don't have it today. But think, in the near future, it will be only our brand dealer sites out there and then we will see also what's going on on their site, sort of trying to understand the whole customer journey."				
Adopters			4 Pushed for a new econometrics modelling with media agency on board				
Adopters			"And I so much want to understand the effect of TV compared to our other investments. To that point that where we actually invested in such analysis. This was actually, for me, for the first time. Then I think, I mean, time will show, this budget of 2018. So, hopefully, it will turn out profitable and good."				
Adopters			1 "I'm also also a member of a... network with Marketing and Communication here in Stockholm and we have discussed it there as well so. Yeah. From this two, umm, well we talked about it, and went:				
Adopters			2 when working in media agency, a client was using it and she found it useful after one year will show if using the results, because we have used them now, you know in our strategic plan for the offline				
Adopters			4 "think in the near future, it will be only our brand dealer sites out there and then we will see also what's going on on their site, sort of trying to understand the whole customer journey"				
Adopters			4 "I am really interested in looking at the sort of the thing that then they can help us with"				
Adopters			4 "I think more of that, for me personally, but I know our team as a whole want to know, want to learn more and to see if 2. But you need to have quite a heavy investment in marketing media in term of money. If you just spend quite little money then it is not worth it, the investment is too expensive."				
Adopters			4 And for me that was really really interesting, because then you get away from just banner and click and then on-site action so...				
Adopters			4 "Talking about it should we have cinema, should we have outdoor or is it more important to have big takeovers online?"				
Adopters			4 So for me that was a really interesting partnership we had."				
Adopters			4 help with right media mix, choice just fine				
Adopters			4 "We just need to have a sit down and decide what we want to look at and follow up on it basically"				
Adopters			1 "I mean, I am quite analytical. But I mean, it is very difficult for me to really understand the details of this."				
Adopters			1 "I have understood it so far as explained to you. And I am not very interested in understanding too much (laughs). But, as long as I work together with people that feel confidence in"				
Adopters			3 and stuff like that is actually ummm, it is true in one sense but it is absolutely not the absolute truth so you need to know much more about what you have done and what you are trying to achieve."				
Adopters			enquiry				
Adopters			2				

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS193

Questions	Groups [1]	Subgroups [2]	Op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Indic.	Main theme
Adopters	Adopters			"So, we try to predict the future. We are very bad at it. As all humans (laugh). But we try. We try. And we adjust for about statistics, is, umm... Just because you have a correlation doesn't mean that you have causes..."	scarcism	2	
Adopters	Adopters			"as long as I work together with people that I feel confident in. Well then it is a well known company. That we are firing. I feel comfortable in the result and, yeah, also I trust the M&M and the people doing the analysis."			
Adopters	Adopters			1 "don't know but I have a... I think it will be good. I think it will be good. I think it is good to use, I mean, to use umm, clever people doing statistical analysis because I think there are a lot of companies that re-evaluate their offline marketing spendings and they are also out. So yeah. This is one way of doing... I think it is a good way"			
Adopters	Adopters			4 Do not question data analysis feedbacks and recommendations			
Adopters	Adopters			4 "And then we can also see post impressions and post click, but not in this sort of the data-driven way that they presented it. So the modeling beat thing. -> trust more MMM			
Agency	Agency			4 "But, of course, it's a bit umm, I would say, it's a bit less specific! I would say then what we did there and then with R&G. -> trust more MMM"	trust	5	
Agency	Agency			3 "But I have worked with the evaluation of media communication effects for about 25 years or something. And, as I said in most cases, based on what we call regular brand and ad tracking"			
Agency	Agency			2 "The online tracking, if you say that is handled by us, in the house, yeah, that's correct. But, for offline media, we actually are dependent on the buying of that kind of research and insights from other companies."			
Agency	Agency			2 "Since, I mean, it is many campaigns flowing through our system, together with publishers data and client own data, you've built layers and you can start to, you know, create a profile."			
Agency	Agency			2 of cut through in our advertising. But so it depends on which media it is, which media channel, when it comes to the media KPIs."			
Agency	Agency			2 trends identification waiting depends on campaigns but also category			
Agency	Agency			2 "It's very much storytelling. And that's what R&G is really good at. Umm, it's ummm... that's that's hard to... The language of understanding, would say. It's the most successful language to speak with clients."			
Agency	Agency			2 not optimized system yet as not everything in the same platform but that is where we are heading			
Agency	Agency			3 "but, in the end of the day, it's the revenue and the sales that counts so..."			
Agency	Agency			3 "It is more to look at trends and the long term development but, no, not dig into the actual execution and then do this other kind of machine learning to be econometrics modelling, nor for everything has laws			
Agency	Agency			3 "if you evaluated how to reallocate or try to maximize the effect on top of all we have done so to say so in that case the uplift was something that suited very well into the our way of working as a tool box to look at the uplift session for the brand" analyzed in which scope using Media uplift			
Agency	Agency			3 In their Media uplift, all marketing activities whereas in Stadium MMM all in here implying different use			
Agency	Agency			3 two clients with two mindsets but balanced necessity to use the tool "Hard discussion" about it			
Agency	Agency			3 Use client MMM instead as the answers might be more relevant as based on client own data			
Agency	Agency			3 Need to balance econometrics modelling outcomes with client brief			
Agency	Agency			3 Media does not do everything. You need some good content, you need something that would... have the possibility to create the effect that you need"			
Agency	Agency			3 Do not use data blindly, discuss with analysis on what it means exactly, rationalized the outcomes			
Agency	Agency			"we really wanted to stay with the content and that affect the result from the media uplift so you also need to understand what you have done with the content and that affect the result from the media uplift so you also need to understand is there any explanations that we have done"			
Agency	Agency			"I think it is brilliant (laugh). I mean but it is a different approach. MMM is a combination of standard statistic regression analysis and business understanding and when we try to pitch MMM for clients we say, oh this is very important because you can't just rely in the statisticians or engineers, you need the business understanding"			
Agency	Agency			3 "So, if you understand, in some cases the tool, yes it is good to have but then when when you have anomalies of market that don't behave like a normal market we cannot easily use it."			
Agency	Agency			4 "It's harder to see and like and, we can say take earnings from that because you're always like trying to deliver deliver deliver (blurred by too much details)			
Agency	Agency			4 depending on client need and media strategy in term of reach use or not for MMM			
Agency	Agency			4 depending on client need and media strategy in term of reach use or not for MMM			
Agency	Agency			2 "But, I've worked at it for a long time, I love it because its... it can... I can play around with it (laugh), you know. You can you can build your target!"	customized	1	

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 194

Questions	Groups [1]	Subgroups [2]	Op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Indir.	Main theme
Agency	Agency		2 instead of focus group "But we are more into data (laugh)." "The model gives us this but just doesn't have to be the truth (laugh). But for, for when I work with R&G it has been spot-on. We have given them for the next coming six months, the client has then go back and checked and their numbers have been (pop sound) perfect. It is really interesting (laugh). And the sales guys are the other ones that based their estimates on their knowledge, we have beaten that."				
Agency	Agency		2 eager to have all data in the same place				
Agency	Agency		3 "In the Volvo case they were happy and pleased"				
Agency	Agency		3 "Then you use the media uplift outcome to fine tune and calibrate and see how to increase the effectiveness, campaign by campaign, or quarter by quarter, or what interval to do. I think it is, it could be a very good tool to use."				
Agency	Agency		3 "I think it is brilliant (laugh)" about MMM				
Agency	Agency		4 curious and eager to learn buzz technologies				
Agency	Agency		2 "But we are more into data"				
Agency	Agency		2 "It's the most successful language to speak with clients (laugh) that they feel that you actually understand their business or the challenges, and you can put whatever you do in the context of their world rather than being some consultants that comes in and out, talking about my stuff and not linking it to their actual everyday work."				
Agency	Agency		2 "So there could be data lost in the transactions that are... absolutely absolutely" lost of data unacceptable				
Agency	Agency		3 wait to use client future new analysis to use, hope it will be more relevant				
Agency	Agency		4 specialist looking deep in daily data				
Agency	Agency		4 "But also when it comes to recommendation and get the client to understand what we are, why we are planning in a different way and have MMM as a supporting tool is so critical for us."				
Agency	Agency		"And looking at the the estimates were doing, they are pretty accurate. It's more helpful for the new people and for us to like coordinate them into the right focus areas and get them to understand why we're doing things in a particular way that they may be not used to do. But for us, internally I think it's... 'Yea, on a scale of like 1 to 10, I would say an 8 when it comes to crucial. Since it is giving us a lot of information which I don't know what we should find it anywhere."				
Agency	Agency		4 "So it's a lot more and a lot more complicated and that's why I think MMM is more suited for Tepez." -> helps in complex situations				
Agency	Agency		2 expecting centered system gathering all data insights				
Agency	Agency		3 use for more client if they are able to understand relatively how the model works				
Agency	Agency		3 Ask the data analysts a lot of question for deeper understanding of outcomes and how to use /act upon them				
Agency	Agency		1 "They are quite expensive to do. And it takes a lot of resources at stakes as well, from our side but of course also from the client side so"				
Agency	Agency		2 "First you have the finance of the MMM,"				
Agency	Agency		4 "but with these amazing information that you are providing to the clients"				
Agency	Agency		1 "Oh, yeah! Like Amazon! Like books and... they suggest you..."				
Agency	Agency		4 interested in buzzwords, hightech, not afraid to learn				
Agency	Agency		1 "So that's a good program I think I don't know if if the program is bad then I would not use it I guess. So the program that I use is the one I have a function for when I am working in my daily life, I guess."				
Agency	Agency		2 "It's never a lack of input but then we also have, if we know that we want to reach, umm, students, for example, we can, on the digital behavior, find out, through all the data that we have collected so we can ask our tacky guys, they are up floors so I mean, need to have, umm, give me some profile of how students behave in the digital world based on all the aggregated data that we have worked with."				
Agency	Agency		2 "So, that kind of information and data that we are dealing with this for example business understanding and if we are doing the best we can for the brand."				
Agency	Agency		2 combination of both econometric modelling and media data				
Agency	Agency		2 Speaking the language of business makes the work as consultant easier and increases the value for clients				
Agency	Agency		2 look at the model for estimates in the near future and they are spot on				
Agency	Agency		3 fast data are relevant in doing the media planning and media buying work				
Agency	Agency		3 "um and not sas because we said the KPI would be what we called sessions on Volvocars, the combination of functional/do the job this and the configurations. So, it was nice ummm KPI to work with, would say."				

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 195

Questions	Groups [1]	Subgroups [2]	Op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Indir.	Main theme
Agency	Agency			"And then we can use Media Uplift to fine-tune and see campaign or if you evaluated how to reallocate, or try to maximize the effect on top of all we have done so to say so in that case the Uplift was something that suited very well into the our way of working as a tool box to look at the uplift session to the brand."			
Agency	Agency			3. 'We still think that Media Uplift contributed to our way of working, our way of planning'			
Agency	Agency			3. 'If you have a client that and he'll understand the method, and the usefulness'			
Agency	Agency			3. 'So then we can set a... umm... a real annual budget, roughly that we knew will deliver on the sales target.'			
Agency	Agency			'we're using MMM as a tool to like strengthen our recommendations and there's one big things and one big difference between our work with Tele2 and other clients since we have data pretty accurate when it comes to like follow up the year looking into what these were the KPIs we had. These were the estimated traffic from G&R and it's almost spot on so I think that's that's something that's mostly useful for us looking into the planning'			
Agency	Agency			4. 'So it is a lot more and a lot more complicated and that's why I think MMM is more suited for Tele2. -> helps in complex situations'			
Agency	Agency			3. 'They contribute with different things but you need to have the client on board to understand how to use them'			
Agency	Agency			'In a Media Uplift, we spend quite a long time together with Rikard and Gustav, when we did it, trying to understand the outcome and how to use the outcome of it, and trying to interpret it into something actionable for us and in the end for the client'			
Agency	Agency			3. 'Challenges to get to understand the model, its outcome and how to act on it. "So you need to put in some effort so you understand how to interpret the data."			
Agency	Agency			3. 'A lot of back and forth meetings with data analysts with new questions between media agency and them via the interviewee'			
Agency	Agency			3. 'When I worked with that R&G and we discussed it a lot, and we tried to use Media Uplift for other clients, think it was... well I think it's brilliant (laugh), mean but it is a different approach.'			
Agency	Agency			3. 'So if you understand, in some cases the tool, yes it is good to have but then when you have anomalies of market that don't behave like a normal market we cannot really use it!'			
Agency	Agency			4. 'was involved from the start, when we started the project, helping them with all the interaction with like double click and digital platforms to get the right data into the study'. So I've been involved from the very first day. But then of course they have some basic courses when it comes to like understand the report, why they are doing things in a particular way.'			
Agency	Agency			4. 'that was really helpful! I appreciate to be involved from the beginning and make it easier as well to understand what, of course, what I'm looking at.' then also a lot of meeting just with them and him			
Agency	Agency			'But, I've worked at it for a long time, I love it because it's... it can... I can play around with it (laugh), you know. You can buy your target. So, you can say, "I want to see how's the media consumption for a young student coming from another country or whatever it is, you know. And then, I can find out the data myself"			
Agency	Agency			4. 'ok but with these amazing information that you are providing to the clients, find out how can we like translate that into the media plans and executed on it?'			
Agency	Agency			1. 'conuses ML with API'			
Agency	Agency			2. 'I am not that much mathematic, math or statistical, so Only marketing and communication'			
Agency	Agency			2. 'do not directly with data "We ask them the questions and they give us the insight"			
Agency	Agency			2. 'For me, data is the information'			
Agency	Agency			2. 'Uses head of digital as translator with tech data guys. "So he is translating whatever I want"			
Agency	Agency			3. 'Created a differentiation between MMM and Media Uplift which are the same'			
Agency	Agency			3. 'MMM gives full picture while media Uplift gives only incremental uplift of parts of the media activities'			
Agency	Agency			3. 'MMM works on three years data while media Uplift in 1 year daily data'			
Agency	Agency			3. 'figures by themselves useless, "we spent quite a long time together with Rikard and Gustav, when we did it, trying to understand the outcome and how to use the outcome of it, and trying to interpret it into something actionable for us and in the end for the client.'			
Agency	Agency			3. 'needs efforts to understand even partially'			
Agency	Agency			4. 'Yeah of course, they are looking at it. But it's not like they are buying the time as well to deep dive and understand every single metric in it.'			
Agency	Agency			4. 'understands a lot when it comes to media data from channel they are buying from but the rest is average'			
				no math details	12		

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS 196

Questions	Groups [1]	Subgroups [2]	Op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Indir.	Main theme
Agency				"the model gives us this but just doesn't have to be the truth (laugh). But for what I work with R&G it has been spot-on. We have given them for the next coming six months, the client has them go back and checked and their numbers have been (pop sound) perfect. It is really interesting. (laugh). And the sales guys are the other ones that based their estimates on their knowledge, we have beaten that."			
Agency				4 These were the estimated traffic from G&R and it's almost spot on so I think that's that's something that's mostly useful for us.			
Agency				1 "I like I worked with R&G in Econometrics. I guess it's one type of machine learning."			
Agency				"we can, on the digital behavior, find out through from all the data that we have collected. So we can ask our tacky guys, they are up floor so I mean, I need to have, umm, give me some profile of how students behave in the digital world based on all the aggregated data that we have worked with."			
Agency				2 "People in the team, I can talk to everyone but it comes from us. We ask them the questions and they give us the insight."			
Agency				"It's data that has... gives me some kind of information. So, that kind of information and data that we dealing with this for example business understanding and if we are doing the best we can for the brand"			
Agency				2 Uses head of digital as translator with tech data guys. "So he is translating whatever I want."			
Agency				3 Differences between Media uplift and MMM			
Agency				3 differences between Media uplift and MMM (aware of difference of data frequency)			
Agency				"We know that we have all the touch points and and that they have collected all the data that I would say, that 3 they needed to do the Media Uplift. And, they came out with some figures and some saturation curves or whatever and the data media and contribution by different channels, according to spend etc."			
Agency				3 understands that you need to balance the data from the model with considering what you have done. What may influences the results			
Agency				"Based on the findings, cause in that case I go back to R&G, say ok now you have to explain the outcome, we have thought about things that could affect but is it possible to say? I mean, if we have some hypothesis, what would they affect the outcome? Yes or no or? Or even go there (laugh) or rely on the figures and that's it? It is a discussion in teamwork. Would say."			
Agency				"MMM is a combination of standard statistic regression analysis and business understanding and when we try to pitch MMM for clients we say this is very important because you can't just rely on the statisticians or engineers, you need the business understanding but then you come to Media Uplift and MM and then talking to R&G and they said we don't think you can buy us anything with some business understanding just rely on the machine, we will use our software to trying to learn, learn, learn and then we have some outcome of that so. And in that context and in what they have presented for us and so on, I rely on the figures. Yes, I do that."			
Agency				"Because we have a high knowledgeable brand without any spend. But you need spend to have a very high knowledge brand within the system. So, if you understand, in some cases the tool, yes, it is good to have but then when you have automation of market that can't behave like a normal market we cannot really use it."			
Agency				"And they don't have to do it, since we are bringing them internally as well when we get the brief from the client saying report."			
Agency				4 "So that's why I also had like these sessions with G&R to like understand what they are looking at them how they are modelling"			
Agency				1 "So this has been a great tool for me. Not just to have it or see what functions because sometimes you got quite difficult questions from the client which is quite hard to answer if you don't have any data that supports that question."	relief	1	
Agency				3 "I am not that much into the fast moving or the fast data from from internet and and all that, that are available. We are trying to use data combined in a more robust way"			
Agency				3 "That's also a combination to be, it's the first kind of ongoing momentum of the brand, it is more to look at trends and be"			
Agency				3 Doubtful about using it with more client like maybe			
Agency				4 Doubtful about using it with more traditional clients as they are only focusing on reach mostly			
Agency				1 "Because it is based in sales and media has contributed to sales and which has not. Which, which periods during the year we should do more, do less and so on. And if there is any other factors that contribute to sales or if it's, if it doesn't, more or less. So it has been a very good tool for us to use."			

APPENDIX B. CONTENT ANALYSIS OF FIRST INTERVIEW TRANSCRIPTS197

Questions	Groups [1]	Subgroups [2]	Op. [3]	Extensive coding (2nd round) [4]	Categories [5]	Indir.	Main theme
Agency				"And then this way, I have the truth from 3 years back to support my argument and my recommendations. And... sales figures. And it's quite hard for others to your step aside and say no, no don't think so, but here is the truth, here is the truth, because this is how the sales have developed. So, this has been a great tool for me." "Two years in a row and from that we got pretty good information. It is based on sales."			
Agency				1 "But we are more into data (laugh)" rather than focus group			
Agency				2 trust companies measuring offline channels			
Agency				2 trust statistical data from market study to challenge client assumptions			
Agency				2 "...This is how we see it. This is, this is how we believe you should do it. This is our proposed strategy."			
Agency				2 "From all the data that we have collected so we can ask our tecky guys, they are up floor so I mean, I need to have umm, give me some profile of how students behave in the digital world based on all the aggregated data that we have worked with"			
Agency				2 "Since, I mean, it is so many campaigns flowing through our system together with publishers data and client own data, you've built buyers and you can start to, you know, create a profile, the more data the better"	trust	19	
Agency				2 trust their media knowledge, considers creative agencies' view old fashioned			
Agency				2 data analysts have the best estimates so trust their result even though it might not be the truth			
Agency				2 do not trust her skills to understand all the data and details so uses the tecky guys and her head of digital as translator/intermediaries			
Agency				3 Trusts the outcome of the model without questions, state figures and ROI as authoritarian arguments			
Agency				3 "I mean I trust it, Yes, Yes, + " rely on the figures, yes, do that"			
Agency				4 Trusts the outcome of the model without questions, state figures as authoritarian arguments			
Agency				4 heavily rely on the model to understand what to expect in the future			
Agency				"Since we have data pretty accurate when it comes to like follow up the year, looking into ok these were the KPIs we had, there were the estimated traffic from G&R and it's almost spot on so I think that's that's something that's mostly useful for us looking into the planning"			
Agency				4 trust the model outcome to help in complex situations			
Agency				4 "These amazing information"			
Agency				2 "No, but when they will be, at least somebody will take data from one point and moving out to another system. Because then we would all be working in the same system. That's where we are heading"	visionaries	1	

Appendix C

Validated Personas Work-Models

This appendix gathers all the validated work-models of the four personas generated in this user research. A small recapitulation of their profile, purpose and goal is also included. Together, they constitute the main outcome of this thesis: the design toolbox to build a marketer centered DSS.

C.1 Persona 1



Gina Anderson
CEO of PriceRunner - 42 years old

• Divorced, mother of two children: Adam 13 and Tanja 8.
• Loves climbing on her free time.
• Is not a really good cook but talented baker. She particularly masters Princess cake for her daughter birthday.
• Does not watch TV often yet she enjoys relaxing in front of Brooklyn 99.
• Fascinated by new technologies and huge fan of new innovations.
• Always carries around her MacBook Air to be ready at any time at work.

Gina Anderson - CEO @ PriceRunner

"If we want to compete, we need to be much more efficient than all the competitors in spending marketing money." - "We constantly want to see how things are going and how we can change things."

Work Goals:

- Grow the business on a local and global scales.
- Invest profits back smartly in marketing to stay competitive on the market and profitable in the long run.

Product Related Goals:

- Continuous overview of the current marketing and media efficiency on the ST and the LT to adapt swiftly.
- Fast, accurate and updated data-driven insights.
- Optimisation of media budgets over the year, the month, the week and the day.

ML & Data analytics Attitude:

- Enthusiast visionary: sees the Econometrics modelling potential and actively seek data-driven insights.
- Lead the introduction, development and adoption of ML learning based analysis inside her company and team.
- No mathematical details though curious about overall algorithms logic.

Hopes:

- Model which revenue will be generated based on media budget with high confidence.
- Model LT marketing effect as efficiently as current ST.

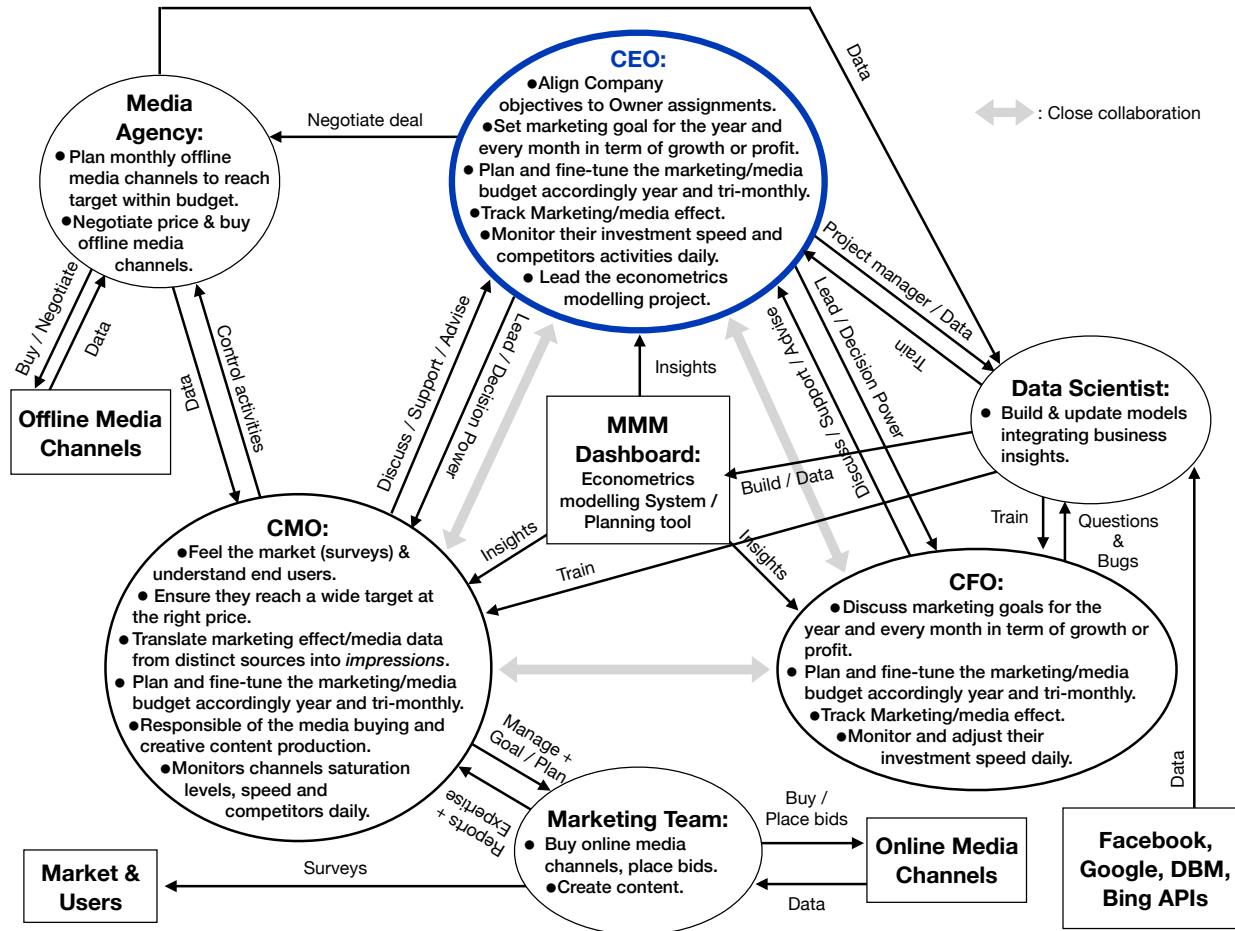
Fears:

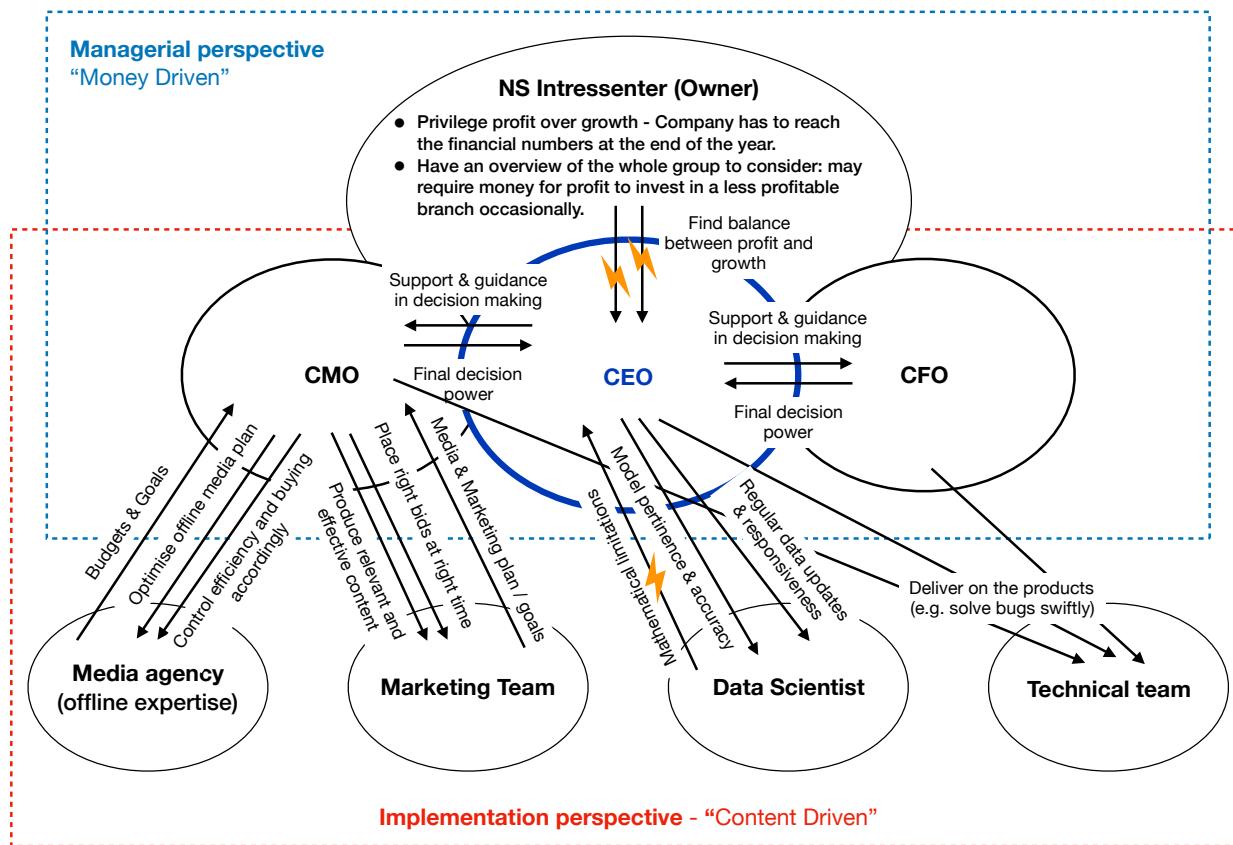
- Things may move too fast for them to keep up with and relevantly integrate the outcomes.

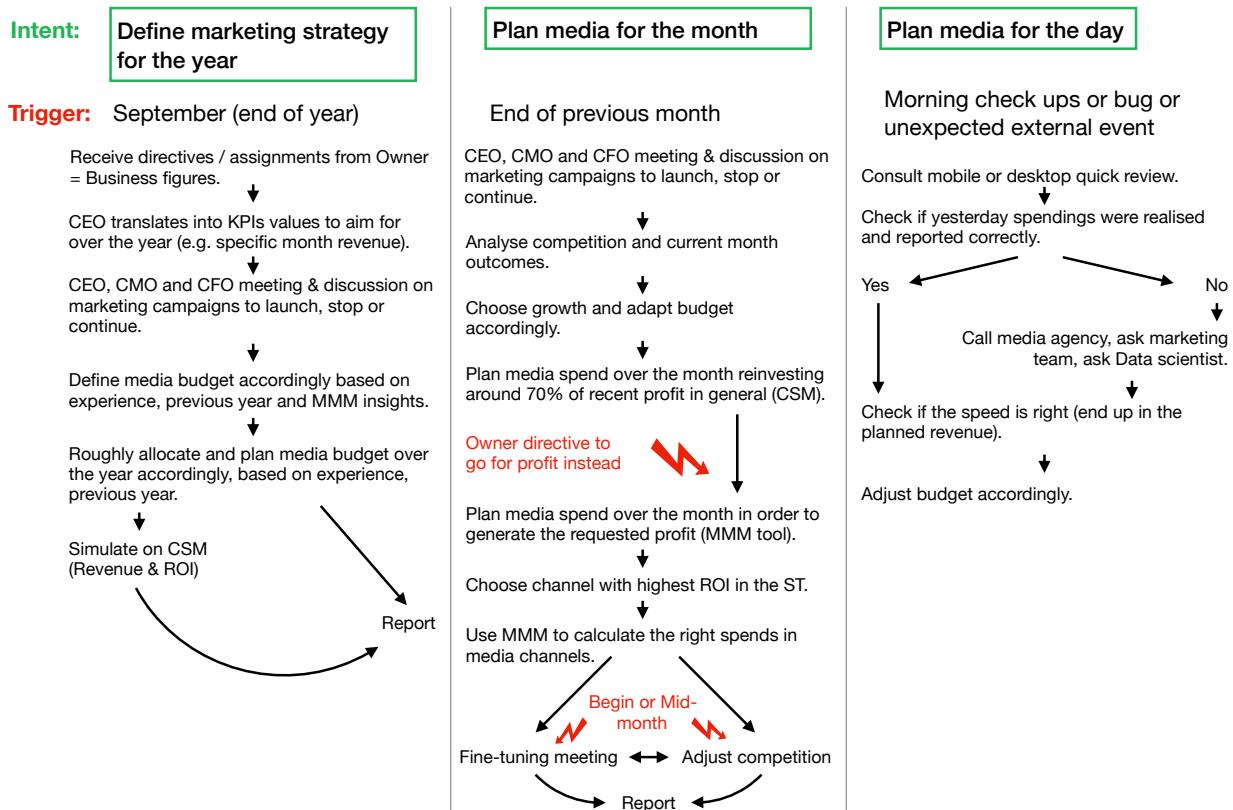
Figure C.1: Persona 1 profile: Gina Anderson

In the following order you will find on the next four pages Gina's:

- validated Flow model,
- validated Cultural model,
- validated Sequence model,
- validated Artifact model.







Artifacts

- Google Analytics
- MMM Dashboard with regular model updates
- Enterprise system (external tool reporting click outs and revenues)
- Internal Profit and Loss Google sheet
- Long term and Short term assumptions (e.g. TV & Radio)
- Google spreadsheet to report and evaluate marketing effects
- Surveys of users usage and brand awareness

C.2 Persona 2



Johan Åkeson

Customer Acquisition Director at Audi
Sverige - 37 years old

- Married to Victoria, one 5 year-old son, Henry.
- Runner in essence; minimum 10 km once a week.
- Food lover: cuisine is an art. Often enjoys worldwide trips to famous restaurant with his wife.
- Major Netflix consumer: frequently watches his favourite serie House of Cards on Business trip.
- Privileges evening for family time and like playing board games with his son.
- Work on a heavy and secured HP laptop provided by his company.

"Predict the future, that would be great. But, I think that is a Nobel prize, if you get that one. But, then, if you do not care about predicting the future, something that can tell you actually how it was, truly how it was, not the betting it but truly, in a model, that would be great."

Johan Åkeson - Customer Acquisition @ Audi

"Predict the future, that would be great. But, I think that is a Nobel prize, if you get that one. But, then, if you do not care about predicting the future, something that can tell you actually how it was, truly how it was, not the betting it but truly, in a model, that would be great."

Work Goals:

- Grow the market by acquiring new customers, bring people to do what they would not normally do.
- Maintaining and generating long-term effects in marketing through customer experience to keep the market demand on their products up.

Product related Goals:

- Deeply understand the current marketing effect and state.
- Control marketing effect.
- Distinguish LT from ST campaigns and evaluate effect accordingly.

ML & Data analytics Attitude:

- Interesting and useful data-driven insights provided but limited scope of relevance due to over estimated Search effect. Thus, skeptic about current results.
- Untrustworthy forecast giving the illusion of control.
- Not interested by how it works as long as it works.

Hopes:

- Hoping for a real deep and complete understanding of what is currently happening regarding ST & LT marketing.
- Search separated from other media channels in the regression analysis.

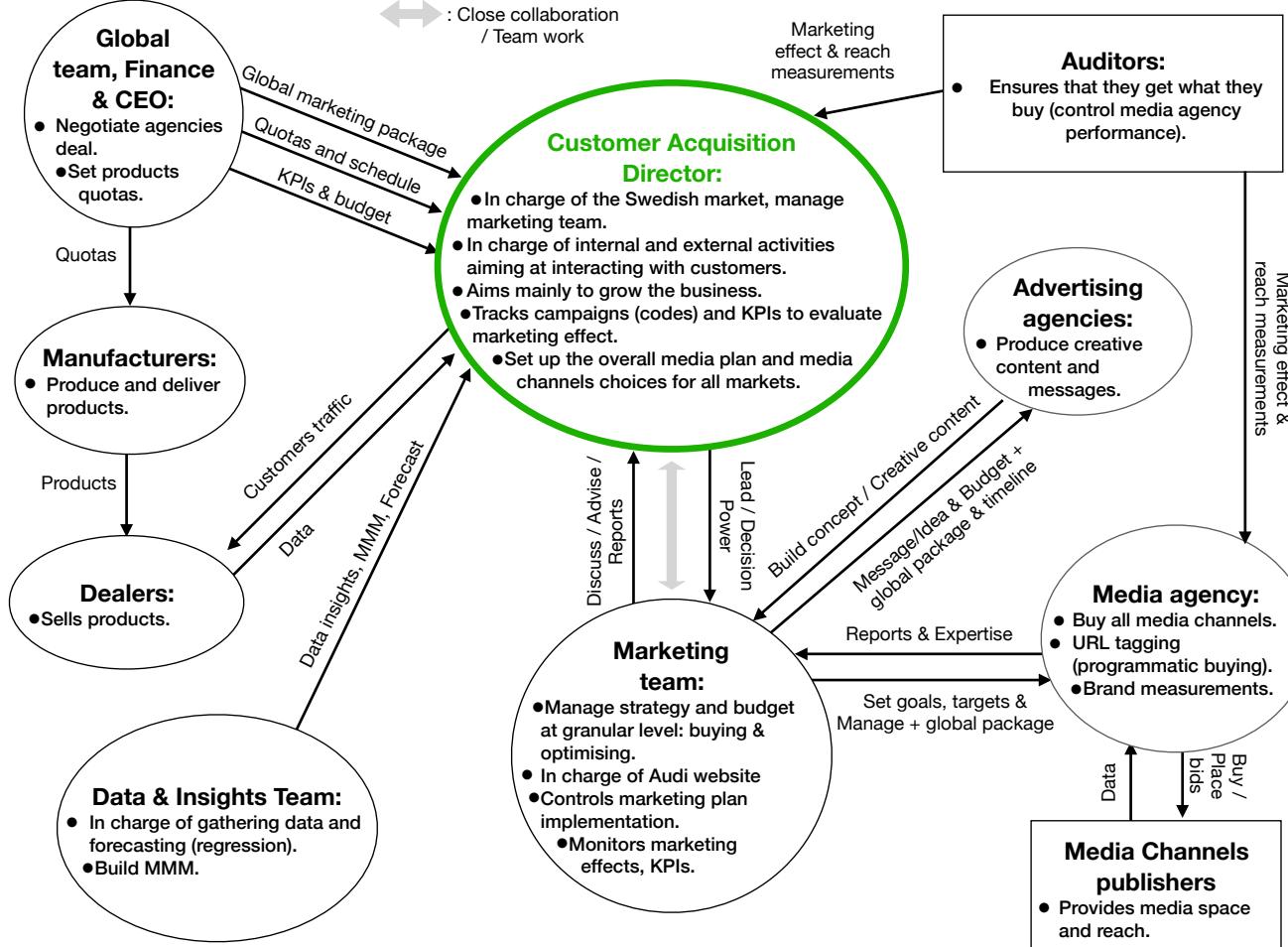
Fears:

- Draw wrong conclusion based on irrelevant or incomplete correlation produced by the mathematical analysis.

Figure C.2: Persona 2 profile: Johan Åkeson

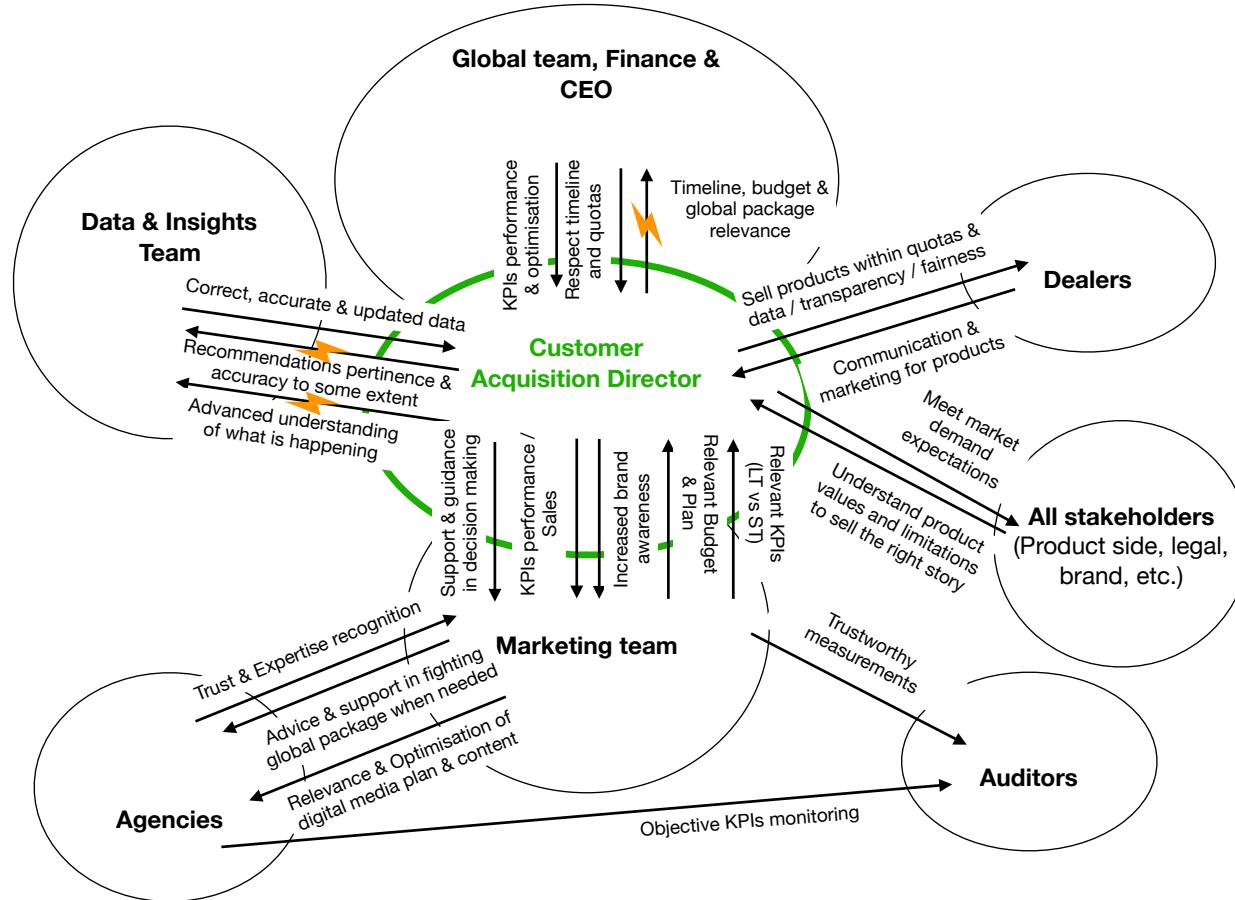
In the following order you will find on the next four pages Johan's:

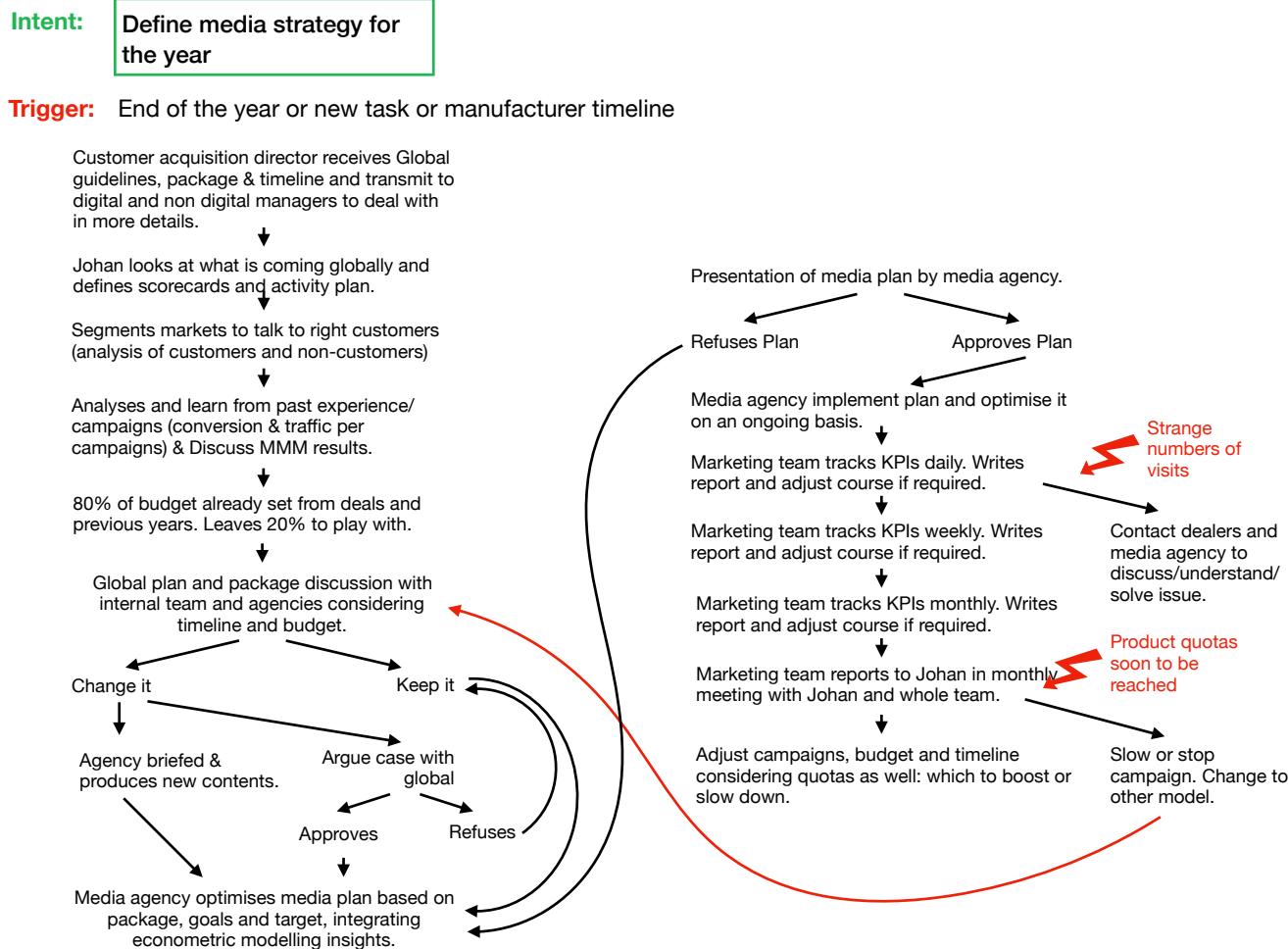
- validated Flow model,
- validated Cultural model,
- validated Sequence model,
- validated Artifact model.



APPENDIX C. VALIDATED PERSONAS WORK-MODELS

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Artifacts

- Customised Adobe Analytics tool for reporting activity (specially designed for their company) instead of Google Analytics as they want to own the data.
- Conceptual model of LT/ST separation: most media channels are ST while LT effect can only be achieved by the customers experimenting something by themselves.
- Conceptual model of Search: Search not perceived as a real media channel as it does not drive customers by itself. Instead, powerful tool for conversions.
- Econometric modelling analysis (statistical studies and regression analysis) to some extent.
- Several internal tools for reporting.
- Ongoing surveys of users usage and brand awareness via third party company to control media agency performance.
- Global reports.
- Excel sheet with all KPIs figures (cars sales for instance)

C.3 Persona 3



Sara Martin

Commercial manager at Shpock - 34 years old

"I have a very customer focused way of looking at marketing." - "I started to study all this and I asked these questions: what types of campaigns or channels are the best and the facts and what they have given us and so on. There were actually not so many answers."

Sara Martin - Commercial Manager @ Shpock

"I have a very customer focused way of looking at marketing." - "I started to study all this and I asked these questions: what types of campaigns or channels are the best and the facts and what they have given us and so on. There were actually not so many answers."

Work Goals:

- Married to Anders, two daughters: Tili, 2 and Ans, 4.
- Practice Pilates daily.
- Fervent animal defender; she is vegetarian.
- Loves crafting small accessories for her girls when she finds some time.
- Strong fashion sense, she enjoys fashion TV shows because they are for house decoration or style.
- Plans to go on a year sailing trip around the world with her family before her forties.

Product related Goals:

- Structuring and coordinating the KPIs monitoring between her team managers.
- Evaluate the marketing effects on chosen KPIs of both online and offline media channels.
- Optimise media budget to reach the business goal.

ML & Data analysis:

- Always seeks M&A analyses and initiated the procedure in her company upon her recent promotion to her post.
- Enthusiastic about the future outcomes.
- Analytical mind but no math interest at all.
- Trust the analysis as it will be provided by competent and trustworthy experts.

Hopes:

- Control the marketing investments efficiently.
- Increase her negotiation power, e.g., convince her top management that investing in marketing is not a waste.

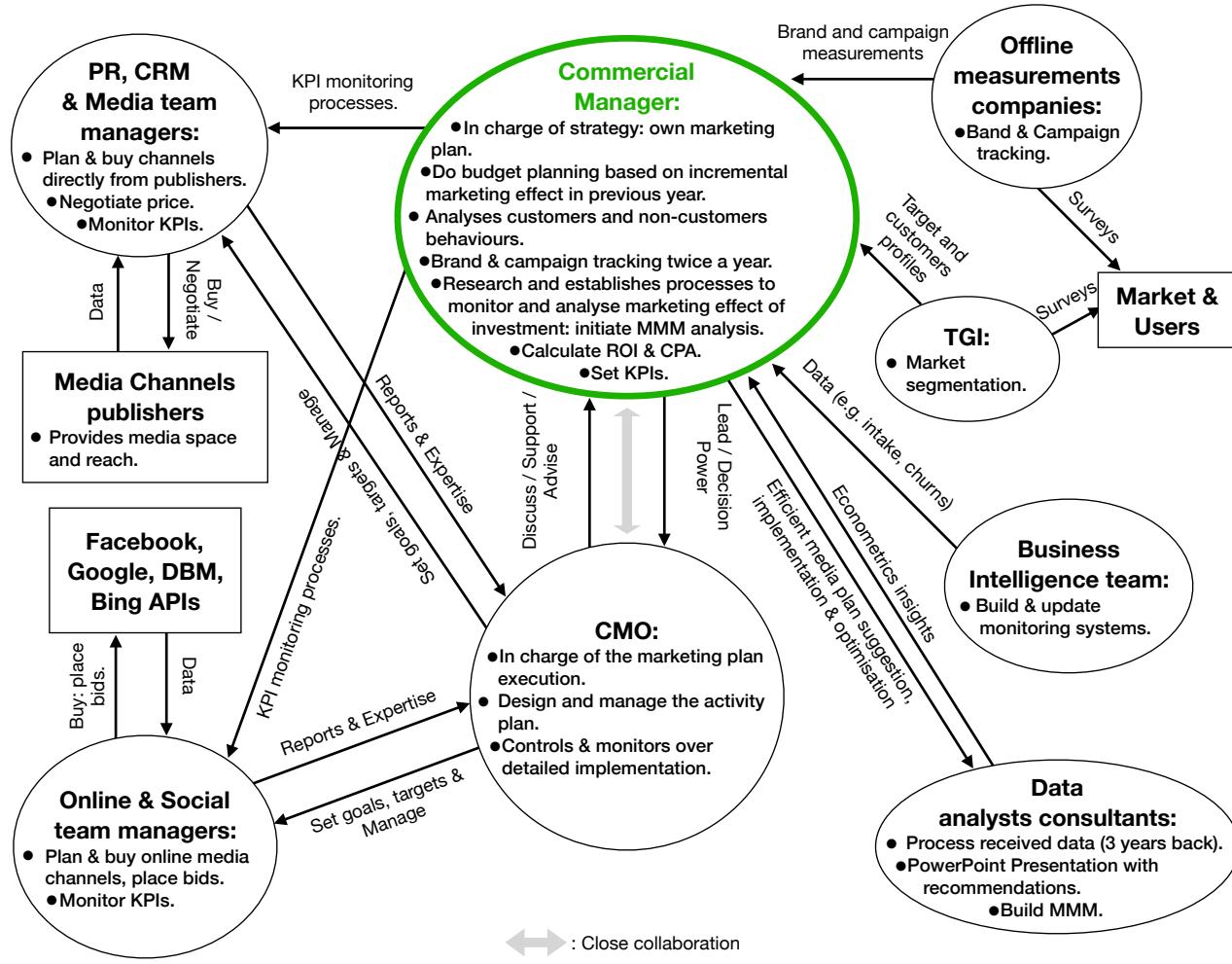
Fears:

- Expensive procedure to sustain on the long term in comparison to its benefits.

Figure C.3: Persona 3 profile: Sara Martin

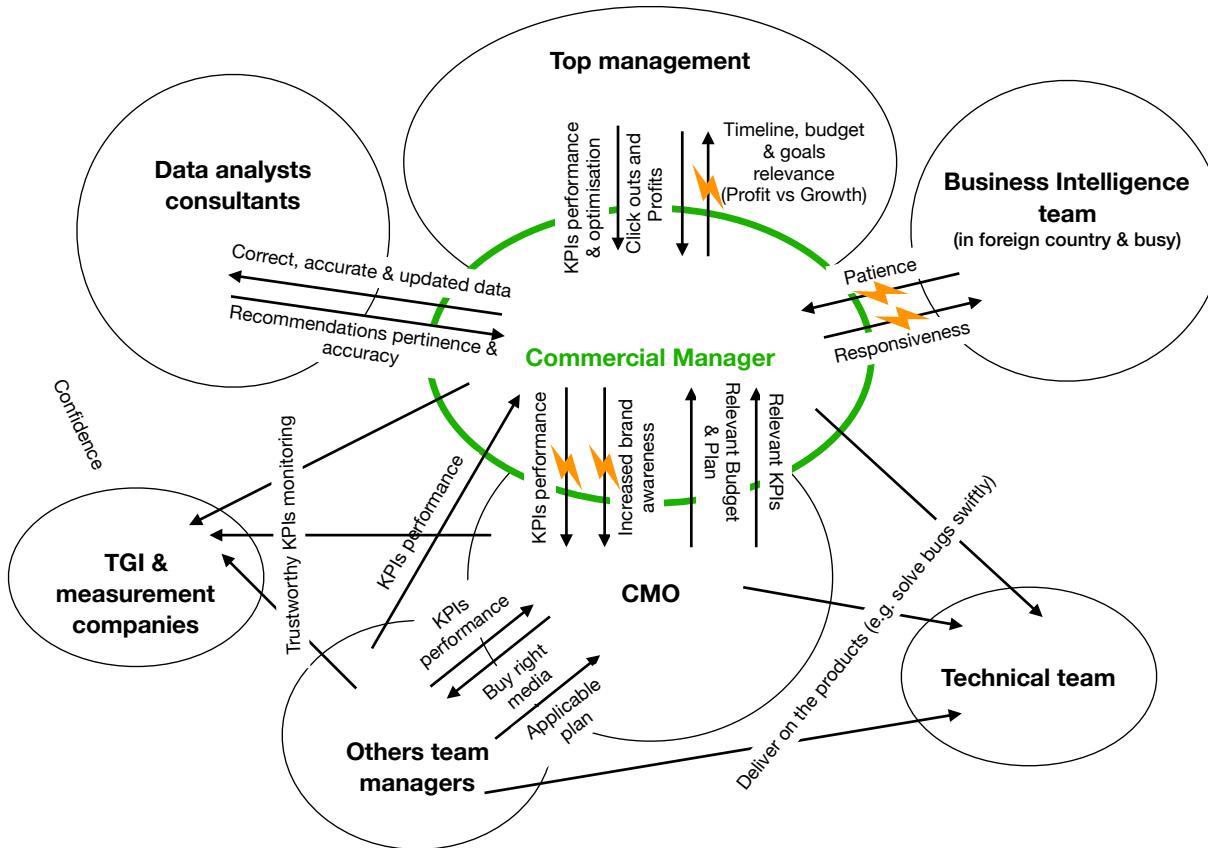
In the following order you will find on the next four pages Sara's:

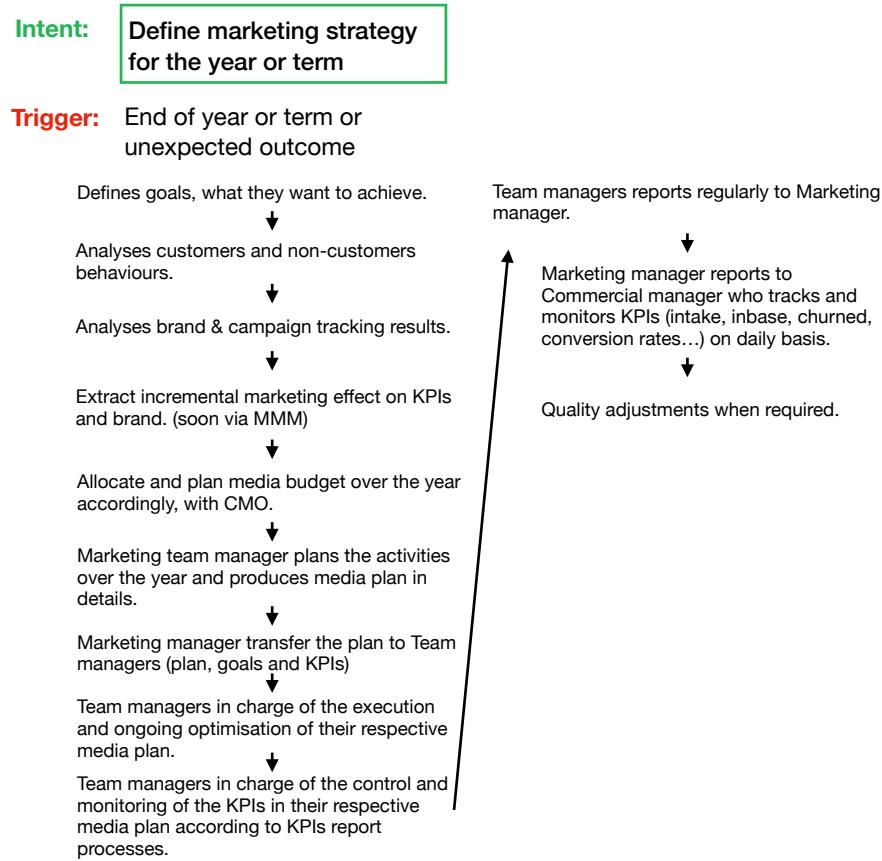
- validated Flow model,
- validated Cultural model,
- validated Sequence model,
- validated Artifact model.



APPENDIX C. VALIDATED PERSONAS WORK-MODELS

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Artifacts

- Google spreadsheet to report (KPIs) and evaluate marketing effects via CPA and ROI calculation & Intake forecast for each marketing activities in marketing plan.
- Long term and Short term assumptions (e.g. TV: intake upper the funnel undetected by MMM).
- MMM analysis in the future
 - Business Insights interface (internal software)
 - Google Analytics
 - Facebook analytics
- Surveys of users usage and brand awareness (500 at least 2 time a year)
- Internal tools for reporting (e.g. PR tool).

C.4 Persona 4



Sven Berg
Client Service Director at PHD - 39 years old

- Single.
- Ice Hockey fan, huge supporter of the Swedish team and meet with his friends to play on Tuesday evenings.
- Loves cinema and old movies. City lights of Chaplin always deeply moves him.
- Enjoys trips to French vineyard with close friends.
- Brew beer on his free time.
- Cautious adopter of new technologies.

"I work more as an advisor for clients, what to do, where to invest their money" - "the basics of what we do here is the distribution of the message. That's what we are working on. How can you do that most efficient and in the best way to reach whatever your challenges or barriers are"

Sven Berg - Client Service Director @ PHD

"I work more as an advisor for clients, what to do, where to invest their money"
 - "the basics of what we do here is the distribution of the message. That's what we are working on. How can you do that most efficient and in the best way to reach whatever your challenges or barriers are"

Work Goals:

- Represents interests of several clients in his Media agency, ensures they get what they paid for or more.
- Develop marketing and media strategies to reach his clients objectives.
- Ensures clients timelines are respected and results delivered as expected.

Product related Goals:

- Different outcomes for clients and media agency; he is not really interested in the marketing effect evaluation of a media channel his company is not responsible for.
- Monitoring, evaluating and communicating about the efficiency and relevance of their media strategies.

ML & Data analytics Attitude:

- Econometrics is doing the job. Results are completely trusted as proven accurate. Although, he does not mind proceeding without with some of his clients.
- Curious about how insights are extracted but not down to the math behind it.
- Confused about the applied data analysis methods and the extracted insights.

Hopes:

- Answering clients questions based on data and supporting their claims with their top management.
- Efficiently monitor on one centralised tool and optimise strategies on daily basis.

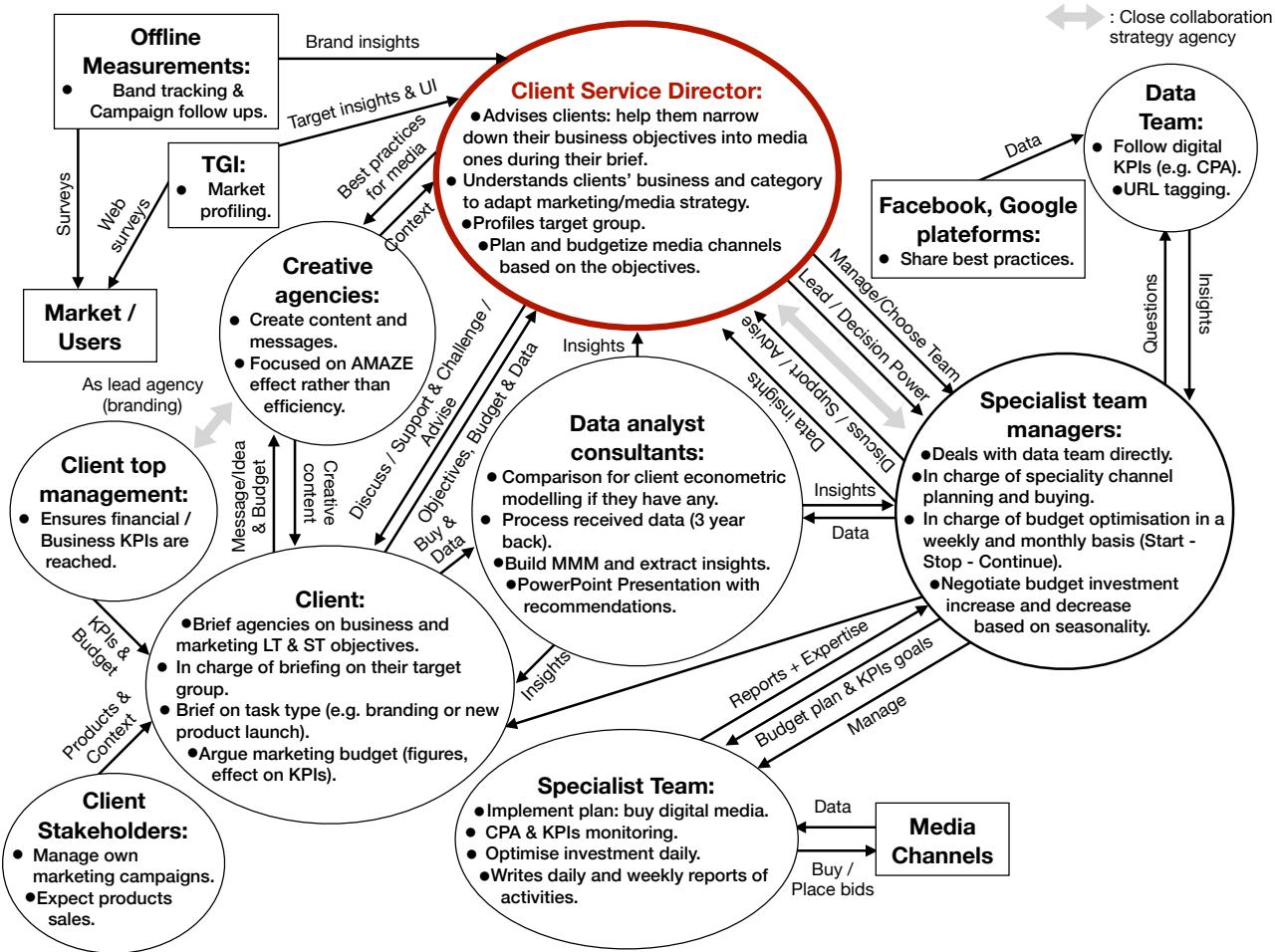
Fears:

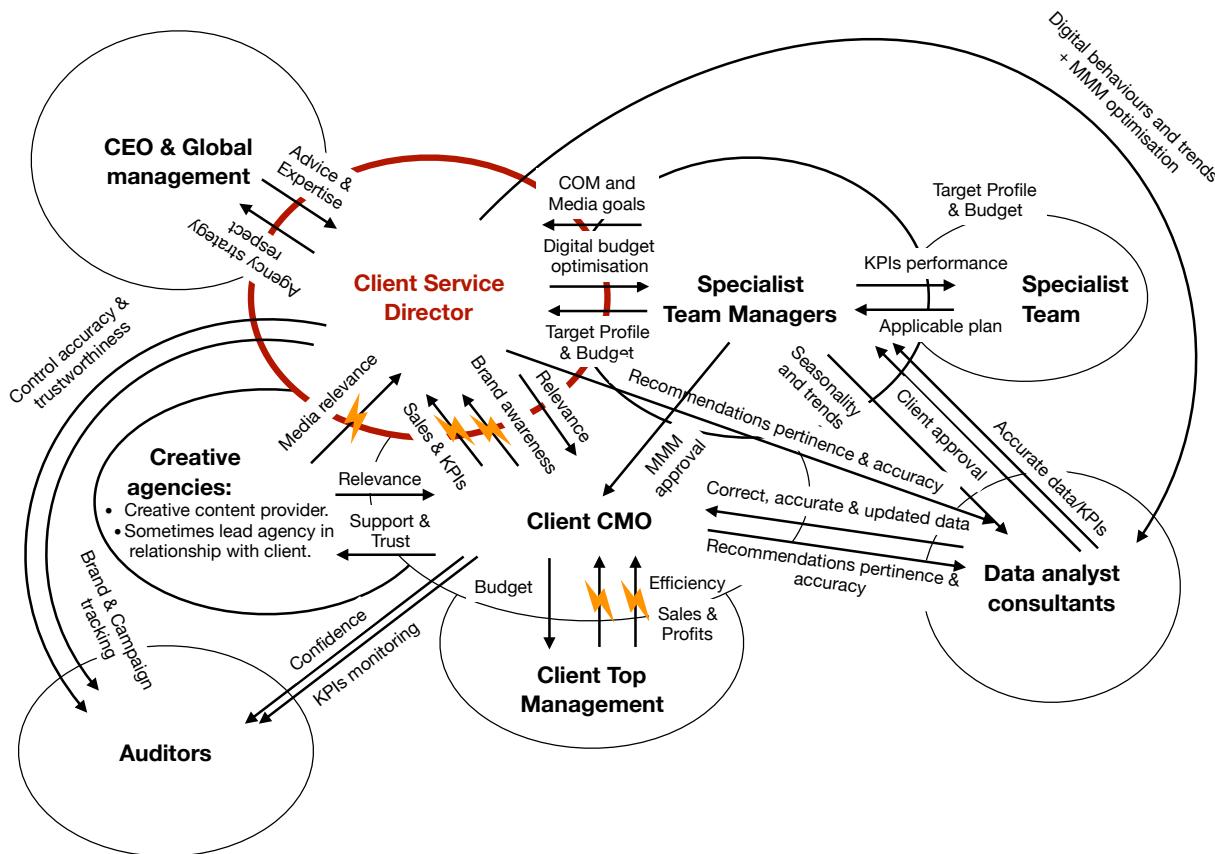
- Less importance awarded to brands KPIs.

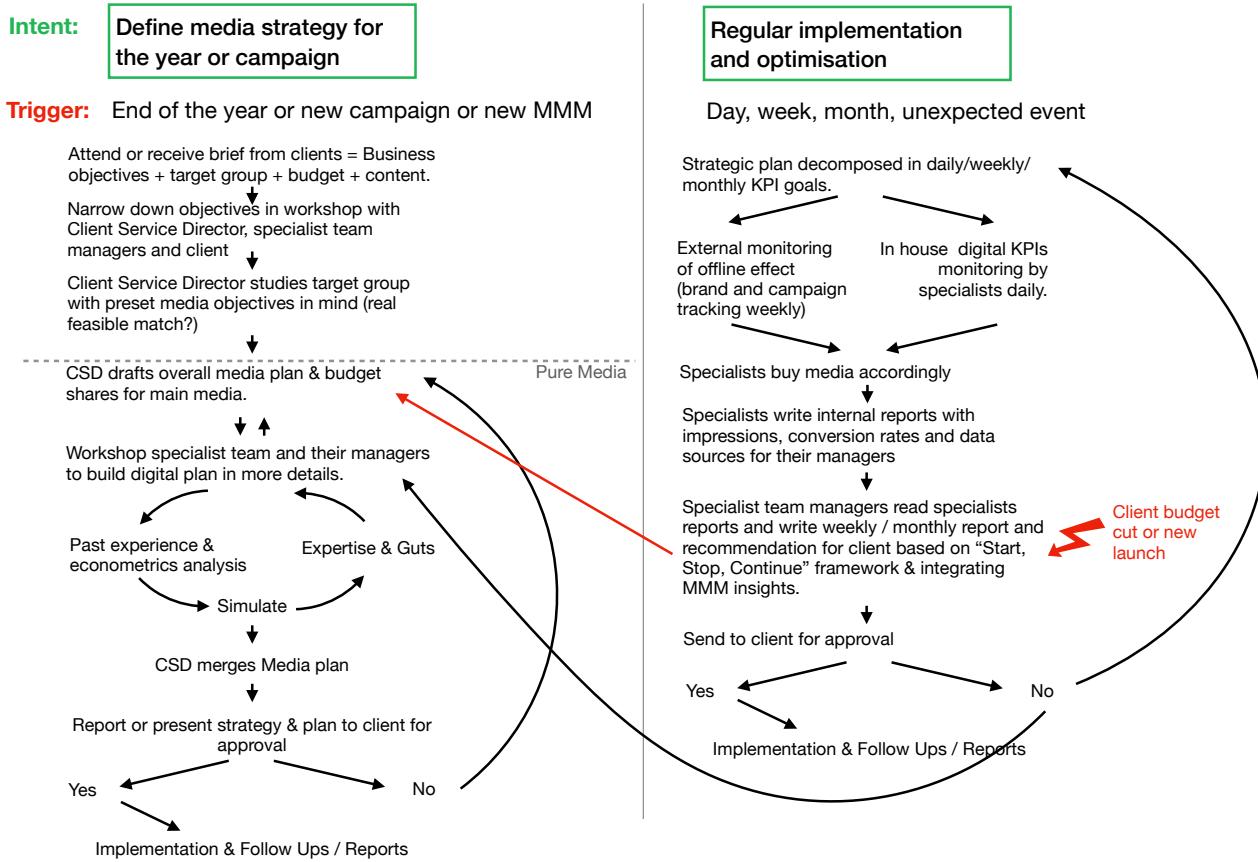
Figure C.4: Persona 4 profile: Sven Berg

In the following order you will find on the next four pages Sven's:

- validated Flow model,
- validated Cultural model,
- validated Sequence model,
- validated Artifact model.







Artifacts

- Kantar Sifo data bank tool (target profiling - TGI)
- MMM (seasonality and trends)
- Surveys of users usage and brand awareness
- Post measurement of TVC effects by external company
- Internal daily and weekly report of activities and marketing effects
- Internal monthly report of activities and marketing effects
- Differentiation between LT and ST marketing campaigns.