

**Caring about Users:
A Process Oriented Model of Territory Management System Usage**

ABSTRACT

This article, based on a 19-month exploratory study of a Territory Management System (TMS) implementation conducted at a local European site of a multinational consumer product company, focuses on the dynamic properties of the IT artifact, namely the usage phases of the TMS. It shows that usage is not a monolithic phase but is composed of different phases which are influenced by evolving contextual factors and which altogether constitute a process along which users can be situated and move when enabling conditions are met.

This article strives to accomplish three primary research objectives. First, we propose a TMS usage process composed of three phases and seven sub-phases aimed at better understanding the evolution of usage over a long period (nineteen months). Second, we generate new insights on how users transition between phases by identifying enabling factors. Finally, we identify contextual factors influencing usage at two points in time (respectively three and nineteen months after the TMS launch) and show that certain factors appear and/or disappear while others remain influential over the whole period.

Even though this research deals with a TMS implementation, its contribution can be positioned more generally in the literature on IS implementation and usage as we did not

discover any specificities related to TMS and more generally CRM systems in the course of our research.

Keywords: territory management system, customer relationship management, information system usage, diffusion of innovation, technology-organization-environment framework, process theory, grounded theory.

1. Introduction

This article is a contribution to the growing body of literature on IS usage. It extends the work done by Kwon and Zmud (1987) and Cooper and Zmud (1990) on the IS implementation process by focusing exclusively on the usage phase, therefore providing a more detailed view on post adoption phases and sub-phases. It aims, through an almost two-year exploratory research of a specific TMS implementation, at improving our understanding not only of usage phases but also of the contextual factors influencing usage, taking a process oriented view already described by Kwon and Zmud (1987), Cooper and Zmud (1990) and Soh & Markus (1995). As far as the identification of contextual factors influencing usage is concerned, this article mostly corroborates the work done by Rogers (2003) on the diffusion of innovation and by Tornatzky and Fleischer (1990) on the Technology-Organization-Environment (TOE) framework; it also sheds new light when it shows that those factors change over time along the usage process. In the same vein, and more recently, Karahanna, Straub and Chervany (1999), Jasperson, Carter

and Zmud (2005), Barki, Titah and Boffo (2007), Angst and Agarwal (2009), and Kim (2009) have focused their work on post-adoption (usage) behaviors and on factors influencing the usage of IT applications. We will later see when we cross-check the results of our exploratory research with the current literature that many of our findings are grounded in the work of those authors. This stream of research on IS usage is key to a better understanding of the success factors of IS implementations as illustrated by the work of Zablah et al. (2004) who reveal that failure rates of CRM implementations range from 35 to 75% and attribute those failures to the limited technology acceptance and usage among end-users.

The paper is divided into seven additional sections. Section 2 will review the current literature on CRM system implementations (TMS being a subset) and show how we based the research on identified literature gaps. Section 3 will justify and describe the research methodology and methods used throughout this paper. Section 4 will introduce the unit of analysis, list the data sources used and describe the data collection and analysis techniques. Section 5 will summarize the main findings of each of the two phases of the research. Section 6 will start by recapitulating the overall main findings before analyzing what the limitations are as well as the academic and managerial implications of the proposed TMS usage model. Section 7 will provide directions for further research. Finally, section 8 will list all relevant literature.

2. Literature review

2.1. Literature gaps

This article tries to fill three gaps in the current literature on CRM system usage through the study of the use of a specific CRM functionality, a territory management system.

The first gap relates to the lack of longitudinal studies in the area of TMS, and more generally CRM systems, usage. For example, most studies quoted by Zablah et al. (2004) are cross-sectional and, even though they provide a wealth of insights about the critical success factors of CRM systems' implementations, the vast majority are focused on the relatively short period around deployment (go-live), therefore occulting almost entirely the usage phase of the system. Even though such longitudinal studies on the usage of ERPs (Kennerley & Neely, 2001) and of sales force automation (SFA) tools exist (Cronin & Davenport, 1990; Jones et al., 2002; Jelinek et al., 2006) - the last two studies stopping only six months after deployment - most of the current research on CRM tools does not take into account that usage – as well as implementation benefits and success - can vary along the time dimension (Markus et al., 2000). An exception is the work by Speier & Venkatesh (2002) which shows that the positive perception of a SFA technology just after training was followed by a wide rejection by the same sales force six months after its introduction. The conclusion of this research seems to prove the need for a longitudinal

study of usage over a relatively long period in order to uncover different phases of usage, potentially influenced by changing contextual factors.

The second gap relates to the lack of detailed analysis of usage phases and the factors enabling users to transition from one phase or sub-phase to the next one. Through the grounded theory approach used in this research, we were able to identify at a more detailed level the TMS usage sub-phases and some transition enabling factors, providing a more detailed view than previous IS implementation models (see for example Kwon and Zmud, 1987; Cooper and Zmud, 1990; Markus et al., 2000).

The third gap concerns the contextual factors influencing usage. Our research expands upon previous work done on DOI and the TOE framework in two ways. First, it does not test hypotheses on potential factors, as most studies in this area do, but, through an exploratory study, identifies all contextual factors for a specific implementation, similarly to what Orlikowski (1993) did for CASE tools, even though we do not study the consequences of adopting and using the TMS in terms of process and organizational change within the company as Orlikowski (1993 and 2000) or Barley (1986) did through their structural models. Second, it shows an evolution of the factors influencing usage by listing at two different points in time the factors that have an influence on usage and showing, for example, that some factors present at time t were not relevant at time $t+1$ while new factors appeared at time $t+1$.

2.2. Focus of this research

Based on the previously identified gaps in the current literature, this research incorporates three main aspects.

The first and main one is the longitudinal nature of this study, which goes beyond the usual three months after system deployment. Even though Orlikowski (1992), Tyre & Hauptman (1992) and Tyre & Orlikowski (1993, 1994) show that technological adaptation happens very shortly after introduction (within the first three months) and that further adaptation is rare unless it is due to some major event such as new management, product failure, or new technology, other authors such as Bhattacharjee & Premkumar (2004) show how users' beliefs and attitudes toward IT usage change over time. Consequently, the duration of this study (19 months) is an attempt to capture changes in usage over a longer period and to map a resulting usage process. Already fifteen years ago, Soh & Markus (1995) insisted on the need to do further research on the IT use process.

The second axis is to see how contextual factors evolve over such a long period and how they can be tied to specific usage phases. Many authors have argued for a long time that the organizational context influences the way IT is deployed and used (Orlikowski, 1993; Robey & Sahay, 1996; Engle & Barnes, 2001). Our study goes further by mapping influencing factors on the usage process at two different points in time in order to look at potential evolutions.

The third aspect concerns the data collected to measure usage: we plan to use measures of actual usage of the TMS - through system logs corroborated by qualitative interviews about activities performed through the TMS - and not self-reported data, as we do not find the latter measure reliable. Moreover, most studies on usage have so far concentrated more on adoption (or intent to adopt) and on technology assimilation likelihood than on actual usage of the business application. Our research, similar to the work of Speier & Venkatesh (2002), Ahearne et al. (2004), and Ko & Dennis (2003), will focus on an objective measure of actual usage.

3. Research methodology

This longitudinal research was conducted at an international consumer products' company during the implementation of a TMS in one of their European markets. Its objective is to generate a descriptive and explanatory substantive theory of TMS usage, grounded on field data collected, coded and analyzed at a local implementation site over approximately two years after initial deployment (2008-2009). The method used for this project to collect and analyze data and propose a theory is that of grounded theory (Glaser & Strauss, 1967).

This inductive, qualitative methodology has proven useful in developing context-based, process-oriented descriptions and explanations of phenomenon (Orlikowski, 1993) and has already been used in areas closely related to the one of this research, namely organizational change (Turner, 1983), information systems (Pries-Heje, 1991; Orlikowski, 1993; Hughes

& Jones, 2004), and marketing (Goulding, 1999). More precisely the grounded theory approach followed in this article is the Glasarian one which shows significant differences with his co-author, as far as data analysis methods and the influence of the researcher's prior experience are concerned (Strauss & Corbin, 1998; Glaser, 1992; Goulding, 2002). You will find the main steps of the analysis process followed during the project as per Grounded Theory below:

Insert Figure 1 about here

4. Data sources, data collection and analysis methods

4.1. Site selection and unit of analysis

The “company” (the name of the company could not be disclosed) was chosen for two main reasons. First, it was about to launch a new TMS implementation project at a local site in Europe when we initially contacted them, therefore giving us the possibility of following the usage phases from the ‘go-live’ of the system. Secondly, the company’s management was willing to provide us with access to all needed resources whether they were local or HQ staff (for interviews) or data (i.e. project meeting minutes, system logs, TMS change request) related, which was a key asset in our research.

The selected site was in Romania where the “company” implemented a territory management system in order to support the planning, execution and tracking of its

promotional and merchandising activities at reseller and customer sites. The activities supported by the TMS consist of segmenting and prioritizing sales outlets, setting objectives for outlets in terms of assortment, space, promotion and merchandising management, planning field visits for the trade marketers, and finally executing and reporting outlet visits. This territory management system was implemented within the marketing department to support its field activities. It was mainly used by operational planners as a planning tool for territory management, weekly route definition and set up, objective and activity planning and analysis of field activities, and by trade marketers as a field marketing support tool for tracking their field activities and collecting outlet data (i.e. level of product inventories, number and types of merchandising tools available, level of contractual compliance of outlets). The deployment of this Siebel/Oracle solution occurred in April 2008, and was part of a worldwide roll-out.

The unit of analysis is the Siebel user community in the marketing department and all subsequent analysis is based on this department only. This marketing department is divided into two sub-units: operations (mostly field people) and development & planning staff (planners), each sub-unit headed by a director. Altogether there is a population of over 100 users composed of three main user types: management and their support staff (24), field staff (83), and operational and strategy planners (3). Four main Siebel functionalities (also

called modules) are used: sales, marketing, answers (ad hoc query tool) and analytics (business intelligence platform).

4.2. Data sources and collection methods

“All is data” as long as it is relevant to the substantive area (Glaser, 1998). Throughout this research, qualitative (interviews, project plans, meeting minutes, helpdesk tickets, TMS functionality change requests) and quantitative data (system logs) are mixed. Those different sources allow for triangulation which helps the researcher confirm emerging concepts, cross-check them and build a more solid theory (Orlikowski, 1993). It is in line with GT principles (Goulding, 2002). TMS user comments were later cross-checked with the TMS log data.

The data collection process was conducted in two main phases: the first phase of interviews was done in June 2008 whereas the second one was conducted in November 2009, both at the company’s main office in Bucharest. In addition, the local project manager was interviewed twice – after phase 1 and phase 2 – in order to provide his input on our findings. Two additional meetings were also held at the company’s global headquarters in Geneva, Switzerland, with the global project team: one at the beginning of the research (April 2008) to get an overall understanding of the company’s objectives for implementing a TMS and another one at the end of our research (January 2010) in order to

present our conclusions and get their feedback. System logs were collected and gathered throughout this period by the local project manager.

For the initial round of eight interviews (June 2008), a semi-structured interview was developed and conducted, based on a set of questions derived from the initial research question. The questions were deliberately left open - covering the main subjects of the research, namely usage, usage evolution and its influencing factors - so that at this early stage of the research no preconceived perceptions or opinions could influence the interviewees' answers. The initial sample of eight interviewees represented the main participants of the project (business and technical project managers), as well as key user groups (staff & manager, trade marketing and leisure channel business units, back and front-office). The profiles (job functions and seniority) of interviewees were chosen after reading the training materials and defining who the main user groups were. This research gathers data from end-users, and not perceptions from senior members of the local management team, similarly to what Amoako-Gyampah (2004) did for ERP implementations.

For the second round of nine additional interviews (November 2009), seven out of the eight people already interviewed were asked to participate again in order to identify in which usage phase they were now and to better isolate the contextual factors affecting usage and their evolution throughout the nineteen month period. Two additional managers in the marketing department were also interviewed in order to better understand their role

and their impact on usage, as the role of management was found to be a key element in usage during phase 1. Interviews were not taped for stage 2 (whereas they were during phase 1), but notes were taken during and just after interviews in order to record any insightful remarks from interviewees. The questionnaire was more structured than the one designed for phase 1 in order to do a more direct follow-up of the initial findings, but interviewees were still allowed to cover topics of interest regarding usage and contextual factors even if not originally included in the phase 2 interview.

It was deliberately decided not to gather self-reported usage data directly from the marketing staff and management (except the admin task accomplishments as no system data is available or to sometimes cross-check system log data) to avoid response bias and to allow for the gathering of a significant amount of data over a fairly long period without having to systematically come back to staff. Tool functionality usage and productivity gains were gathered through the TMS logs.

Project documents were also gathered for subsequent analysis. Those were essentially meeting minutes dated both pre and post 'go-live' on subjects such as the replacement of legacy systems, the role of local staff in the project, IS related organizational issues, business process and workforce capabilities' review as well as weekly status reports of project progress.

To sum up, 21 interviews were led and monthly system logs were gathered during the almost two year research project. The list of interviewees is summarized in the table below.

Insert Table 1 about here

4.3.Data analysis process

Interviews were taped and transcribed only for the initial round in Bucharest (June 2008) due to the open-ended nature of the discussions. The second round of interviews in Bucharest (November 2009) was more focussed and therefore hand-written notes could be more easily and accurately taken. For all twenty-one interviews (April and June 2008, November 2009, and January 2010), notes and subsequent analyses were recorded in Microsoft Word. NVIVO was then used to help with the qualitative data analysis (see examples of NVIVO screen prints below):

Insert Figure 2 about here

A one to three page memo was written after each of the 21 interviews, partly made of hand-written notes taken during the interview and partly with notes taken at the end of the day. Each memo was structured into two parts: the first part summarized the main ideas of the interviewees as well as our personal comments about their answers, whether or not related to the usage of the TMS. The second part listed the initial open codes derived from the interviewee's main ideas and accompanying comments; this time only related to either usage phases or contextual factors influencing usage. We will provide below a short

summary of the main steps and findings related to the contextual factors. A similar analysis was performed in order to distinguish the usage phases and sub-phases, but we have not detailed the intermediary steps for reasons of space, providing only the findings in the next section.

As far as contextual factors are concerned, eighty-three codes were initially put down on paper before further analysis and grouping. The next step was the writing of memos detailing open codes found consistently in several interviews. Nineteen memos were created with the following subjects: user participation in project, tool functionalities, role of management, flexibility of the tool versus business, competition, business model, training strategies, tool complexity, product champion, customer environment, change management, objective achievement, user profile and skills, tool technical stability, role of the boss, increased job scope, costs versus benefits analysis, buy-in process, and team unity. Those 19 memos highlighted the main factors mentioned by interviewees as having the potential to affect usage and were further grouped into the five following categories: project management, users' benefits, tool capabilities, role of management and finally business environment. Those five categories were further classified into three main context families: organizational, environmental and technological context.

Six transcripts out of the eight interviews of phase 1 were analyzed. The remaining two interviews (those of the two Leisure Channel associates) were very short ones (less than 30 minutes) where the audio quality was not good enough for a full transcript. What were the

main conclusions of the line-by-line analysis? Not surprisingly, this analysis reinforced the coding found in the memos and presented in the previous section. However some remarks highlighted an overemphasis on the mechanical approach of the training “how to use the system”, at the expense of “why to use the system for you and your company” - which seems to be a key factor in motivating people to use the tool, especially management.

Additionally, the following new findings came out after the analysis of projet documents, contributing to a better understanding of the deployment as well as the usage phases: a lack of analysis of reporting requirements; a pre ‘go-live’ focus more on functionalities than on data quality; a clear business process and functionalities’ review and change request process; a lack of business risk management except for security, access rights and data confidentiality; and finally an unclear role of local and central management in the project.

Instead of a focus group, it was decided to check the findings only with the overall project manager of the TMS initiative as well as with the HQ coordinator. Most of the findings about usage phases and contextual factors were corroborated by the project team. However, the HQ project manager considered that, within the realization benefits’ phase, the last sub-phase “company objectives” and its measures (market share statistics) were irrelevant to the company Siebel TMS initiative, as it was never included in the company objectives. This probably explains why the company has not communicated the benefits of Siebel for the Romanian market, aiming only for the trade marketers’ “job objectives” sub-phase. However, the goal of TMS (and more generally CRM) initiatives is basically

increased sales & marketing performance at firm level and not only personal productivity & job achievement; this is why we maintained it.

5. Main findings

5.1. Usage as a process

The initial findings of stage 1 (June 2008) which were later completed by the results of phase 2 in November 2009, revealed a three phase usage process as defined below:

1. An adaptation phase: “I am still familiarizing with Siebel (TMS) usage and functionalities but I am not quite proficient enough to fully exploit Siebel to better accomplish my job”.
2. An exploitation phase: “I know Siebel quite well and I am getting more productive with Siebel when accomplishing my daily tasks (i.e. better planning, more customer visits, more information and analysis of customers).
3. A benefits’ phase: “Siebel is providing me the benefits to reach my job objectives better, it is helping me reach my targets and improve my overall performance and that of my team (i.e. impact on market share).

After the initial round of interviews in June 2008 and further analysis in November 2009 after more than 19 months of usage, we are able to split the three main phases into sub-phases along which we can situate users, as shown below:

Insert Figure 3 about here

As far as the adaptation phase is concerned, three sub-phases appear. The first one is the “training digestion” sub-phase. This period starts just after the initial training (a couple of weeks before ‘go-live’) but still continues one or two weeks after the launch of the TMS. It is characterized by an initial emotional phase, sometimes leading to perplexity, sometimes to an initial rejection (“it is too complicated, I will never be able to use the tool”), but rarely to instant adoption (people wanted to see tangible benefits by using the TMS before having an opinion), followed by a short period of testing (trial and error) back at the office or in the field. The second sub-phase of the adaptation phase is the “basic functionality discovery” sub-phase. It is a period of initial discovery and usage where users try to replicate what they are taught during the training (“applying the lessons learned in the classroom”), which is a bit like practical exercises. The third and last sub-phase is the “basic functionality appropriation” sub-phase where users are actually using the basic data entry and data query functionalities in Siebel in order to perform their daily activities (field visits). This is where users get accustomed to the main TMS functionalities useful for their job.

After rounds 1 and 2 of interviews it also clearly appeared that the exploitation and benefits' realization phases can be divided each into 2 sub-phases.

For the exploitation phase, we can first see an "advanced functionality discovery and appropriation" sub-phase. This is when users (staff and management) are gradually exposed to new advanced functionalities such as reporting and analysis to exploit data entered in Siebel. Discovery and appropriation are regrouped in the same sub-phase as it is a series of iterative processes within this sub-phase (new functionality → discovery → appropriation) for each new advanced functionality introduced by the project team. The second sub-phase of the exploitation phase is called the "individual productivity enhancement" sub-phase. This is the phase where most of the trade marketers involved since the beginning of the project are now. Most of them now save time (between 0.5 and 1 day per week), for example in performing activities in the TMS such as: entering data, completing visit reports at customer site, accessing and retrieving customer and point of sales material information and analyzing them, planning daily, weekly and even monthly activities. This phase is a relatively long one due the complexity of the tool (learnability) and to the fact that new functionalities like reporting were introduced only in early 2009. This productivity gain enables them to spend more time in the field with their customer, but is not really fully exploited as there is currently no push from the company to accompany them to the next phase of "Benefits' realization". A training program about

territory and account management is currently in discussion in Romania but no planning is yet available.

As far as the last usage phase is concerned, namely the benefits' realization phase, we can first distinguish an "individual job objectives' achievement" sub-phase. As we have just seen above, trade marketers have not yet reached this sub-phase but some are expecting that their company will help them reach this phase. Most of them still consider Siebel more as a data entry tool than a territory management tool (IT versus business tool perception). They expect that the time gained with the introduction of Siebel be spent on activities such as territory or account management (which is ultimately the main objective of their job). The only department which has reached this sub-phase is the planning team (operational planners) as Siebel now enables them not only to be more productive in their daily tasks but also to fully reach their main job objective of planning trade marketers' field activities, an objective which was not fully reached with the previous tool.

The second and last sub-phase within the benefits' realization phase is the "company business objectives' achievement". Nineteen months after 'go-live', it is still too early to identify the benefits generated by this sub-phase. As most marketing staff have not yet reached the previous sub-phase of individual job objectives' achievement, it is reasonable to expect that the companywide benefits have not yet materialized. The company's total revenues in Romania have been stagnating since 2008. This is not really surprising in a time of recession, stricter legal rules regarding the core business of the company and

increasing smuggling of the company's main products in Romania. More interesting is the fact that the company's market share has slightly decreased since 2008, which means that the introduction of Siebel has not yet had any impact on the company's position (but let us keep in mind that Siebel is a marketing tool only, therefore with limited impact on sales).

Why are most of the TMS users – at least those using Siebel since its launch - only in the second sub-phase of the exploitation phase after 19 months? Tool complexity, late introduction of key functionalities such as reporting and analysis and the absence of regular communications (“push”) from the company management about the companywide expected and realized benefits - beyond the pure personal data entry and data access productivity gains - were the reasons mentioned most often (“we lack the big picture and do not know if and how all our efforts in using Siebel provide benefits to our company overall”). This somehow has led to a growing dissatisfaction and lack of motivation, as we noted when comparing the high expectations expressed by certain trade marketers shortly after the TMS introduction in June 2008 versus the mixed feelings about the benefits of the TMS for their job raised by the same people in November 2009.

5.2.Factors enabling a transition between phases and sub-phases

We clearly see that there are “enablers” or “bridges” that help users move from one phase or one sub-phase to the next one. Those enablers seem to be extremely important elements of the usage process and would need further research to more precisely identify them and

show their role in the overall process. The first discovered enabler is the training and support provided by the project team before and after the deployment of the TMS. This enabler is extremely important to move from the initial sub-phase of the adaptation phase “training digestion” to all subsequent sub-phases, up to the last sub-phase of the exploitation phase “individual productivity enhancement”. The second enabler is the role and involvement of the manager (through support, training, pressure, and control) which plays an important role in the same phases and sub-phases but which, according to the feedback of trade marketers, plays a key role in reaching the “individual productivity enhancement” sub-phase. We can clearly see that users who have reached this phase are part of teams whose manager actively contributes to the success of the TMS. The last enabler to move up to the “individual job objectives achievement” sub-phase (first sub-phase of the benefits’ realization phase) that consistently came up during the second round of interviews is the willingness of the company to communicate the business benefits of the TMS initiative and to provide related training such as in our case territory and account management. Most users want and need to be accompanied throughout their TMS usage journey and we observed during the November 2009 interviews that it takes not only the individual motivation of the staff to reach the “individual job objectives’ achievement” sub-phase but also the willingness of the company to provide the environment conducive to it (in our specific case through communication and training).

5.3.The evolution of contextual factors influencing usage

The factors influencing usage discovered after the first round of interviews (June 2008) can clearly be found in the Diffusion of Innovation (DOI) and the Technology-Organization-Environment (TOE) framework literature.

More interestingly, it has become apparent after the second round of interviews held in early November 2009 in Bucharest that most of the technology context factors quoted after 3 months of usage have almost disappeared. Through training and support as well as daily usage and field coaching, tool usability and learnability is no longer a problem even though it is generally admitted that Siebel is not a user friendly tool. With the shut-down of the legacy application, Siebel is the only choice left; it is also admitted that Siebel is a better tool in terms of usability, data coverage and reporting capabilities compared to the previous system - see Kim (2009) for the impact of previous experiences and reflections on IS usage. The only factor which remains and negatively impacts the usage of Siebel is the lack of flexibility of a tool which was rolled out globally and therefore controlled centrally from Switzerland, and which does not give the desired flexibility for the Romanian local market. When the local market's required change requests are not implemented in Siebel, users find ways to work around it through alternative local information systems or through recording the information in Microsoft Excel or on paper.

However, two new technology context factors have appeared during this period. The first one positively affects usage: this is the continuing centralization of different sets of

customer or competition data in Siebel in order to make the tool indispensable for the target audience as well as for part of the sales management team. The second one negatively affects usage: this is the internal competition of the TMS against other information systems used by top management which overshadows Siebel and prevents it from being promoted in departments other than the marketing department, therefore leading to a lack of visibility of the newly deployed TMS.

As far as the environment context factors are concerned, none of those factors present in 2008 were mentioned during the interviews in the second round. They disappeared and even more surprisingly, they were considered as irrelevant by interviewees who said that those factors were introduced by the company's HQ management during the initial training session (the "official sales pitch"). In fact, they never had any real influence on usage.

This is certainly within the organizational context that we still find in 2009 most factors influencing usage discovered in 2008, namely: complexity of business ("I cannot do my job without the tool"), firm's commitment (importance of a product champion and the communication of companywide benefits), support and training, role of management (through support, control and pressure), and finally the recruiting and selection of staff (to get the right profiles). All the above factors still play a role in the usage of the Siebel tool and are quoted in almost all interviews either positively (complexity of business, support and training) or negatively (absence of a product champion, no companywide communication of benefits, recruiting of wrong profiles) or even in both categories (i.e.

role of management, depending on the manager or the business unit of the interviewee). The lack of communication from the local management team about Siebel related benefits for the company seems to have played a significant role in the diminishing enthusiasm from the user community about Siebel, as highlighted by numerous interviewees. This is in line with Rogers (2003) who places communication channels (i.e. mass media or interpersonal) as one of the key variables determining the rate of adoption of innovations (In our case, it affects the usage itself.). Allen (2008) came up with similar findings for an ERP implementation and highlighted, like in our study, a lack of communication by management about the objectives and merits of the initiative, asserting that top management support and guidance should not stop at deployment but continue during each phase of the usage process in order to yield the desired business benefits.

Two new factors within the organizational context have however appeared: personal motivation and business acumen. The first factor is reflected now only in the level of usage and in particular the extent to which reporting and analysis functionalities are used within Siebel but also in the willingness of certain users to move from the exploitation phase to the benefits' realization phase. This is what Jelinek et al. (2006) call goal orientation; those authors find that highly performance-oriented and highly learning-oriented salespeople show a strong motivation to adopt technology. The second factor (business acumen) directly influences the usage of Siebel advanced functionalities like analysis capabilities. The literature on high performance work practices has also highlighted the recruiting and

selection process as well as training as key factors in organizational performance (Pil & MacDuffie, 1996). Below you will find a comparison of contextual factors influencing usage as identified during the two rounds of interviews (June 2008 and November 2009):

Insert Table 2 about here

5.4. The contribution of the TMS system logs

The adaptation phase is marked with the discovery of the tool, therefore statistics about functionality usage and frequency of usage shows how the tool is used in this initial phase, giving a preliminary indicator of future usage. This is a phase characterized by many process and technological adaptations (Tyre & Orlikowski, 1994). Collected data from the TMS log include the number and type of functionalities used (number of Siebel Analytics logged users, number of dashboards used, number of activity types used).

The exploitation phase marks the beginning of the mastery of the tool; therefore statistics showing how users are more productive in their task accomplishments are relevant. Collected data from the TMS logs include the percentage of planned visits completed to measure planning skills, the number of visited outlets to measure delivery skills, whereas one measure is obtained from qualitative surveys (to measure the increased productivity in the performance of admin tasks such as organizing activities, reporting, and transacting).

The benefits' phase should see the realization of the TMS initiative' benefits, namely improvement in individual job objectives' achievements and an increase in company market share (Ahearne et al., 2007; Kim & Kim, 2009). Collected data from management reports include the market share. As already mentioned, the unit of analysis is the marketing team, not the sales team; therefore the indicator of market share should be analyzed with caution as this is a indirect effect of the TMS introduction which is influenced by many other factors (market trends, sales efforts, health and environmental factors, pricing schemes, etc.). For individual job objectives' achievement, the main target is an improved territory and account management but as of today no performance indicator is yet in place at the company. Other customer oriented metrics such as customer satisfaction, customer interaction or customer knowledge were not retained for this pilot study as data was not readily available at the company. The main results are summarized in table 3 below:

Insert Table 3 about here

It is no surprise to see that personal usage (through the number of functionalities used) and productivity metrics (through the number of visited outlets and the percentage of planned visits completed) show constant progress over the initial 19 months after Siebel introduction. The TMS log data confirms what staff and managers expressed during the two rounds of interview. Those statistics, combined with the increased productivity gained

by Siebel users for tasks such as completing visit reports or producing reports (no system logs available, only qualitative remarks gathered during interviews) prove that phases 1 and 2 (adaptation and exploitation) were rather successful.

However, the achievement of individual job objectives (better territory and account management) and the realization of companywide benefits (increased market share) of phase 3 are yet to be seen. First, no territory or account management program is in place and therefore no metrics are in place. Second, we do not yet see any positive trends for the company's market share (it has even deteriorating in the past two years). Current market conditions (2008 / 09 worldwide crisis, increased legal restrictions on advertising for the company and increasing smuggling) do not act in favor of the company's market (in terms of sales), but we could still have expected a consolidation in its market share due to the Siebel introduction. This has not happened. Even though it is not the scope of this article to research the business value of the TMS implementation, some factors related to usage caught our attention as far as the last sub-phase is concerned. First, certain categories of potential Siebel user population still do not use Siebel: particularly higher levels of management (above Trade Marketing Managers) as well as the Strategy Planners, in fact two key actors in helping a TMS deliver the business value of phase 3. Another explanation for the lack of generated benefits for the company is that most users are only at the personal productivity phase which, by itself, does not generate business value for the company. However, if the time saved by trade marketers thanks to Siebel is spent on

improving territory / account management, then and only then will we see improvements in the company market share.

6. Concluding thoughts

6.1. Emerging theory

The first main finding is the development of a 3-phase usage process (adaptation, exploitation and benefits' realization), and more importantly the decomposition of those phases into sub-phases (respectively training digestion, basic functionality discovery & basic functionality appropriation; advanced functionality discovery & appropriation and individual productivity enhancement; individual job objectives' achievement and company business objectives' achievement). This result, although in the same vein as previous work done by Kwon and Zmud (1987), Cooper and Zmud (1990), Soh and Markus (1995) or Markus & Tanis in Zmud's book (2000), shows in greater depth what Soh and Markus (1995) call the IT use process. This detailed focus on usage was made possible due to the grounded theory approach used throughout this research as well as its longitudinal aspect.

The second main finding is the evolution of factors influencing usage during the usage process. It is no surprise to see a change over such a long period (19 months) but it has now been demonstrated through a specific example. This also shows that an IS implementation does not stop at 'go-live' or shortly thereafter, but must be accompanied

with adequate support, training and change management programs throughout the lifecycle of the IS (Jaspersen, Carter and Zmud, 2005).

The third main finding is the identification of enablers facilitating the transition between phases and sub-phases, what Soh and Markus (1995) call “necessary but not sufficient conditions” in their three stage process theory of IT business value creation (IT conversion process, IT use process and competitive process). For example, our research for this specific TMS implementation shows that in order to go from the individual productivity enhancement sub-phase to the individual job objectives achievement one, TMS users need training and coaching in account and territory management. More importantly, we believe that this latter sub-phase is key in reaching the company business objectives’ achievement phase. If the company does not reach it, it will not see company benefits and will therefore stop at a stage where “Its staff just uses more efficiently a better tool”. More research would need to be done on the enabling factors “linking” the phases and sub-phases.

Finally, we can see our TMS usage model as a dynamic, evolving process whose phases and sub-phases are linked, influenced by changing factors and where users transition between phases due to enabling factors.

6.2. Cross-checking with the current literature

Because this research is exploratory by nature, we will now briefly check its findings against the two main streams of literature addressed in this article, namely IS usage and the firm's contextual factors influencing usage.

The TMS usage process described for this study shows similarities with the 6-phase IS implementation process of Kwon & Zmud (1987) as well as its variation including post-adoption behaviors proposed by Cooper & Zmud (1990), with the difference that the stage process in our research focuses on usage only. Our paper details what Soh and Markus (1995) call the "IT use process", and is in the same vein – although limited to usage - as the process theory of enterprise system success described by Markus & Tanis in Zmud's book (2000) which nonetheless does not cover in detail the usage sub-phases and links between phases and sub-phases that were discovered in our study.

The activities performed and the objectives reached by users and their marketing organization during our three usage phases of adaptation, exploitation and benefits' realization show similarities with Zuboff (1988) IT capacities of automate, informate and transformate. Our first phase (adaptation) is mainly dedicated to learning and efficiently using the automating functions of the TMS whereas we see in the second phase (exploitation) users exploiting not only more advanced functionalities but, more importantly, the data gathered in the TMS through reports and analysis in order to perform their daily routine work and improve their decision-making process. The third and last phase (benefits' realization), which is still in progress in the company, has started to

generate organizational and skills' transformation leading to improved territory and account management and ultimately to the stabilization or potential improvement of the company's market position.

Usage constructs' definition and statistics in our project are consistent with recent research (Boffo & Barki, 2003; Burton-Jones & Straub, 2006) which has highlighted the weaknesses of the current operationalization of the system usage construct, so far conceptualized mostly as an amount (i.e. frequency of use, duration of use, variety of functionalities used, use or non-use, light or heavy use), and has proposed the incorporation of measures at individual, group or organization level, such as task and goal accomplishments. We have collected from the TMS log measures corresponding not only to the frequency of use or the number of functionalities used but also measures showing if tasks were accomplished or not such as the percentage of planned visits completed.

Not surprisingly, the contextual variables found through the interviews widely correspond to those listed in the technology-organization-environment (TOE) framework proposed by DePietro, Wiarda & Fleischer and published in Tornatzky & Fleischer's book (1990) or in the diffusion of innovations theory by Rogers (2003).

As far as the stream of research on the factors influencing IS usage and their variation over time is concerned, it is fairly scarce for TMS / CRM systems. Longitudinal studies have been conducted on SFA tools (Jones et al., 2002) showing factors influencing intention to use – but not actual usage – during pre and post-implementation periods, whereas others

have concentrated on post-adoption variations in usage and value (Zhu & Kraemer, 2005), or more specifically on the technological adaptations following implementation (Tyre & Orlikowski, 1994). More generally, Bhattacharjee & Premkumar (2004) looked at variations in the attitudes toward IT usage, and proposed a temporal model of belief and attitude change: this is similar to what we tried to show through this project, but with a focus on IT usage and not on belief and attitude.

When looking specifically at factors found in this research, some of our findings confirm previous research done on IS use. Let us give some examples. First, the work done by Karahanna, Straub and Chervany (1999) on post-adoption beliefs shows that usefulness and image enhancements are factors influencing post-adoption behavior while the “ease of use” factor disappears over time. We also find similar in our TMS project. Second, the study by Angst and Agarwal (2009) demonstrates that persuasion and argumentation can change users’ attitude towards an information system; this is a key – negative - point in our implementation as the communication and argumentation part done either during the initial training sessions or later throughout the 19-month period of the study was either inexistent or poorly managed by the company’s management and project team, as highlighted by numerous interviewees both in 2008 and 2009, therefore leaving most users without any guidance beside the basic training and support on “how to use the TMS”. Third, because the TMS is deployed and maintained centrally for all European countries, there was little

room for the local market to make drastic adaptations therefore impacting the adoption and usage of the tool, a finding already highlighted by Barki, Titah and Boffo (2007).

7. Conclusion

This article extends the work done on IS usage by identifying and detailing the IS usage phases and sub-phases of a specific TMS implementation over a 19-month period as well as showing the factors enabling users to transition from one phase or sub-phase to another during this process. It also contributes to the numerous studies based on DOI and TOE frameworks by adding a dimension of evolution of the contextual factors affecting usage through a comparison between two points in time (3 and 19 months after 'go-live'). Lastly, it uses a grounded theory, longitudinal approach in a field of research previously made of cross-sectional, hypothesis testing scenarios.

There are two main limitations of the study. The first one is that the time between the two rounds of interviews (June 2008 and November 2009) is too long. It would have been beneficial to the accuracy of the findings to schedule interviews more regularly - every quarter for example - in order to follow more closely all phases and sub-phases. Even though the results of the interviews were later cross-checked by monthly TMS log data, asking users about what happened in the last 6 to 12 months is less accurate than asking them to remember facts of only 2 or 3 months ago. This is a lesson to be learned for future

similar studies, provided that the researcher has easy access to users. The second limitation is related to the absence of the local sponsor of the project during both interview rounds, as he no longer works for the company: his views on the firm's commitment and the importance of the product champion could have been enriching as those factors were found as key influencers of usage.

Finally, we can assert that an information system such as the TMS of this study is like a living system which goes through different phases and evolves within different environments along the course of its life, a bit like a human being. TMS like more generally IT artifacts are not static; they are dynamic as the environment (i.e. organization, people, technology, usage) around them is changing constantly. This corroborates one of the five research (related to the dynamic properties of IT artifacts) directions about IT research discussed by Orlikowski & Iacono (2001) in their call to theorizing the IT artifact. For practitioners, whether they are business managers introducing a TMS in their department or TMS implementers, it has one obvious consequence: their job does not stop at system deployment, the long journey leading to usage and ultimately business benefits must continue after 'go-live'.

8. References

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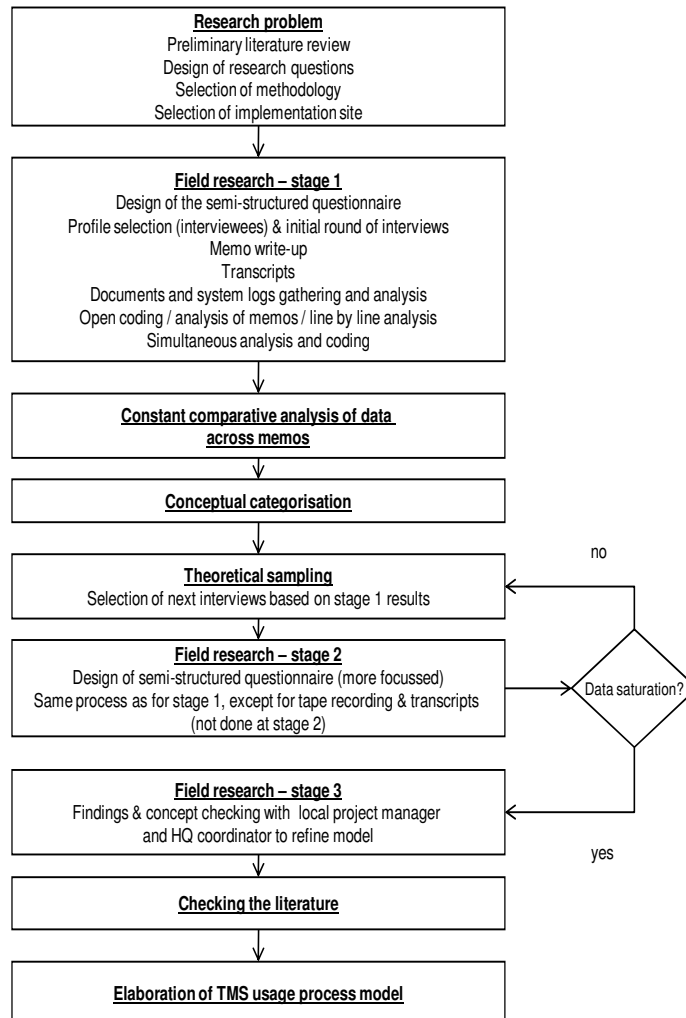
FIGURE 1**Research Process Overview**

TABLE 1
List of Interviews

Interviewees (function)	Location	April 08	June 08	Nov 09	Jan 10	Comments
Global project manager	Geneva, Switzerland	X			X	Organization coordinating all roll-outs
Local project manager	Bucharest, Romania		X	X		Debriefings about findings
IT manager	Bucharest, Romania		X	X		
Trade marketer associate 1	Bucharest, Romania		X	X		Business unit 1
Trade marketer associate 2	Bucharest, Romania		X	X		Business unit 1
Trade marketer manager	Bucharest, Romania		X	X		
Local project manager	Bucharest, Romania		X	X		
Operational planner	Bucharest, Romania		X	X		
Leisure channel associate 1	Bucharest, Romania		X	X		Business unit 2
Leisure channel associate 2	Bucharest, Romania		X			Business unit 2
Merchandising manager	Bucharest, Romania			X		
Trade segmentation manager	Bucharest, Romania			X		
Total interviews		1	9	10	1	Total = 21 interviews

FIGURE 2
Examples of NVIVO Screenshots

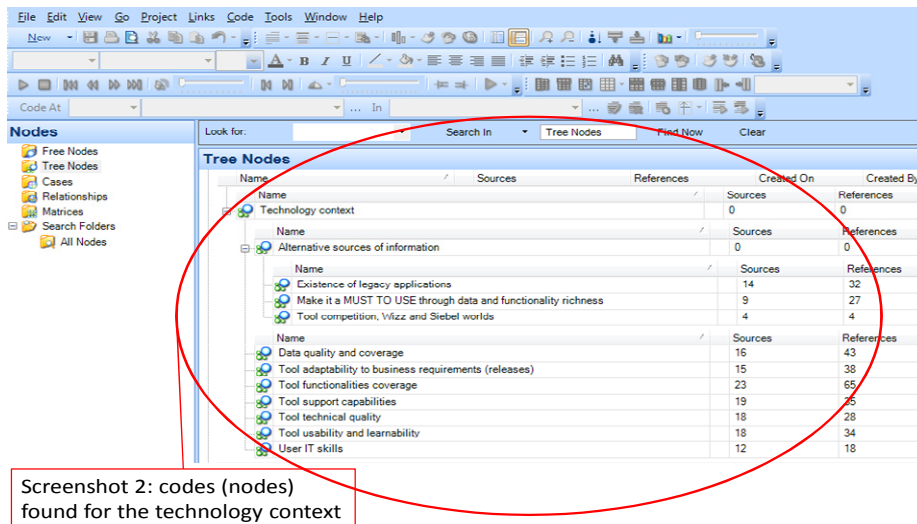
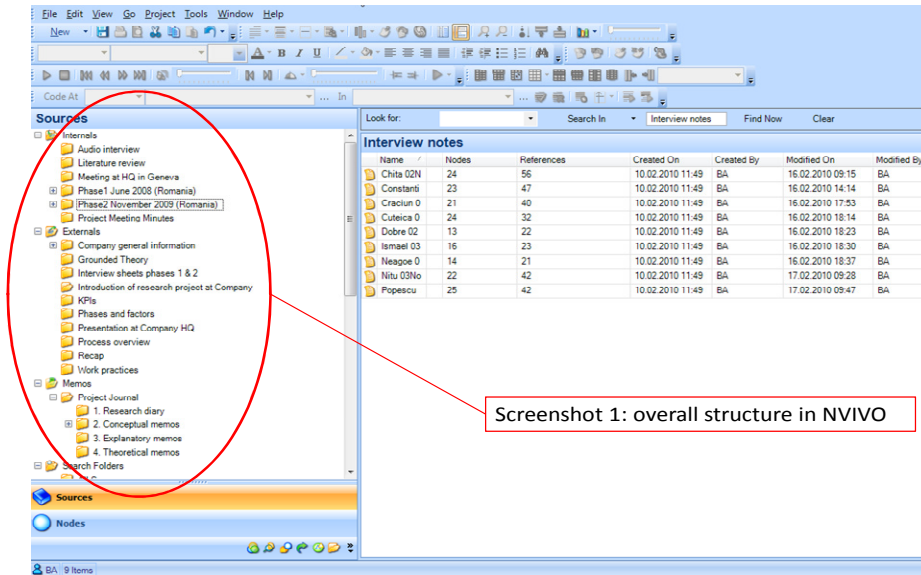


FIGURE 3
TMS Usage Process

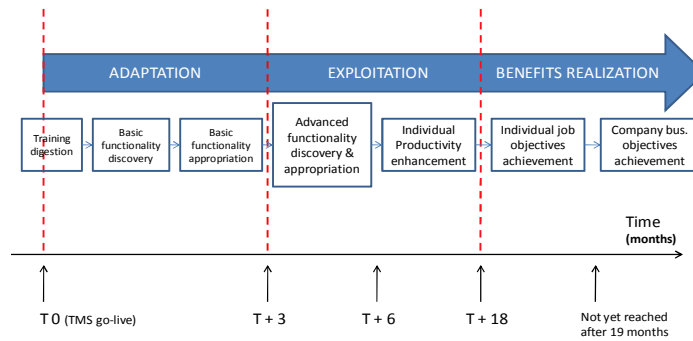


TABLE 2

Contextual Factors Influencing Usage: June 2008 vs. November 2009

Context	Factors	June 2008	Nov. 2009
Environment	Competitive pressure	✓	
	Customer environment	✓	
Organization	Size & complexity of business	✓	✓
	Firm's commitment: product champion (lack of)	✓	✓
	Firm's commitment: initiative/benefits communication (lack of)	✓	✓
	Role of management (support, control, pressure)	✓	✓
	Recruiting (selecting the right profile)	✓	✓
	Compensation policies for project team	✓	
	Project management skills (i.e. business requirements, testing)	✓	
	Support and training from project team	✓	✓
	Working mode between HQ and local market (cooperation vs. conflict)	✓	
	Personal commitment		✓
	Personal business acumen		✓
Technology	Tool usability	✓	
	Tool usefulness	✓	
	Tool compatibility with previous application (usage and interface)	✓	
	Tool learnability	✓	
	Existence of work-around applications	✓	
	Existence of competing applications		✓
	Improved data set (coverage and quality) and functionalities (reporting)		✓
Tool flexibility (centrally controlled vs. local requirements)	✓	✓	

TABLE 3

Usage phases and statistics from TMS logs: quarterly data

Average quarterly statistics	Usage phase	May-July '08	Aug-Oct '08	Nov'08-Jan '09	Feb-Apr'09	May - July '09	Aug - Oct '09	Nov '09
Functionalities used: Analytics users logged (nbr)	1	7	18	24	27	28	29	31
Functionalities used: Dashboards (nbr of)	1	24	20	27	29	40	68	82
Functionalities used: Activity types (nbr of)	1	12	12	14	15	14	14	13
% of planned visits completed	2	n/a	n/a	79%	75%	79%	93%	95%
Nbr of visited outlets	2	7'514	8'027	8'960	9'520	10'038	10'302	10'021
Task accomplishments (admin: organization, reporting, transactions)	2	Quali. only	Quali. only	Quali. only	Quali. only	Quali. only	Quali. only	Quali. Only
Territory and account management (KPIs)	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Local market share (%)	3	27.8	26.5	25.7	25.2	25.1	24.5	n/a