

# Acting on analytics

A study of change management implementation in the context of web analytics

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## Abstract

With the increasing need to meet customer shifting preferences and to understand customer behavior, web analytics has become the new source of sustainable advantage. Web analytics allows companies to uncover customer insights and leverage them for strategic gains. Yet, despite its recognized value, the change management necessary to achieve a successful web analytics strategy has caught many companies unprepared. Therefore, a transdisciplinary research that crosses the boundaries of the field of change management in and web analytics is important and can provide a deeper understanding of the key elements of change. The purpose of the research is to provide a theoretical understanding of the key dimensions of successful change management towards a data-driven web analytics culture and thus contribute to the existing academic literature in the field.

The results of the study reveal seven key dimensions of successful change management implementation: the development of a clear vision for the future; a web analytics manager that acts as a change agent; successfully communicating the need for analytics; a web analytics solution that supports the needs of the organization; support from top management; organizational culture that is compatible with the data-driven nature of web analytics and continuous improvement throughout the whole change process.

**Keywords:** Web analytics, Data-driven culture, Change management, Transdisciplinary research

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# 1 Introduction

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*The chapter presents the reader to the background of the research and the research problem. The purpose of the study and the research questions are also introduced.*

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The traditional way of doing marketing and advertising was more an art than a science, more of imagination than information (Burby & Atchison, 2007). Most marketers still believe that the same approach can be applied online. Although, the traditional approach can have some degree of success online, it will often fail due to the fact that customers are in control on the Web. Marketers can no longer afford to judge a marketing campaign based on feelings (Burby & Atchison, 2007). But what they can do is measure and analyze the rich set of data available online and thus optimize the company's marketing and business efforts and improve decision making.

With the fast development of the internet and information technology, a new type of companies has emerged. Companies such as Amazon, Google and Capital One have succeeded in their fields by completely utilizing the advantages of the internet and deploying analytics across a wide variety of activities (Davenport, 2005; Peterson, 2009). There are two main reasons for the shift towards online marketing oriented companies (Burby & Atchison, 2007). The first is that customers spend more time online. The line between an offline and an online customer has been distorted. Second, measuring marketing success online is more accurate and informative than any other medium (Burby & Atchison, 2007). This makes web analytics the new source of sustainable and strategic competitive advantage for companies and thus an interesting topic to be studied (Peterson, 2009).

## 1.1 Problem Discussion

Web analytics allows companies to measure and understand the relationship between the customer, the Web site and the business. The Web Analytics Association (2009) defines web analytics as the “*measurement, collection, analysis and reporting of Internet data for the purposes of understanding and optimizing Web usage*”.

Despite the fact that web analytics technologies have been in existence for the last 15 years, many companies have only recently recognized the value that web analytics can offer. Some of the factors influencing this recognition are the growing importance of the digital channel and the strategic benefits of amassing customer intelligence (Forrester Consulting, 2009).

Web analytics allows companies to adopt a customer-centric approach of marketing (Phippen, Sheppard & Furnell, 2004). Data management and web analytics tools make it possible to optimize not only the website but also the whole business (Burby & Atchison, 2007). Leading companies recognize that visitors' online behavior reflects not only how companies are running their business online but offline as well. This has allowed web analytics to move from the “backroom to the board room in many enterprise-class companies” (Forrester Consulting, 2009). According to a survey by Forrester Research commissioned by Google more than 70% of the companies interviewed recognize that web analytics plays a significant role in the organization (Forrester Consulting, 2009).

## **Challenges with Implementing a Web Analytics Strategy**

Despite its recognized value, implementing a web analytics strategy is a complicated and time consuming project. To completely utilize web analytics, companies need to create a data-driven culture that thrives on making decisions based on statistical and analytics data rather than human feelings (Kaushik, 2007). Most marketers are investing in analytics, yet the transition towards data-driven marketing is taking longer than expected (Janis, 2008). The change management required to execute a successful web analytics strategy has caught many companies unaware (Janis, 2008). The reason for this is that changes need to be executed in terms of decision making, company culture and structure, employee empowerment (Burby & Atchiso, 2007).

A certain degree of organizational readiness needs to be reached before companies are able to successfully deploy and adopt the changes associated with implementing web analytics. According to Stéphane Hamel (2009), a leading web analytics consultant, one of the main reasons holding back the development of web analytics is the lack of change management in companies. To unveil the full potential of web analytics companies need to embrace change (Hamel, 2009). Therefore, understanding of the process of change management towards a data-driven culture is important for success and will be the main topic of this study.

A problem is that limited research has been executed on the use of web analytics in the company, the characteristics of data-driven organizational change or the character of data-driven organizations. (Phippen et al, 2004). As web analytics is closely related to business intelligence, one can find relevant literature in that field (e.g. Davenport & Harris, 2007; Williams & Williams, 2006). Davenport and Harris (2007), for example, discuss the qualities of analytical competition and provide a roadmap to enhanced analytical capabilities. Yet, they miss to cross the field of web analytics and describe how companies can execute the change towards becoming analytical competitors. In the field of web intelligence and analytics most literature looks into web analytics independently not as part of the organization. Some authors (e.g. Burby & Atchiso, 2007, Kaushik, 2007) manage to present a business practitioners guide on transforming the company towards data-driven culture but miss to show the academic and theoretical side of the problem.

As businesses depend more and more on the Web for customer data, understanding the process of change management is important to ensure success. As pointed out, web analytics has been often discussed in relative independence from the general fields of business strategy or organizational change and has been studied from a single rather than transdisciplinary approach. Trans-disciplinary research that crosses the boundaries of two disciplines, in the present case - change management in the context of web analytics, will provide a holistic view and is definitely needed. Thus, the lack of knowledge among managers on the topic and the limited academic research intrigued the author of the present research to investigate the subject of organizational change management in the context of web analytics culture.

## **1.2 Purpose**

*The purpose of this study is to identify the key dimensions of successful change management towards a data-driven web analytics culture.*

The aim of the study is to contribute to the existing literature by providing a theoretical understanding of the key factors of change in the context of web analytics implementation and transition towards a data-driven analytics culture. By bringing together two disciplines and different theoretical concepts, the study aims at producing a richer insight and representation of the main factors of a successful change management process in the context of web analytics integration. This representation should not be considered as a prescriptive model for the change management of companies but simply as an account of the change processes that support a culture of measurement and accountability. As there is limited research in the subject, this representation will hopefully encourage a discussion and further investigation in the field of change management and web analytics.

Furthermore, by producing a discourse between two disciplines, the research intends to lead to the development of both through a process of each internally adapting to the logic of the other.

## 2. Theoretical framework

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*The chapter presents to the concept of business intelligence and analytics. Further, an introduction to web analytics and the main challenges related to it are introduced. Finally, relevant literature in the field of change management is discussed*

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As mentioned earlier, for the purpose of the study the perspective of both web analytics and change management concepts will be applied. First, to highlight the importance of analytics, the field business intelligence and analytics will be discussed. Second, a brief introduction to web analytics will be presented and the main challenges of web analytics will be explored. Recognizing the challenges of web analytics will facilitate our understanding of the problems behind the transition towards a data-driven culture. Further, Davenport and Harris' (2007) framework of being an analytical competitor will be combined with Peterson's (2009) discussion on the same topic to provide an account of the characteristics that companies need to possess in order to successfully implement a web analytics strategy.

The second part of the theoretical framework will focus into literature from the field of change management. Theories of change implementation, change roles and styles will be reviewed.

Both change management and web analytics literature frameworks are used as basis for the design of the interview questions and for the analysis of the empirical findings respectively. Principal processes and patterns in the empirical results are also formed with the help of the theoretical concepts.

### 2.1 Business Intelligence and Analytics

In 1958, in his paper "A Business Intelligence System" researcher Hans Peter Luhn (1958:314) for the first time coined the term business intelligence as "the ability to apprehend the interrelationships of presented facts in such a way as to guide action towards a desired goal." In business terms, it refers to the combination of tools, technology and methods to manage key business information needed to improve profit and performance (Williams & Williams, 2006). Executed well, business intelligence can have tremendous impact on the business success. In his article "*Competing on Analytics*", Davenport (2005) argues that sophisticated analysis and predictive modeling have become "the secret weapon" of many high performing enterprises. Davenport (2005) contends that in today's economy where firms often offer similar products and use comparable technologies, business analytical processes are among the last remaining ways to gain competitive advantage.

Analytics is an essential part of business intelligence. Davenport & Harris (2007:7) define it as "the extensive use of data, statistical and quantitative analysis, explanatory and predictive model, and fact based management to drive decisions and actions". Analytics provides managers with high value and proactive answers to business questions. The success of analytics does not depend on the analytical tools of the company but on the human and organization capabilities of the company (Davenport & Harris, 2007).

## 2.2 The Revolution in Web Analytics

Analytics and business intelligence is nothing new to businesses. Analyzing the data available to your business to increase profitability is a practice as old as trade itself (Peterson, 2009a). Regardless of how much data was available to companies in the past; today they have more thanks to the internet. The rise of the internet has changed the rules of analytics by enhancing the information collected offline with tons of new data online (Peterson, 2009a). Our “digital ID” allow companies to tie our behaviors together, thus allowing them to create an integrated view customers crossing over communication channels (Peterson, 2009a:5). Thus, the availability of data combined with an organization’s increasing willingness to gather the information for insights, is leading to an analytical revolution (Peterson, 2009a).

## 2.3 Web Analytics- history, current landscape and challenges

Web analytics dates back to the 1990s. However, web analytics was established as a discipline in the year 2000 (Kaushik, 2007). Basic web metrics, such as visits and web page views are considered to be the start of the web analytics concept. With the increased involvement of customers, companies found out that due to its simplistic and misleading nature, web metrics is not enough for measuring web site success (Phippen et al, 2004). Phippen et al (2004) argues that the internet empowers customers and for this reason companies today are adopting a more customer-centric approach. As customers are the key to both online and offline success, business need to understand how a customer engages with the Web site, and thus develop a marketing strategy based on customers rather than the organization (Phippen et al, 2004). Employing web analytics leads to understanding of the interactions between the visitor actions and the website and thus allows the company to use that insight to optimize the business and the website for improved customer loyalty.

A well-known example about the importance of being data-driven is the use of web analytics in Obama’s campaign. Obama’s campaign had a strong online inclination, meaning that people were converted into engaged followers through social networks, e-mail advocacy, text messaging and online videos (Lutz, 2009). Many believe that Obama’s online advocacy was a major reason for his election. According to a 2009 report executed by Edelman, Obama’s campaign tracked the success of every e-mail, text message and Web site visit, capitalizing on web analytics and thus optimizing each message and ads (Lutz, 2009). Based on online and mobile data the campaign developed multiple versions of the messages and ads and made real time improvements tailored to individual prospects (Lutz, 2009).

Web analytics has grown tremendously since its rise but there is a lot of change and growth in front of it (Kaushik, 2007). During the last years, companies have spent enormous amount of money on web analytics tools, support and personnel yet only a small percentage of those investment have translated into positive results. Avinash Kaushik, one of the most cited web analytics experts, contends that web analytics today is “just a toddler” (Kaushik, 2007:6). The lack of actual practical knowledge and real world practitioners driving strategy has had a detrimental effect on the field. Companies have access to the tools, but there is a lack of people and processes that would enable companies to garner actionable insights (Burby & Atchison, 2007). The problem is not that companies are not

gathering web data, just the opposite. Somewhere between data collection and business improvement companies do something wrong in their analytical efforts (Burby & Atchison, 2007). Often the problem is that analysis is not integrated in the decision making of the organization. Many businesses look at analytics in isolation, as part of one department not of the whole organization (Burby & Atchison, 2007). To completely harvest the benefits of web analytics, the whole organization needs to become data-driven.

## 2.4 Being an Analytical Competitor

Davenport and Harris (2007) studied more than 300 companies to find out that the most analytical and successful organizations possess four common characteristics (Figure 2). According to Davenport and Harris (2007) these four pillars are not interdependent and companies can become successful competitors in analytics without one of them, but it will be difficult to compensate for the loss.

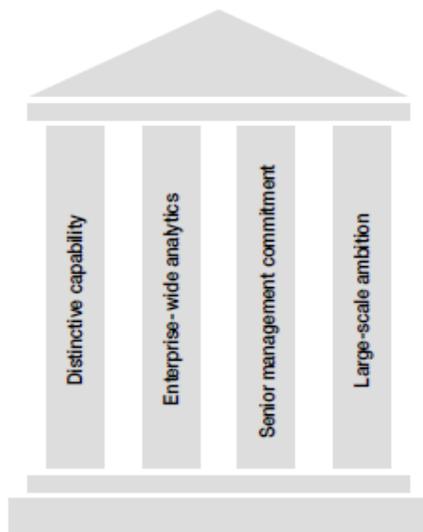


Figure 1 Four pillars of analytical competition (Davenport & Harris, 2007)

### **Support of a strategic, distinctive capability:**

The company's distinctive capability sets them apart from their competitors and is what makes the company successful. To achieve success analytics should support the organizational distinctive capability; thus assure an alignment between business intelligence strategy and the corporate business strategy (Davenport & Harris, 2007).

### **Enterprise-wide analytics:**

Companies that compete on analytics do not assign analytical activities to only one department or group of individuals. Data should be spread and available throughout the whole organization and proper care should be taken to manage data and analytics (Davenport & Harris, 2007).

### **Senior management commitment:**

To achieve analytical success, top management needs to truly believe and support data and analytics. The adoption of an analytical culture will have a strong impact on the organization, the employees and processes. Thus, to achieve a successful organizational change, top managers need to completely embrace and support the change (Davenport & Harris, 2007).

### **Large-scale ambition:**

Analytical competitors bet their future on analytical-based approaches and strategy. It is only strategic and competitive use of analytics that yield major results (Davenport & Harris, 2007).

Peterson (2009b) further develops Davenport's research by applying it to the online channel and thus providing an account of the complex process of transforming a company's ability to compete on web analytics. Peterson (2009b) outlines how people, process, and technology should be leveraged to create a competitive advantage. According to him a well-developed analytics strategy requires not only governance from senior management but also a team of talented professional-analysts, technicians, managers that work with the goal of producing analysis and reports with the objective of improving the organizational understanding of the online channel. To be successful the strategy needs to be embraced and supported by the whole company. Peterson (2009b) gives several examples of companies that have created a well-defined web analytics strategy. The New York Times, for example, regulates print runs based on a statistical model that uses online traffic data as a critical input. Best Buy uses product browsing data from BestBuy.com to update store managers about regional opportunities.

## **2.5 Change Management**

Change has been a researched topic for many years and is described by several schools of thought. Based on the purpose of the study to identify key dimensions of change, the theoretical framework will take normative approach to change.

Further, the research will focus only on the topic of proactive change from the perspective of the organization. Proactive change refers to a change that is totally controlled and anticipated by the company (Paton & McCalman, 2008).

The term change management has become a common subject for many management articles and books. Lorenzi and Riley (2003) define change management as the process by which an organization reaches its desired state and vision. Thus, creating change starts with creating a vision for change and then empowering individuals to act as change agents to reach that vision. Successful change management requires the right management processes, organizational structure, culture and competencies (Worren, Ruddle & Moore, 1999).

### **2.5.1 Implementing Change**

In the change management literature one can find several models and strategies of how to execute change. Many of those models provide a step-by-step guide to executing change management (e.g. Kotter, 1996; Lewin, 1951). Although such models have been

successfully applied by many companies, the author of the present research does not believe that a step-like model is suitable for this study. As argued by Balogun and Hailey (2004: 5), there is no “one best way to change” and thus prescriptive models or best practices approach may often turn to be wrong when applied to a particular context. The management of the change process should be dependent only on the specific context/situation of the company (Balogun & Hailey, 2004). In the present research, it is the context of web analytics strategy that is involved.

Yet, the author of the present study believes that the Kotter’s (1996) model can be useful if the steps of the model are used as elements of change not as not as predetermined stages that should be trustfully followed.

Kotter (1996) developed an 8 steps modeled that explains the stages of change and the pitfalls unique to each stage. For a successful change management process, the rights actions should be takes and common mistakes should be avoided (2006).

- Establishing a sense of urgency

Low feel of urgency can lead to the people being dis-motivated and not interested in the change process. This first step is important because just initiating the change requires the strong support of many individuals (Kotter, 2007).

- Forming a guiding coalition

To achieve a successful change the organization needs a powerful team in terms of information and expertise, reputations, and relationships. The team should be able to create and communicate a right vision, eliminate any barriers and encourage new ways of working (Kotter, 1995).

- Creating a vision

A clear vision and strategy that can be easily communicated are essential in order to motivate and gain employees support. Without a sound vision, the change efforts can turn into a list of confusing projects that lead the organization the wrong way (Kotter, 1995).

- Communicating the vision

It is vital that the new vision is correctly communicated and supported by the organization. The change effort can achieve great results only when the employees share a common understanding of the change objective and necessary actions (Kotter, 1995).

- Empowering others to act on the vision

Successful change involves a large numbers of stakeholders as the process progresses. When strategic change actions are fit with the overall vision, the more employees that are engage in the process, the better the outcome will be (Kotter, 1995).

- Planning for and creating short-term wins

Implementing a change takes time, and thus every renewal effort risks losing support if there are no short-term goals to meet and celebrate. Most people will not follow the change all the

way if they do not see that the journey is producing the compelling, expected results (Kotter, 1995).

- Consolidating improvement and producing more changes

After some years of hard work, managers may be tempted to declare that successful implementation of the change process. However, until the changes get completely integrated into a company's culture, victory should not be declared.

- Institutionalizing new approaches

Finally, it is essential to institutionalize the new practices in the culture of the company. Failing to change the organizational culture may lead to degradation. Thus, enough time should be taken in order to secure that the next management generation personifies the new approaches (Kotter, 1995).

A theory that can be distinguished from the typical step models is that of Björn Bjerke (2007). He did not follow the trend of directing change implementation through steps but created a recipe like model of change. The model can be applied into different context as it does not require steps to be followed.

According to Bejrke (2007) for a successful change in the organization there is a need for six ingredients:

- An awareness of that something is wrong
- Support from senior management of the notion that something has to be done
- A 'vision' of something new or at least a feeling of a new direction
- Agents of change that take it upon themselves to carry changes through
- A commitment from all key actors to be there with their brains (to understand what it is all about) , their hearts (to feel to be part of something new) and their guts (to dare to be part of a genuine change)
- Time

## **2.5.2 Change Styles**

The style of change concerns the way the process of change is managed (Balogun & Haily, 2004). Different styles may be appropriate and combined depending on the change context Balogun and Haily (2004) suggest five styles of change:

*Education and communication* involves convincing employees of the need for change and thus gaining their trust and commitment. By generating understanding for the need of change through small group briefings or seminar, for example, support can be gained (Balogun & Haily, 2004).

*Collaboration* is about involvement of the employees about what to change and how to deliver the change (Balogun & Haily, 2004).

*Participation* is about consulting employees how to deliver the change. Employees have limited involvement which greater control for the change leaders (Balogun & Haily, 2004).

*Direction* happens when change leaders take major control over the decisions of what and how to change (Balogun & Haily, 2004).

*Coercion* is about use of power to impose change (Balogun & Haily, 2004).

### **2.5.3 The Change Actors**

Change can only be successful if there is a group of people responsible for that change (Balogun & Haily, 2004). One person can not hope to execute a change completely on his/her own. This does not mean that the role of the leader should be underestimated. A major change always requires a leader that shows commitment, enthusiasm and vision for change (Balogun & Haily, 2004).

Bjerke (2007) describes four key actors in change management – someone with an idea, entrepreneur, supporters and gate keepers. *Someone with an idea* is always needed to initialize change. To successfully execute the change the company needs an *entrepreneur* that acts as a change agent and that can bring the idea to life. The entrepreneur is the leader of change and thus he/she is responsible for providing the change direction

Involvement of employees as *supporters* and followers of change is always beneficial. The organization needs to agree with and support the vision of change. As Kotter (1996) argues involvement and empowerment of employees results in better performance.

Finally, expert knowledge is needed in order for the change to be successful. *Gate-keepers* can often be consultants with expert knowledge and experience in the field (Bjerke, 2007).

### **2.5.4 The Change Agent**

To be able to execute the change process in the best way, the change agent needs to possess or develop certain managerial and personal skills. Balogun & Haily (2004) argue that analytical, judgmental and implementation skills can help the change agent correctly evaluate the change context and its key contextual features and therefore design a correct change approach. Due to the political nature of the change agent's role, he/she also needs to possess good influencing and sensitivity skills and be respected in the organization. This can help the change agent sell the desired change to his/her colleagues and manage the power relations in a complex change situation (Balogun & Haily, 2004).

Furthermore, to be able to lead the company during the transition process, the change agent needs have a good understanding of the whole business and of the mechanisms and techniques of change management in the specific context (Balogun & Haily, 2004).

# 3. Method

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*The chapter introduces the method used for achieving the purpose of the study, a description of the case study and the analysis technique.*

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## 3.1 Data Collection

The research focuses on both secondary and primary data collection. The primary data is used as a main source of information for carrying out the study. The secondary data is used as introductory information to the studied subject and as supplementary information for the analysis of the main findings. Secondary empirical data is gathered after a review of web analytics experts' blogs, articles and books.

## 3.2 Qualitative Research

To obtain the primary empirical data a qualitative research method is used. A quantitative method does not fit the purpose of the study as it applies standardized method to acquire large samples with high generalization. Quantitative method does not allow deep and multi-faceted analysis of the studied subject (Lundahl & Skärvad, 1999). A qualitative research, on the contrary, explores a small number of people and cases and thus helps the researchers gain a deeper knowledge of the situation (Sayre, 2001). The qualitative method is suitable for investigating complex issues as its purpose is to describe, explain and analyze a certain phenomenon (Lundahl & Skärvad, 1999). With the objective of understanding and analyzing the change process towards an analytical culture, a qualitative study seems the most appropriate for the research.

## 3.3 Case Study

Out of the range of different qualitative research method techniques, a multiple case study seems most appropriate for the purpose of the study. A case study allows the problem to be researched within its real-life context. Furthermore, by concentrating on specific samples the researcher can collect rich array of information and thus increase the credibility of the study (Patton, 1990). According to Yin (2003) a case study method allows the researcher to gain a holistic view of real life events by providing answers to the questions 'why', 'what' and 'how'.

It is the purpose of the research and the resources that determine the sample size (Patton, 1990). Eisenhardt (1989) recommends between four and ten cases for a case study research. For the case study, a non-random sample of six companies is selected. A non-random sample is necessary as it allows the collection of knowledge about web analytics from the most reliable and yet diverse sources. The companies were chosen after a thorough online research and a discussion with several web analytics consultants. A requirement for the companies is that they have a strong online presence and strive to generate the greatest value from their analytical use. The companies recognize the value of web analytics and use it for driving strategic business decisions. Further, to provide a thorough picture of the change process, a diversity of companies is chosen. The companies differ in their analytical maturity level; some are already analytical competitors while

others have recently started using web analytics. The fact that the representative companies have different analytical maturity allows a broader picture of the studied change process. Due to the limited time and resources of the study, another requirement was that the companies are situated in Sweden.

A list of 15 companies that met the requirements was initially created. After contacting all those companies, six responded positively to participating in the study. One representative from each company was interviewed. The respondents are considered those with the most knowledge about the use of web analytics in the company. Below brief information concerning the interviewees is presented including the type of company they are working in, job title, date and length of the interview (Table 1)

**Table 1 Respondents' information**

<b>Company</b>	<b>Type of company</b>	<b>Name of the interviewee</b>	<b>Job title of the interviewee</b>	<b>Date and length of interview</b>
<b>Travel AB</b> ( the name of the company is changed)	One of Scandinavian's largest tour operator	R.R	Web Analyst	11/03/2010 , 1h
<b>Aftonbladet</b>	One of Sweden's largest newspapers with a strong internet publishing	Jannike Tillå	Head of CRM	18/03/2010, 40min
<b>Avanza Bank</b>	Sweden's largest on-line brokers	Fredrik Peters	Web Analyst	11/03/2010, 45min
<b>Scandinavian airlines (SAS)</b>	The leading airline group in Northern Europe	Anders Signell	Online Sales Director	23/03/2010 40min
<b>Hewlett-Packard (HP)</b>	One of the world's leading technology companies	Jannice Akolor	HP.com Country Manager	07/04/2010 40min
<b>Web Guide Partner</b>	One of the world's leaders in the lead generation market.	Rickard Hedenius	Web analyst & Conversion Specialist	07/04/2010 40min

The respondents are interviewed using in-depth semi-structured interview method. In comparison to structured interviews that employ standardized set of questions, semi-structured interviews use an open framework (Saunders, Lewis & Thornill, 2003). This allows time and scope for broad discussion and thus better understanding of respondents' thoughts, and behavior concerning the studied problem. Further, this type of method creates a feeling of an everyday conversation for both the researcher and the respondent which allows flexibility and improvisation (Saunders, Lewis & Thornill, 2003).

The pre-determined interview questions serve only as a guideline with the objective to provoke a discussion about each the web analytics use and the ongoing change in the company (See Appendix 1 for the Interview Questions). The interviews have a common structure, in which the interviewees answered some general questions that served as opening questions into certain areas of research. Each interview starts with a short introduction of the studied topic. Further, some questions regarding the respondents' background are asked, such as job title and responsibilities. All the interview sessions are

recorded in order to increase accuracy of the empirical findings. After the interviews are transcribed, the respondents have the opportunity to review their answers and provide additional comments.

Further, as the interviews take place on the companies' sites, the author of the research has the opportunity for direct observation. As Yin (1994) argues direct observation can be useful for providing additional information on the studied problem and allow more profound research.

### **3.3 Presenting and Analyzing the Empirical Data**

The empirical findings from the executed interviews are presented as six separate case study narratives. Each case starts with a short background to the specific company based on information from the company's website. The background information is used as a support to the empirical findings so to create a context to the research. After the background, the results from each interview are presented. The presentation of the data strives after pure description rather than interpretation. The case data is organized in a chronological order that integrates the gathered key relevant information about the web analytics strategy of company.

To analyze the collected empirical data an inductive analysis technique will be applied. This means that the empirical evidence is examined and analyzed through predetermined theoretical concepts in order to discover new principal processes and patterns or fill in theoretical gaps. Through an inductive approach one can establish a general proposition on the basis of observation or particular facts. After the data is gathered all the information is carefully examined with the intention to find common patterns, themes and categories that are relevant for the purpose of the research (Patton, 2003). Later on, the collected data is analyzed based on the existing theories on web analytics and change management and new principal processes are established that explain the relationships between the gathered information. As qualitative analysis does not depend on statistical data to prove the significance of emerged patterns, the author relied only on her own knowledge, experience or judgment for the analysis of the empirical findings.

# 4. Empirical findings

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*The chapter presents the empirical findings as six separate case study narratives. Each case starts with some background information followed by a presentation of the web analytics strategy at the specific company.*

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## 4. 1 The Case of Travel AB

*All the information in the case is based on personal communication with R.R.*

Travel AB (the name of the company is changed) is one of the largest tour operators in the Nordics and part of a leading travel group. Travel packages, reservations and tickets are sold over the internet, via direct sales (call center and stores) or via travel agents. Being one of the leading tour agencies in Sweden, the internet is an important market channel for Travel AB.

In 2007 the marketing responsible for the Swedish market and a representative from Finland in the strategic group foresaw a need for web analytics. The online sales were increasing dramatically yet the company did not know much about the online customers. They understood that web analytics can provide high value for the company and thus started lobbying for it. Soon after a web analytics solution was purchased and a web analyst was hired to implement the solution. The solution was chosen by the web traffic group with representatives from each market unit and from the IT-unit.

In the case of Travel AB, everything started with buying a solution and then hiring a web analyst. A big challenge for the web analyst was to educate the organization so that the employees understand the complete value of analytics. The employees did not need to know how the tool works or how the data is collected and analyzed but what answers can web analytics provide. To present himself and web analytics, the newly hired web analyst made a company road show around the different departments. The interest slowly developed throughout the organization. To start the change towards a more data-driven culture, the web analyst provided valuable web data to influential people from each department:

*“I had meetings with the employees trying to ask the right questions and understand their needs and soon after was able to answer some of important business matters. Soon people understood the value of web analytics, and started talking around the organization.” (R.R., personal communication)*

A barrier that Travel AB encountered was the complexity of the web analytics solution and the limited knowledge of the employees about web analytics. The company tried to handle this problem by adding an extra analytical solution- Google analytics. This one is easier to use than other more advanced analytics tool. Google analytics is a way for employees to see what is happening on the website without needing to consult the web analyst first

Almost everyone in the management level at Travel AB has worked for at least twenty years in the company and knows the business inside out. It is the new business areas like web analytics and internet marketing that they need to understand and complement the

organization with. Yet, top management has supported the change towards a data- driven culture since the beginning and has always been interested in the work of the web analyst.

An important step towards a more analysis-driven company is transferring the Swedish web analyst -R.R to work on a group level and hiring a new web analyst for the Swedish market<sup>1</sup>. This ensures that the organization has both the technical platform and the skills in the different countries. Collecting knowledge and experience about web analytics and sharing it between different units is definitely beneficial.

Today Travel AB sells 60% of their packages online. In three years the goal is to reach 80% share in internet sales. 90% of the customers today visit the website first, no matter what channel they choose later. This shows that internet is a vital sales channel and that everyone in the organization sooner or later will need to understand it. That is why educating employees about the value and the answers that web analytics can provide is important

The support from higher management is an important factor for the change towards an analytical-driven culture at Travel AB. Further, employees' understanding requires patience. Web analytics will prove itself valuable only if the company spends the necessary time and resources.

The next step in the process according to Travel AB is to make web analytics part of the organizational development cycle. It is important to make sure that things are continuously measured and analyzed, that goals are achieved and followed up and thus continuous improvement is made.

## 4.2 The Case of Aftonbladet

*The background information is taken from <http://koncernen.aftonbladet.se> , all other information is based on personal communication with Jannike Tillå.*

Aftonbladet is a Swedish newspaper group. The company was founded in 1830 and is today one of the most read newspapers in Sweden and one of the largest newspapers in the Nordic countries (Aftonbladet, 2009).

Aftonbladet adopted Internet publishing in 1994. The online version of Aftonbladet is not only the first Swedish online newspaper but also one of the biggest websites for news (Aftonbladet, 2009).

Aftonbladet implemented web analytics in their overall business strategy in 2001. In the beginning the company applied only basic web traffic measurement which showed historical data such as the number of hits, visitors, visitor duration. The data was private and thus available only to limited number of users. Being an online newspaper, it was important to be able to track the effectiveness of online campaigns and to be able to quickly update the website with new content. However, using basic web metrics did not allow that:

*“To fully make use of the benefits of the web and to achieve a successful web strategy, we needed a change in the way we used web analytics” (Jannike Tillå, personal communication)*

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<sup>1</sup> The transfer happened some weeks after the interview took place.

Today, Aftonbladet uses web analytics to optimize the reach for every single category on the website. From having only weekly reports and using basic web metrics the company improved to working with the data on continuous basis. The company understood that the right team, knowledge and interest in web analytics around the whole organization are critical for the web analytics success.

The change towards a data-driven culture started with the purchase of a new web analytics system. In order to choose the correct system it was necessary to decide how and for what the data will be used. This required good cooperation between all of the key departments. A review committee was settled and after some discussions it became obvious that it is the employees like editors and copywriters not the top management that need to have access to the analytics data. This required spreading the data and embracing analytics for the benefit of the whole organization. A web analytics system that allowed that was implemented.

An important step was to make sure that the company has a knowledgeable and competent analytics team. The web analytics department today at Aftonbladet consists of a team of three web analytics professionals. One is working with web analytics for sales, one person works with web analytics for site/advertorial use, another one works with database analytics and also A/B testing and revenue. As web analytics is a new field that not many people understand fully, it is important to have a passionate and knowledgeable web analytics team that can make its ideas heard and respected. As Jannike Tillå explains:

*“A web analyst needs to have a good understanding of the business, strong personality that can get through and be able to make changes, knowledge and passion for both marketing and technology ”* (Jannike Tillå, personal communication)

To gain employee's support and to educate employees about web analytics, the company arranges seminars and meetings with different departments where the analytics team explains how and for what each employee can use web analytics.

An important part of the web analytics strategy for Aftonbladet is the distribution of data and analytics. Distribution of data assists the embracement of analytics by the whole organization. An online editor, for example, receives web data on almost a minute-basis. This allows editors to monitor visitor activities on the website, to understand the effectiveness of certain article and to continuously improve the content based on the analytics data.

The next phase in the change process for Aftonbladet was to make sure that the change towards an analytical culture was understood and supported by employees and top management. Being a large organization has never been a hindrance for Aftonbladet. The company has a knowledge-driven culture which definitely has assisted the transition towards becoming a data-driven company. The top management has completely supported the change and both Aftonbladet's editor in chief and CEO have continuously showed strong interest in web analytics.

Aftonbladet has grown to a strong analytical competitor. The support of the top management, the ability to raise employee's interest, the determination of the web analytics team encouraged the change towards a data- driven culture for a successful web analytics strategy.

## 4.2 The Case of SAS, e-commerce department

*The background information is taken from [www.flysas.se](http://www.flysas.se), all other information is based on personal communication with Anders Signell.*

Scandinavian Airlines (SAS) is Scandinavia's largest airline with 900 daily flights to 100 destinations across Europe, Asia and the U.S. SAS offers a wide range of travel solutions and services for business and leisure travelers. SAS has always been at the forefront of innovation and has introduced more significant innovations during aviation history than any other airline (SAS, 2010).

Since the introduction of online booking in 1998, internet has always been an important part of the business for SAS, serving as a strategic selling platform for all products and services across channels.

SAS has always fostered a results and data- driven culture at the workplace. Emphasizing on data and results definitely assisted the implementation of web analytics in 2006. Today, SAS is a mature user of web analytics and an analytical competitor. Web analytics is primarily used by the e-commerce department while business intelligence and analytics are an integral part of the whole organizational strategy.

In 2006 SAS started using rudimentary metrics to measure numbers of visitors, hits and visitor duration. Soon after the management understood the value that web analytics can provide and decided that they need to look deeper into the gathered online data. Today, SAS uses web analytics to improve sales on a day-to-day basis. They set targets, measure traffic streams, analyze them and work continuously to improve them.

The e-commerce department is one of the most sales and data-driven departments in the organization. The culture is further nurtured by setting targets on each individual. The department consists of twenty e-commerce professionals of which two are web analysts. To distribute data around the organization, SAS uses customized dashboards with specific Key Performance Indicator based business objectives. Following measurable and results-oriented business objectives, further nurtures a culture of analytics.

For SAS the main barrier for a successful analytics strategy is the people and their willingness to embrace analytics. Yet, the company has come far in terms being a data-driven organization. With the growth and success of the e-commerce department more employees from other parts of the organization have shown interest in web analytics.

Web analytics at SAS is a compliment towards supporting the overall business strategy. To succeed, the company promotes an analytics minded organization with a clearly defined business goals where all employees understand the meaning of the data and use it to make continuous improvements and reach organizational goals.

## 4.4 The Case of Web Guide Partner

*The background information is taken from [www.webguidepartner.se](http://www.webguidepartner.se), all other information is based on personal communication with Rickard Hedenius.*

Web Guide Partner (WGP) was founded in 2004 by a team of Internet industry veterans, and soon after become one of the World's leaders in the lead generation markets. WGP

provides its clients with traffic acquisition to their websites through Search Engine Optimization, Pay-Per-Click marketing, and associated content with high-traffic sites (Web Guide Partner, 2010).

WGP has earned a reputation for having one of the most skilled hands-on execution team for maximizing lead generation. Their team includes SEO experts, online marketers, tech developers, and editors (Web Guide Partner, 2010).

The company implemented their web analytics solution around five years ago which made them one of the first accounts for Omniture (a leading provider in online optimization solutions) in Sweden. Yet, the first web analyst position was created in 2007 when Rickard Hedenius was employed. Today Rickard is part of the web analytics team and has the responsibility to convert website visitors into leads and reach key business goals through web analytics.

The web analytics team includes three people that are employed as conversion specialists. Separately from that the company has also a team of technicians and a core analytics team that works on integrating web analytics data with the organization's data warehouse.

Being passionate about web analytics and loving the web analytics tool and the system are the most important characteristics for a web analyst at WGP. As it is hard to find a web analytics' academic education, all the web analysts at WGP are self trained. They keep themselves updated by reading expert blogs and visiting internet marketing conferences.

Being an innovative and young company has definitely assisted the successful implementation of a web analytics strategy at WGP. WGP has around two hundred employees and at least 90% of them understand the value of web analytics and use it in their daily work. Further, many of the employees can be described as early adopters. The company had a Spotify account already in 2007 and was also one of the pioneers to adopt Facebook for marketing campaigns.

As the employees are innovative and internet savvy the web analysts do not need to sell to them the value of the web analytics system or culture. Further, at WGP there is no need for analytics data to be distributed. As Rickard Hedenius describes it:

*"All our employees are techno- savvy, they know how to use the web analytics systems, so they get the data by themselves."(Rickard Hedenius, personal communication)*

To educate employees how to benefit from web analytics, Rickard organizes training sessions where he has discussions with the employees about how to use the web analytics to reach key business objectives.

A vital part of the web analytics strategy of WGP is the testing for market purposes-advanced A/B and multivariate testing. By analyzing visitors' behavior, making changes on the website and measuring and testing what works and not, the websites' performance can be improved. Whether it is used for a single page element or a completely new page, testing is highly integrated in the web analytics tool.

It is only resources and time that sometimes hinder WGP to continuously improve in web analytics. To get the resources needed, it is important for the web analyst to be respected and have a good relationship with everyone in the company including top management.

Having the internet as a core business has made web analytics an invaluable element of the overall business strategy for WGP. WGP is a mature user of web analytics and already an analytical competitor. Web analytics is completely integrated in the overall business strategy and is used for decision making and continuous improvement.

## 4.5 The Case of HP

*The background information is taken from [www.hp.se](http://www.hp.se), all other information is based on personal communication with Jannice Akolor.*

Hewlett Packard (HP) is one of the largest technology companies operating in more than 170 countries around the world. HP markets its products and services to both businesses and consumers via direct distribution, online distribution, consumer-electronics and office-supply retailers, software partners and major technology vendors (Hewlett Packard, 2010).

HP implemented web analytics in their online strategy in 2006. In the beginning, it was only one HP EMEA representative who received external training in internet marketing and web analytics. Further, a special EMEA team was established that had the main responsibility to collect information about the online data needs of the different business units. Based on the needs of the company a web analytics tool was chosen. The EMEA team produced a report template with understandable metrics and Key Performance Indicators for the employees and soon after began to distribute a monthly web analytics report to all the countries. This was a strategic move to introduce the employees to the data-driven way of thinking.

Today HP has one country website manager responsible in each country. In Sweden it is Jannice Akolor that holds that position. The country managers have a teacher role, meaning that they educate the marketing members how to interpret web analytics data and act based on it. As HP has both corporate and private customers, it is important that the employees understand correctly the enormous amount of online data. As a country manager in Sweden, Jannice joins marketing meetings and assists the marketers to determine the appropriate investment and KPIs for online campaigns and track their effectiveness.

Today, HP has a central EMEA support team that is solely focus on HP.com metrics. It is them that are responsible for providing the web analytics reports, for web development and web content management. If marketers need some information that is not covered in the existing reports they can contact the country manager who act as gate keepers of data relay. In general anyone in the organization can get access to the web analytics system but the employees prefer to receive ready reports as the data is presented in an easily understandable way.

Since 2006 the company has matured in terms of its web analytics strategy but there is much more grow in front of it. Today, at least two of the business units do not launch an online campaign without examining statistical data first. After the start of a campaign, the marketers receive an analytical report that helps them track the effectiveness of the campaign.

By showing valuable data to employees, the country manager was able to raise interest in web analytics. Employees have become more analytical and interested in web analytics and have started requesting data by themselves. Marketers are aware about the fact that through

web analytics one can monitor and track web site usage and prove the effectiveness of market campaigns. Yet, many employees still need to be convinced to acknowledge the data and use it for their marketing campaigns. According to Jannice Akolor, it is not that the employees don't appreciate the data but that they cannot find the time to focus on it and interpret it.

Since HP.com has become a key segment of the business and a person solely responsible for HP.com was appointed in the management board, top management have paid more attention to the online business. Yet, top management in Sweden does not show much interest in web analytics. As Jannice Akolor explains:

*“Top management is focused mainly on sales figures and not how results are delivered. They don't pay much attention to which online campaigns lead to sales.”* (Jannice Akolor, personal communication)

A hindrance for the successful development of a web analytics strategy at HP Sweden is the lack of resources and the limited knowledge of employees about web analytics. For a successful web analytics strategy at HP, it is important that the company has clearly defined target groups and that the employees understand the different business objectives with the online channel. As Jannice Akolor explains:

*“HP cannot have one single online strategy. That is why we need ensure that there are clearly defined goals with the website and with the web campaigns. So employees' knowledge and analytical skills is extremely important.”* (Jannice Akolor, personal communication).

## **4.6 The Case of Avanza**

*The background information is taken from [www.avanza.se](http://www.avanza.se), all other information is based on personal communication with Fredrik Peters.*

Avanza Bank was established in 1997 as the first online stock broker in Sweden. Today Avanza is the largest on-line broker in Sweden with around 279 000 accounts and has the largest number of deals on the Stockholm Stock Exchange. The stock magazine Börsveckan AB and the online financial magazine Placera Nu are also part of Avanza Bank ( Avanza, 2010).

In the end of 2009 Avanza decided that a change in their online strategy is needed and part of this change included the opening of a new website that appeals more to their increasing number of customers. In order to learn more about this increasing group of customers, to better serve them and reach online success the management recognized the fact that improving in web analytics and becoming a more data-driven organization was necessary.

The company had already a web analytics solution installed but no one in the company really knew how to use it. This was one of the reasons why the management decided to employ a web analyst. Avanza needed someone that has an industry specific knowledge and skills in IT, business and marketing. It was also important that the web analysts possesses good leadership and communication skills in order to be able to present analytics data and reports in an appealing way to the employees. The first task of the newly hired web analyst, Fredrik Peters, was to integrate a new web analytics system in the organization and put on analytics on the agenda. A problem at Avanza was the lack of

knowledge about web analytics around the organization. Both top management and employees showed interest in web analytics but did not understand the total value of it.

By gradually making improvements in analytics, the newly hired web analyst was able to introduce the data-driven way of thinking in an “analytically immature” organization as Avanza. The first step in the change process was the integration of a web analytics system. Avanza decided to use Google analytics solution for their web analytics efforts. However, depending on the organizational needs, Google analytics can sometimes be insufficient. Thus, at the time of the interview Avanza were evaluating the implementation of the tool in order to decide if they will continue with it or a new solution is needed. Compared to other web analytics solutions, Google analytics is easier to comprehend and thus can be used by a wider range of employees to see and analyze online traffic data. Seeing the extensive functionality and the extent of information that the solution provides and being able to use it provokes the interest in many employees.

To further raise the awareness about analytics, Fredrik Peters started working closely with the marketing and Search Engine Optimization department.

An important step of the web analytics strategy for Avanza is implementing online testing for market perceptions- AB and multivariate testing. Testing allows the web analyst to show/prove which content, layout, advertising convert visitors to desired action once they arrive at the website. This makes it easier to show to the marketing department the accuracy of web analytics data and thus gain trust and attention.

Being a young company with a flat organizational structure definitely assisted the change towards a data- driven culture. Being able to have a close dialogue with the different departments helped the web analyst understand the needs of the employees and thus allowed him to provide valuable reports and analysis.

As the top management was the ones to see the need for web analytics, they have always been supportive and eager to learn more about analytics. What is more important, the management has always been ready to provide more training in web analytics and internet marketing if needed.

Avanza is still not a mature analytical competitor but changes are definitely visible. An important part of Avanza’s strategy towards achieving a data-driven culture is indentifying the needs of the different departments and a having close dialogue with the employees.

# 5. Analysis

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*In the following chapter, the empirical findings are analyzed with the help of the earlier introduced theory and concepts. The analysis is build around several patterns and themes that have appeared out the gathered data.*

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As mentioned earlier, an inductive approach is used to analyze the empirical data. This implies that the analysis is structured around patterns, themes or categories that have come out of the data and have not been specified prior to data collection. The identified categories are a result of the author's own reasoning about key issues and relationships in the gathered data. The emerged categories are combined with the previously introduced theories and concepts from the field of web analytics and change management to develop the analysis and draw conclusions. As some of the emerged ideas have not been covered in the academic literature, some web analytics experts' views have been incorporated in the analysis. The emerged categories are as follow:

- A vision for change
- The web analytics team
- Communicating the change
- The web analytics solution
- Top management
- Organizational culture
- Continuous improvement

## 5.1 A Vision for Change

The change management theorists describe that in every successful change effort there is a clear picture of the future that can be communicated to the main participants of the change (Kotter 1996; Bjerke 2007).

The change process in all interviewed companies started with the recognition of a change opportunity and the notion that the current online strategy is not effective enough. This is in consistency with Bjerke's (2007) argument that one of the ingredients for a successful change process is having the awareness that something is wrong. An example of this notion is the case of Avanza bank that has recently foreseen the need for a change and has initiated a transformation process towards becoming an analytically-minded organization. In the case of Avanza, the management recognized the fact that they did not know enough about the growing number of visitors and customers. The online strategy at that time was insufficient and there was a need for a change. Implementing web analytics in their strategy and becoming a data-driven organization was the right way to go.

All of the interviewed companies understood that acting on analytics will lead them to an online success through increased sales, better customer insights, and improved marketing spending. These are only some of the motives behind companies' decision to change. Online success is closely related to the overall organizational performance and can be characterized in a variety of ways. Success can be return on investment, profitability, effectiveness, reliability, customer value, or competitive advantage (Phippen et al, 2004).

The need for change in all interviewed companies was initiated by a representative from the top management. Yet, in most of the cases, the management did not know much about web analytics or how to apply it and thus an analyst or a team of analysts was hired to implement the transformation. From the interviews it became clearer that it was the top management that created the general vision. Yet, it was the analytics team that produced a clear direction and a strategy for achieving this vision. As Kotter (1995) argues producing a deliberate vision is important as without such, change efforts can become a series of unsuccessful projects that lead the organization in the wrong direction

According to Kotter (1995), a vision should go beyond the figures that are usually found in companies five year plans. A vision shows the direction in which a company needs to move (Kotter, 1995). Kotter (1995) argues that the vision should be easy to communicate and appealing to the employees. In studied cases, the vision was simple- to reach online success through becoming a data-driven organization. In the case of Travel AB for example, R.R. explicates that the final step of the change process is to make analytics part of the organizational development cycle and thus ensure that all things are measured and analyzed and continuous improvement is achieved.

To sum up, successful change is organized around a vision for a desirable future. Only a simple vision is required to guide people through a major change (Kotter, 1995). The vision should be organized around the organizations overall business strategy. The realization of the vision is a product of sound strategies that act as tools for its appreciation and comprehension by the whole organization (Kotter, 1995).

## **5.2 The Web Analytics Team**

Change can be successful only if there are people responsible for leading this change (Balogun & Hailey, 2004). Major change projects usually start with one or two people and later on grow over time to create a strong leadership team (Kotter, 1995). One individual can not expect to manage change processes without the support and help of others.

As discussed before, in the studied companies it was the top management that initialized the change and consequently a person responsible for web analytics was employed to bring this idea to life and execute the change. This person is the leader of change, the change agent that gives the direction in which the organization needs to move (Bjerke, 2007). To be able to execute the change, the leader needs to understand the organization's change context and to develop certain managerial and personal skills (Balogun & Hailey, 2004). The interviewees discussed a variety of characteristics essential for a web analytics manager<sup>2</sup> and from the discussions several patterns emerged. It should be noted here that hard skills like specific technical, statistical or analytical knowledge was not taken into consideration during the interviews.

### **A Passionate and Knowledgeable Leader**

Implementing and executing a successful web analytics strategy is a complex and sometimes overwhelming task. Web analytics is a new field that not many understand and

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<sup>2</sup> The position title can differ but for the purpose of this research the person responsible for web analytics in the organization will be referred to as web analytics manager

is often hard to convince others of its value. As of today, there are also not many web analysts with formal education in the field (Burby & Atchison, 2007). This means that if a web analytics manager does not have passion for web analytics and thirst to continually improve and learn the change implementation may not turn successful.

From direct observation and discussions during the interviews, the author of this research could clearly distinguish a strong passion for web analytics among all interviewees. All of them showed interest in learning about new areas of online marketing and management, new analytics techniques or technology. Further, being a multi-faceted discipline requires the web analysts to be skilled and interested in marketing, technology and business. According to Rickard Hedenius from WGP, having the passion and love for web analytics is one of the most important characteristics for a web analyst at WGP.

### **A People Person**

Being able to communicate the change vision effectively with others requires people skills (Balogun & Haily, 2004). Almost all interviewees stated that in order to be able to manage the change it is essential for a web analytics manager to be respected by the whole organization (Aftonbladet, WGP), to have communication skills and be able sell analytics to the organization (Aftonbladet, Avanza, HP) and to have steady relationship with top management in order to get the resources needed (WGP).

As discussed by Balogun & Haily (2004), due to the political nature of the change agent's role, good people's skills and sensitivity skills are imperative for a successful change process. This can help the web analytics manager sell the desired change to his/her colleagues and manage the complex change situation (Balogun & Haily, 2004).

### **A Teacher**

After the discussions with the interviewees, it appeared that to a certain degree, the success of the web analytics strategy depends on the web analyst's ability to communicate effectively with others and educate others. In all cases the web analytics team in the company organizes and holds seminars and sessions on how to use web analytics and how to exploit its benefits. Through education the web analytics team sets an example for the employees to follow and converts them to supporters of the change (Balogun & Hauiley, 2004).

To sum up, leading a change towards a successful implementation of a web analytics strategy, requires that the change agent/s possess the passion for and knowledge about web analytics, the ability to educate, communicate and gain support. As Jannike Tillå from Aftonbladet puts it: *"A web analyst needs to have a good understanding of the business, strong personality that can get through and be to able make changes, knowledge and passion for both marketing and technology"*.

In the more analytically mature organizations as WGP, SAS and Aftonbladet, we can see that the web analytics team has increased in size over time. As Kotter (1995) argues, to make progress the change team needs to grow over time. Transforming the organization to compete on web analytics requires a team of talented analysts, technicians and managers working together with the objective of improving the organization's understanding of the online channel (Peterson, 2009b). Such a team can be seen for example at WGP where web

analysts, data-warehouse specialists, technicians and managers work together to achieve online success.

## **5.3 Communicating the Change**

It is important that the vision and strategy for change is communicated around and understood by the organization (Kotter, 1995). Employees will not be willing to participate in the change, unless they understand and believe it is useful (Kotter, 1995). Based on the interviews, two separate elements of the communication process can be distinguished- education and involvement.

### **Education**

Education is a change style about convincing employees of the need for change and gaining their support through training and mentoring about the value and use of web analytics (Balogun & Hailey, 2004). Education is the foundation for developing knowledge about the change and for gaining the necessary skills (Balogun & Hailey, 2004). In the studied cases the education process involved company road shows and presentations (Travel AB), seminars and meetings (mentioned by all the interviewees), collaborative sessions and workshops (HP, Avanza). All of the interviewed companies hold some kind of onsite seminars and meetings where the use and value of web analytics is discussed. Such meetings are a great opportunity for employees from different department to get together to hear new information, learn more about web analytics' use and determine implementation plans.

An essential part of educating employees is molding and customizing the presented information to fit individual's job tasks and objectives. All interviewed companies provided employees with techniques to incorporate web analytics in their work by holding educational seminars and meetings customized to employee's needs.

Furthermore, effective education is about asking questions and providing valuable answers to those questions. Being able to show valuable and new information is powerful way to convince employees in the need for a change and to gain support. This was the approach that many of the companies took. At Travel AB, for example, the web analyst made road shows around the organization, listened to the employee's needs and was able to provide valuable information to influential people in the organization. This spread a positive word of mouth about the usefulness of web analytics and was a significant step towards a data-drive decision making.

From the studied cases, we can also see that even those companies that have matured in their analytical efforts have meetings continuously throughout the year. Therefore, education is important even after the completion of the change process.

### **Involvement**

Involving employees in the change is the next step of the communication process. Once the employees have understood web analytics and its value, they can get involved as supporters and followers of the change (Bjerke, 2007).

Distribution of data and reports that are understood and accepted around the organization is a vital part of a successful web analytics strategy. Once employees have been introduced to the data-driven decision making and have received the necessary training, they can start to look into web analytics data by themselves. According to the studied companies customized dashboard and reports with impactful metrics that spread around the organization is an excellent approach. Distribution of data is key activity of analytically mature organizations such as Aftonbladet and SAS. Dashboard is a report with important metrics which allows continuous monitoring of the success of the key areas of the web site (Phippen et al, 2004). Insightful dashboards can be effective communication tool as they present in an understandable way an overview of the business performance through tracking critical business data (Kaushik, 2007). Further, following measurable business objectives promotes a culture of analytics in the organization.

In the case of WGP, no data was distributed around the organization as the employees by themselves extracted the data that they need directly from the web analytics tool. In most of the companies, employees have access to the tool but rarely used it as it is often too complicated to understand. Travel AB and Avanza solved this problem by implementing Google Analytics. Google analytics presents information in a simple, easy to understand way and thus allows employees to get involved into the analytical process. Further, the extensive functionality and the extent of valuable information that the tool provides, triggers the interest in analytics in many employees.

Another way, to gain employees' support is testing for marketing practices. AB testing and multivariate testing is not only a vital part of every successful web analytics strategy but also great persuasion tools. Fredrik Peters from Avanza Bank applied testing to gain the support and trust of the employees. Multivariate and AB testing is a process where a combination of multiple factors within a web page is tested to achieve a desired customer behavior (Inan, 2008). Rather than launching a website with one idea, testing allows running controlled live experiments with different ideas and letting visitors choose the best by opting with their clicks. Thus, testing is an effective way to encourage data-driven thinking in the organization (Kaushik, 2006).

To sum up, it is essential that the change vision is communicated and understood by everyone in the organization. As Kotter (1995) argues the change processes can be powerful and effective only if the employees share a common understanding of the means and strategy. In a web analytics context, a persuasive way to communicate and empower employees is through education and involvement. Educating employees is about equipping them with the knowledge and understanding that allows them to undertake personal change that is supportive for the organizational change goals (Balogun & Hailey, 2004). Involving employees in the change process spreads support and raises interest in the data-driven culture. Finally, we should not forget that a well-developed web analytics strategy is one that is supported and embraced by the whole organization (Peterson, 2009b).

## **5.4 The Web Analytics Solution**

All interviewees shared the view that a significant step in the change process was the implementation of a web analytics solution that supports the needs of the organization. As the need for a technical platform is context specific, and it is not discussed in the change management literature, some expert views will be used here. Further, specific requirement

of how to choose a web analytics vendor and the size of the web analytics investment will not be discussed.

Selecting a software solution can be a tricky business decision (Burby & Atchison, 2007). As in some of the studied cases the web analytics solution was chosen without the involvement of the current web analyst, not all the interviewees could share how it was chosen.

In the case of Aftonbladet, HP and Travel AB a special group with representatives from different departments was settled that had discussions around the needs of the different departments and based on that took the decision which solution should be purchased. As Kaushik (2006) argues the web analytics tool should be able to meet all business requirements (strategy, KPIs and reports, etc), all technical requirement (architecture, servers, pages, IT needs, etc) and the needs of all possible users of data.

In the case of Avanza, the business team decided to implement a free web analytics solution-Google analytics and later on evaluate if it supports the company's needs. Many experts argue that this is the best way to go as a start for the organization. A free web analytics solution, allows the web analyst to understand better the needs of the organization and gain in depth knowledge of how to use the solution without the concern of making a wrong investment (Kaushik, 2006). After the organization has analytically matured, and the web analyst has understood the organization's needs and the desired solution specification, he/she can proceed towards lobbying for a new solution that better fits the organization's requirements (Kaushik, 2006).

## **5.5 Top Management**

Business leaders and management support plays a critical role in the change management process (Kotter, 1995). In the studied cases, it was top management that saw a need for the implementation of web analytics strategy and for change towards a data-driven culture. Yet, this is not the case with all organizations. There can be a project leader or a manager that initiates the change but top management support is still essential in order to convince employees that the change is necessary (King, 2009). It is the web analyst's task of explaining the value and use of web analytics to top management.

In not completely analytically mature organizations as Avanza, Travel AB and HP, one can see that the senior management supports the web analytics effort but has not thoroughly understood it yet. In the cases of true analytical competitors as WGP, Aftonbladet and SAS the top management has completely embraced web analytics and has made it a part of the organizational strategy. Therefore, top management needs to completely understand web analytics and the data-driven way of thinking for the change management process to be declared successful. As Davenport and Harris (2007) argues senior management commitment is a main characteristic of a successful analytical competitor.

## **5.6 Organizational Culture**

Organizational culture can have a high impact on the success rate of the change process (Balogun & Hailey, 2004). The empirical findings show that a culture that supports innovation or a results-driven culture is compatible with the data-driven organizational

thinking and thus facilitates the change towards successful implementation of a web analytics strategy. SAS, for example has always fostered a results and sales oriented culture. Web analytics and the data-driven way of thinking were not completely new to the employees as the company culture emphasizes on the importance of results and tying metrics to goals and strategies.

At WGP the innovative culture and fresh way of thinking contributed to the successful implementation of a web analytics strategy. An innovative culture encourages creativity, initiative and supports learning (Ahmed, 1998). Many of the WGP employees can be described as innovative, internet savvy and early adopters. With such an attitude they completely embraced web analytics, and there was no need for the managers to sell it to them.

Furthermore, as change management requires communication of the change vision, a culture that supports sharing and collaboration is essential. Such a culture was visible in all studied cases.

## **5.7 The Concept of Continuous Improvement**

All interviewees in some way or another mentioned the concept of continuous improvement. Avanza bank takes small steps to improve continuously, Aftonbladet makes continuous improvements on their website by using web analytics, WGP has integrated analytics in the overall strategy for decision making and continuous improvement, Travel AB aims at continuous measurement, analysis and improvement.

The concept of continuous improvement is closely related to the Kaizen philosophy (originating from Japanese for "change for the better "). Kaizen is about taking small steps to achieve seemingly unachievable goals (Hamel, 2009). There is nothing unusual in the fact that all the interviewees discussed continuous improvements. Web analytics is about change for better. Michael Notté, a web analytics practitioner, argues that a web analytics journey should be hinged around Kaizen.

A mistake that many companies do is to implement an analytical change too quickly (Notté, 2008). This can only make the process more complex and thus time-consuming. In those companies that have already become analytical competitors, as Web Guide Partner, SAS and Aftonbladet, we can see that the process has takes several years. Therefore, as Bjerke (2007) argues time is an important ingredient of the change process. Kotter (1995) contends that change is a long process and therefore short term wins are important so that employees can see expected results. Executing the change too fast, may often be demotivating for the employees. Time can allow the organization to analytically mature and be able to understand the complex and valuable data provided by web analytics analysis (Notté, 2008). As seen in the case of Avanza, the web analyst applied an iterative approach with basic but important improvements. The overall web analytics change was split in several projects- hiring of a web analyst, implementation of the web analytics solution, education of employees, testing for market purposes etc.

Notté (2008) contends that to achieve continuous improvement, lessons should be learned after the finalization of each step and the next steps should be adjusted based on those lessons. Providing small but incremental improvements in web analytics and presenting valuable results will often ignite employees' interest and motivation. In Travel AB, HP and

Avanza employees started requesting data by themselves, soon after the web analyst began to produce basic but valuable reports that gave answers to employees' questions. An ultimate goal in the change process is to make employees embrace and understand the analytical culture and look for and analyze data by themselves like in the case of Web Guide Partner and Aftonbladet.

Implementing a successful web analytics strategy is a long and challenging process. Thus, dedicating more time to the change and allowing the organization to analytically mature will yield higher success chances.

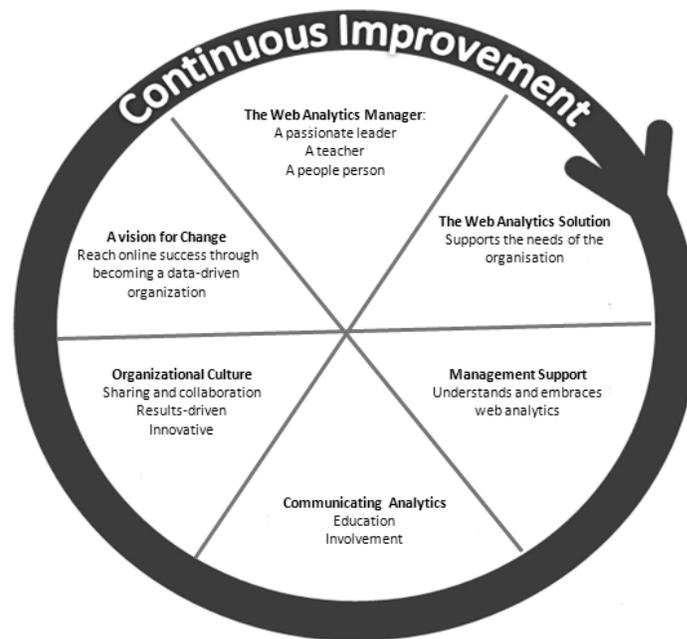
# 6. Conclusion

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*In the following chapter, a summary of the main findings is presented. Further, implications of the study and suggestions for future research are discussed.*

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The purpose of this study has been to identify key dimensions of successful implementation of change management towards a web analytics culture and thus contribute to the existing academic research in the subject. By drawing on the lessons that emerge from the empirical findings and the theoretical claims of the change management and web analytics disciplinary researchers, the present study could develop several dimensions of change management implementation. Those dimensions are presented in Figure 3. The representation should not be considered as a prescriptive model but as account of the change processes supporting a data-driven culture and as preliminary insight into the complexities of the subject.



**Figure 2 Key dimensions to successful change management in the context of web analytics**

An important factor of the change management implementation is the development of a vision of change that is easy to communicate and appeals to the employees. The results show that the vision should be organized around the organizations overall business objective. As described in the extant literature, if a deliberate vision is not created and communicated, change efforts can turn into series of unsuccessful endeavors (Kotter, 1995; Bjerke, 2007).

Another focal point highlighted in the change management and web analytics literature and in the study results is the fact that a successful change requires a group of talented, committed people responsible for the communication and implementation of the change (Kotter, 1995; Bjerke 2007; Balogun & Hailey 2004; Peterson 2009b). The results indicate

that a major change in the context of web analytics requires a skilled a web analytics manager) that can act as change agent. As argued in the literature, to be able to execute the change successfully the change agent, in the present case the web analytics manager, should possess or develop certain managerial and personal skills. A key task in implementation is for the web analytics manager to continuously communicate the strategic importance of web analytics and to educate employees about its use. From the findings it became obvious that to a certain degree, the success of the change management efforts depends on the web analyst's knowledge and passion, teaching and people skills.

A well-developed web analytics strategy is one that is understood and embraced by the whole organization. Thus, the degree of success of change management is directly related to the knowledge about web analytics and the level of involvement of employees in the change process. In the discussed theoretical framework, communication is postulated as vital and strategic as it is said that employees will not participate in the change if they do not understand it and believe in its value (Kotter, 1995, Bjerke, 2007). The results indicate that educating employees through tailored trainings and seminars, discussions and meetings is imperative for successful change achievement. A strategic move is to listen to employees' needs and based on that to provide valuable information gathered through web analytics to influential people in the company. Once the employees have understood the strategic value of web analytics they can get involved in the change. Distribution of critical insightful reports around the organization, educating employees how to use the web analytics tool or using testing as a persuasion tool, can raise the interest in analytics and encourage a data-driven thinking in the organization.

Furthermore, the importance of the web analytics solution should not be underestimated. Investing in a web analytics solution that does not support all business and technical requirements of the organization and needs of all possible data users decreases the prospects for success.

The results and analysis suggest that top management engagement and understanding from top management is of utmost importance. As suggested in the presented literature, top management support and commitment has a critical role in the change management efforts (Kotter, 1995, Bjerke, 2007, Devenport & Harris, 2007). If management does not show interest and involvement, employees will not be convinced in the need for change. It was apparent in the findings that top management engagement in web analytics is a main characteristic of data-driven organizations.

Furthermore, there is an important relationship between successful web analytics strategy and organizational culture. Results and sales oriented culture and innovative culture are compatible with the data driven nature of web analytics. Such organizational culture is not a prerequisite but is a change facilitator and allows the company to take full advantage of the data-driven decision making. Furthermore, for the successful communication of the change, it is essential that the organizational culture supports sharing and collaboration.

Finally, a focal point highlighted in the findings is the idea of continuous improvement. A change journey should be centered on the concept of continuous improvement. Embracing web analytics is a long process and thus executing the change too fast may turn to be demotivating for employees. Dedicating time to the change and allowing the organization to which to analytically mature will yield better results.

## **6.1 Contributions of the Study and Suggestions for Future Research**

The current study provides valuable insights into the key dimension of change management in regard to web analytics and data-driven culture. As discussed earlier in the paper, the field of web analytics tends to be considered in relative independence and therefore a transdisciplinary was needed to provide a more holistic view of the subject. By taking such an approach the study could shed light on and provide a deeper insight into the relationships and modalities of the fields of change management and web analytics. Further, the research has addressed the complexities of the change process when applied to web analytics. An argument supported by the study is that successful change is dependant on the development of context-specific approach to change. The transdisciplinary approach undertaken allowed the assessment of the context and thus the generation of key contextual dimensions of the change.

Transdisciplinary understanding allows the application of the findings not only on a scholarly but also on practice level. Organizations that consider implementation of web analytics can use the findings to better understand some of the key elements of successful change management efforts.

Further, as there is limited academic research in the domain of web analytics, the study provides the basis of our theoretical understanding of the complexities of the field and hopes to open up discussion and encourage further transdisciplinary empirical research. In considering future research and improvement of the present study, several suggestions can be made. The author of the study hopes that the findings will encourage a more advanced approach by using a larger study sample that can provide a deeper insight into the subject. Further, combining qualitative with a quantitative method can provide more extensive results that can be analyzed on additional levels.

An additional suggestion on how the researched topic can be enriched is by looking into the barriers of change management implementation in the context of web analytics. An account of the barriers of change and reasons for change initiatives failure will further increase the relevance of the study and will add to our understanding of the complexities of a web analytics implementation.

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# Appendix 1: Guideline for Interview Questions

1. Please tell me about yourself, the company and your responsibilities in the company?
2. Can you tell me about the web analytics strategy of the company?
3. When did the company implement web analytics and how has the strategy and culture in the company developed since then?
4. How is the importance of web analytics and data-driven culture communicated?
5. What is the attitude of employees towards web analytics and the data-driven way of thinking? How knowledgeable are they in the field?
6. What is the attitude of top-management towards web analytics and the data-driven way of thinking? How knowledgeable are they in the field?
7. What is the company looking for in a web analytics manager?
8. According to you what are some important characteristics of a successful web analytics strategy?
9. Do you have something more that you would like to address in regards to the company's web analytics strategy?