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Supporting Sales Representatives on the Move: A Study of the Information Needs of Pharmaceutical Sales Representatives

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Abstract

The purpose of the current study is to understand the nature of the challenges that sales representatives face as a result of operating within a highly mobile and heterogeneous work environment. The paper also focuses on how the sales representatives manage their information needs and discusses the properties of mobile support systems that would enable them to work effectively despite their being extensively mobile. This is achieved through a case study involving the sales representatives of a medium-sized pharmaceutical company

1. Introduction

Sales representatives (sales reps) play a central role in many companies, spanning the boundary between the selling firm and the customer. For some customers the salesperson is virtually synonymous with the firm (Crosby et al., 1990; Czeipeil, 1990).

They also represent a growing number of employees, with an estimated 1.9 million sales reps in US alone in 2002 according to the U.S Department of Labor (www.bls.gov). In the UK and Ireland there are about 400 000 sales reps (Kodz et al., 1997), approximately 1.4 per cent of the workforce.

Given both the size and the role of the sales reps within organisations, it was not surprising that such a group of workers has figured on the agenda of numerous researchers from different disciplines including marketing, organizational behaviour and human resource management (see, for example, Churchill, et al.1985, Sujana, et al., 1988, Weitz et al., 1986, Kotler, 1994). However, it was surprising to note that the sales force has been relatively overlooked in information systems literature, despite its growing size, role and the boom in the sales force automation (SFA) market. There have been few studies that explicitly considered the information needs of the sales force and examined how to

exploit information and communication technologies to support them effectively despite the great mobility of their work.

Work mobility is indeed one key dimension that characterises the work of sales representatives. Such mobile workers spend most of their working time out of their office, interacting with customers and attempting to bring new orders to their companies.

In recent years, there have been numerous research endeavours tending to focus on mobility and mobile work issues especially in the research fields of computer-supported cooperative work and mobile informatics (see for example, Kristoffersen and Ljungberg, 2000; Fargrell 2000; Bellotti and Bly, 2000; Wiberg, 2001) Some of these studies have produced significant results. However in a number of studies focusing on work mobility, there has been a tendency to consider mobile work as a temporary separation from the stationary work setting. That is, the worker temporarily works away from his/her office and then comes back to his/her resource-rich work setting. Studies that focus on situations where mobile work rather than stationary work is the norm, which means that the workers carry out all their work-related activities outside the office moving from one activity to another, are lacking. Additionally, there is a paucity of interpretive empirical studies that consider the challenges that mobile workers face and the information support they might need as they move within both heterogeneous and dispersed work environments (March et al, 2000), during the course of their everyday work. And none have explicitly considered such themes in relation to the sales force's work.

The purpose of the current study is therefore to further understand the nature of the challenges that sales representatives face as the result of operating within a highly mobile and heterogeneous work environments. We focus on how the sales representatives manage their information needs and discuss the properties of mobile support systems that would enable them to work effectively despite their extensive work movement. This is achieved with the aid of a case study involving the sales representatives of a medium-sized pharmaceutical company.

The remaining part of the paper is structured as follows. The second section outlines the research methodology. Then, in section 3, the paper presents evidence from the case study and discusses the performance challenges that the sales reps face before, during and after their daily sales trips. Section 4 discusses the implications of the study for the design of mobile support systems for the sales force. The paper concludes with some remarks and suggests areas for further research.

2. Research Approach

This paper reports on the initial empirical findings from research undertaken in the sales and marketing group of a subsidiary of a multinational pharmaceutical company (Pharma Co) employing 6000 people worldwide in 2003, about half of them engaged in sales and marketing activities. Pharma is a medium-sized company operating as a niche player with a particular expertise in the area of psychiatric and neurological disorders.

The company has a national sales team consisting of 14 sales representatives and four territorial sales managers. These sales representatives report to a sales manager who is ultimately responsible to the marketing manager.

We conducted five semi-structured interviews lasting on the average two hours with Pharma's sales and the marketing managers who supervise the sales force. The purpose was to document and validate the existing sales process, discuss their criteria in assessing and rewarding the reps' performance and identify activities that they regard as potential performance inhibitors for their sales reps. subsequently; data were collected through

observation by the means of field sales trips. The field sales trip lasted an entire day and represented “an ordinary day” in the life of a Pharma sales rep.

The interviews were supplemented with informal interactions and discussions over lunch.

All the interviews and discussions were recorded, transcribed and subjected to content analysis using established qualitative coding techniques prescribed in qualitative research methodology. Throughout the research process, the field material was categorised into issues, then themes and then “made sense“ of (Hayes (2001) by drawing on the theoretical approach that underpinned the research study.

3. Pre-, in- and Post-Mobility Challenges

This section draws on the detailed case material to indicate the difficulties that Parma’s sales reps experience during the course of their everyday work activities. The paper assigned these challenges to three main categories, pre-, in- and post-mobility challenges. In the following we consider each key challenge posed to Parma’s sales reps performance in turn.

3.1 Pre-Mobility Challenges: Planning How to Deal with the Unpredictable

The first challenge that the reps face prior to starting their daily sales trips is the difficulty in predicting whether or not he/she can be received by the general practitioner (GP) with whom a meeting has been scheduled during the day. As the following extract from a sales rep illustrates, in many situations the sales rep fails to see the GP because of unpredictable circumstances that might make the doctor not available for the meeting.

“You never really know (with regard to meeting with GP). You should only hope that he will be there and, of course, face the reality that there may be a problem with your schedule. I sometimes call on a neurologist with whom I had a booking, I might be waiting outside her office; and then a nurse comes to me and says the doctor is too busy at the moment, “I am sorry you cannot see her today”.

The uncertainty associated with the planned meetings with GPs makes it difficult for the sales rep to plan for an alternative activity if the meeting is unexpectedly cancelled. Indeed, in most cases, the cancellation happens at the last minute, when the rep is already waiting for the meeting outside the GP’s office. As a result, if the meeting is cancelled the sales rep moves to the next sales visit scheduled for the day and waits in the car or in a cafeteria until the meeting time with the next GP, with the frustrating feeling that he/she will not meet the quota of five sales visits of the day.

Another challenge that pervades the pre-mobility stage was associated with preparation for the presentation that the sales rep will give during the following day’s sales visits. Indeed, the reps have to visit their targeted GP at least 5 times a year. Prior to each sales visit, the reps review the content of the previous meetings held with the GP and try to gain new information not mentioned in previous meetings that the GP may find helpful and interesting. As one rep explained:

“The doctor would be pleased if you can provide her with new information she does not know...You should prove to the doctor that you are up to the task and that you know more than her”.

A further difficulty that the reps face prior to starting their sales visits is adaptation to the shortcomings associated with the technological support they have (the laptop) in order to

make sure that the information they need during the working day is available when it is required. For example, given the fact that the reps know that they cannot get access anytime and anywhere to the information stored in their laptop or within the corporate database, they make sure to print out in the evening all the documents they consider would be useful during the following day's sales trip. However, the strategy of printing files on particular topics (for example, the day's schedule) is not always effective in adapting to the deficiencies associated with the technological support they have access to, as one rep explained:

“Usually I print the timetable for next day at night. Last night I forget to print any paper to remind me where to go and I didn't do it in the morning because I have a little daughter and I don't want to interrupt her sleep in order to get my briefcase. When I don't remember to print my schedule, then I don't want to do it the following morning, either, for fear of waking her up. Fortunately this morning I have only four meetings and I can memorise them when I check them on the laptop”.

3.2 In-Mobility Challenges: Making the Most of Working Time

Kristoffersen and Ljungberg (2000) categorised people's mobility into three types: travelling, visiting and wandering. *Travelling* is the process of going from one place to another using some means of transport such as car or train. This kind of mobility refers to the mobility of people in a vehicle. *Wandering* is extensive local mobility in a local area. *Visiting* is spending time in one place for a certain time before moving on to another place. The visiting type of mobility refers to the process in which people spend time in a place on a transitory basis before moving on to another place.

The work of Pharma's sales reps exhibits all the above three modalities of mobility. They spend a considerable portion of their time travelling by car from one GP's location to another. Their daily work activities involve visiting when they spend time meeting the GPs in their offices or other places (i.e. restaurant). They sometimes exhibit the wandering type of mobility when they schedule meetings with many GPs located in the same building (e.g. hospitals). However, in addition to the above categories of mobility, there is another modality of mobility that emerges from observing Pharma's reps daily work activities in the field, which the paper labels as *waiting* (see figure 1). Waiting is spending time waiting for the scheduled activity to take place. It captures the situations of “in betweeness” among the activities that the rep carries out in a mobile work setting. It is the case when the reps arrive at the meeting place before the agreed time, possibly thanks to better than expected traffic conditions, or get their meeting cancelled by the GP and therefore go back to the car or some other place (e.g. a cafeteria) until the time for the next scheduled meeting comes.

In the following we discuss key challenges posed to the performance of Pharma's sales reps when they operate within each of the different modalities of mobility.

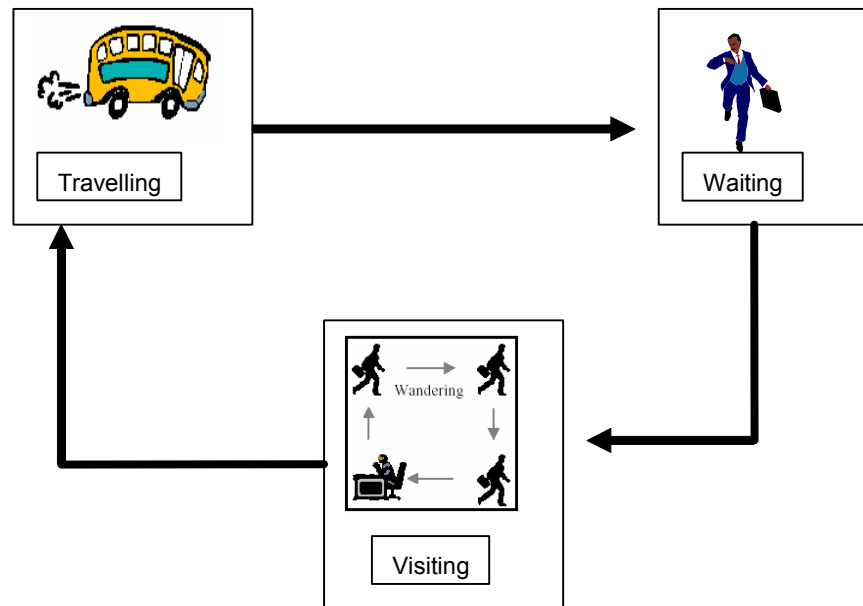


Figure 1: Four types of mobility (Adapted from Kristoffersen and Ljungberg (2000))

3.2.1 Barriers to Performance when Visiting

The key hindrances to effective working that Pharma's reps encounter when they are operating within the visiting modality of mobility are as follows.

Adaptation during short sales visits

A common challenge facing Pharma's reps is that GPs devote a short time to the meeting with them. In most cases the sales visit does not last more than 15 minutes. Moreover, they experience strong competition with reps from other competing companies for the time that the GP has set aside for meeting pharmaceutical sales reps. In some cases, hospitals discourage the GP from meeting pharmaceutical sales reps during ordinary working hours. Therefore, the GP schedules those meetings during their own short breaks (e.g. lunch time).

The short meeting time and the competition for it among the reps representing various pharmaceutical companies put pressure on Pharma's reps to be as much effective as possible during their short sales visits to GPs. One key method of improving Pharma's reps' effectiveness during sales visits is to make the GP realise that the meeting with the rep is intellectually rewarding as one rep mentioned:

"Every time you come, they (doctors) expect you to have something new. They also want to hear other doctors' opinions, their experience with the drug, they want you to deliver all the information you heard from other doctors. Even though you know your drug quite well, a doctor believes another doctor more than the rep".

A further difficulty that sales reps face during their sales visits is the need to adapt to the questions and issues that GP may raise. Indeed, to be effective during the sales call they need to demonstrate knowledge and assertiveness with regard to the various questions raised by the GP.

Laptop computers, though they contain valuable information in their hard drive, were not regarded by the sales reps as appropriate in supporting an unanticipated need for information during interactions with GPs. Their size, weight, and long boot-up time prohibit them from being regarded as convenient supportive technology. Therefore most of the reps do not take them on sales trips and if they do, they leave them in the car. Moreover, the company forbids the sales reps to use their laptops during sales calls. On the other hand, the time devoted to the meetings with doctors is too short to allow appropriate access to paper-based documents as a means to deal with unexpected information needs. Therefore the reps rely mainly on their own knowledge base stored in their memory.

Managing follow-up questions

During the sales visits Parma's reps face the situation in which the GP asks questions for which they do not have the answer. In such cases the reps would make a commitment to the GP about a date when they can supply the required information. They first make sure that they record the question(s) so that they will not forget the GP's information requests and then try to figure out which colleague can help in providing the answer.

The difficulty associated with GPs' follow-up questions is the long time it takes to provide an answer:

"If there is a question I can't answer, I need to find out who can answer and make a phone call to our product manager. Sometimes it takes days because the product manager may need to request the information from abroad (headquarters). When he gets the information, he submits it to me via e-mail but I need to go home to read the e-mail before getting back to the doctor"

The lack of access while on the move to such a basic communicative resource as e-mail by the reps contributes to lengthen the time it takes to provide the information to the GP. The reps can access e-mail only at the end of the day when they are at home via a dial-up to the head office. Therefore it might be the case that the product manager submits the answer to the rep in the morning, but the rep is not aware of it till the evening, when he/she gets home, which adds more time to the process of answering follow-up questions.

A further difficulty that the reps face in terms of dealing with follow-up questions is related to finding a fast way to contact the doctor and deliver the answers to their outstanding questions as one rep explained:

"Sometimes doctors may need things urgently; the quicker you deliver the information the better. The problem is how to reach the doctor. Some of them don't like us calling them during working hours".

The long time it takes to provide the doctors with answers to their questions may be detrimental to both the sales reps and the company. For the sales rep, a delay in answering the doctor's questions may affect their customer orientation as perceived by the GP. Moreover, the GP may be waiting for information related to an important Pharma's drug issue such as its side effects or interaction with other drugs. In this case, failure to satisfy the doctor's need for information would delay the decision to prescribe the drug till he/she gets the information from the rep.

Note-taking during sales visits

During the short meeting with GP, Pharma's reps rely mainly on their own memory for recording what they perceive as useful information such as the drug-related issues

discussed with the doctors or questions that the GPs have. For information that the reps perceive as highly important (i.e. questions needing a follow up), the rep writes it down in order not to forget, and then, enters the handwritten information into the laptop when there is sufficient time between meetings. As one rep explained:

“During meetings with doctors I try to memorise. If there is an important thing I write it on a piece of paper to make sure that things that were asked of me could be answered for sure. Then when I have sufficient time during the day, I try to open the laptop and input the information just to make sure it stays there and I don’t have to find my piece of paper later on”.

In the evening, once at home, the rep connects to the company’s database and enters the sales reports of the day. Some reps leave reporting tasks till the weekend and input the sales reports of the whole week.

The availability gap

A further challenge that the reps face during their sales visits is what the paper terms as the availability gap. When doctors encounter an urgent need for information about Pharma’s drugs, they try to make a call to the reps. However, during their sales visits, the reps put their mobile phone on the “meeting status” and thus they cannot answer incoming calls. After the sales visits, the reps may try to call back to the doctor who initiated the phone call but the doctor may be busy and not available to take the rep’s call. The availability gap may result in the doctor lacking context-specific information that he/she may need to deal with a patient being treated. The doctor may contact the rep using e-mail to ask for the information needed. However, by the time the rep gets home at the end of the day, reads the e-mail and sends a reply to the doctor, the information may no longer be relevant to give the doctor what he/she needs to know.

3.2.2 Barriers to Performances when Travelling

Travelling from one location to another using the car is one of the most time-consuming activities for Pharma’s reps. Pharma’s reps spend on average more than a third of their working day on the road, in normal weather. The main challenge posed to the reps during travelling is how to make the long time they spend on the road more productive despite the physical and legal constraints (access to work resources, legislation prohibiting talking over a mobile phone while driving) resulting from driving the car.

I spend about half of the working day driving from one place to another. This time is too much to get wasted. The whole goes to listening to radio. I can’t even reply to my customers’ phone calls during this time.”

3.2.3 Barriers when Wandering

A number of the reps’ meetings with GPs take place in large hospitals where they may encounter many opportunities for sales leads given the hospital’s large medical workforce as one rep explained:

“When you go to hospitals you know that there is a lot of potential for the same hospital. Even when you have only one scheduled meeting in the morning, you can reach lot of doctors during the morning if you can remember your contacts in the hospital. You can just call them and say that I am here. It is possible that somebody may be having a coffee break and automatically comes to the cafeteria where you can offer him coffee; his colleagues may also join him”.

The key challenge that the reps may face when they have a sales call within a hospital is how to get access to useful information about potential prospects within the hospital so that they can know who to call and whether or not he/she might be interested in meeting them.

“It is important that you have access to the information about the doctors within the hospital so that you can easily get a recall picture such as, for example, who knows me in this hospital, is there a doctor who once asked me to give him a call when I am in the hospital and the like”.

3.2.4 Barriers when Waiting

The main hindrances to effective working that Pharma’s reps face when they are operating at the waiting modality of mobility are the ability to work in dead time periods, coordination with stationary colleagues and dealing with an impromptu information need.

Working in dead time

Periods of dead time refer to the amounts of time that take place during the working day and that Pharma’s reps perceive as wasted because they unwillingly spend it without performing any work-related activity. In the case of Pharma’s sales reps, the occurrence of dead time is frequent and has various causes. One cause is the difficulty in predicting its happening so that the reps can plan ahead for the kind of activities that would enable them to make a good use of it. For example, in the event of a last minute cancellation of a meeting the reps find it difficult to fill that time with a value-generating activity such as visiting another contact (see Fig. 2). Generally GPs require to be contacted in advance in order to arrange a meeting with the rep. Therefore the time devoted to the cancelled meeting turns to be a dead time, as one rep mentioned:

“When you have a long gap between your contacts, what you can do is to wait for the next meeting. You may try to visit another doctor but most of them like you to call them before hand, sometimes a few weeks in advance”.

Another cause of dead time for Pharma reps is the lack of appropriate technological support that would enable the rep to perform a work-related activity during this time. A laptop computer is awkward to support the reps during dead time because of its size and also the long time it takes to get the device mobilised to provide the required support. The reps try to use the laptop generally in the car. However, if the rep faces short dead time (e.g. between two meetings in a hospital), and wants to use the laptop to perform a scheduled task or retrieve information, he/she is discouraged from doing that. This is because the rep figures out that by the time he/she gets to the car in the parking area and starts the laptop, the time for the next meeting will come. Therefore the rep may choose to use the short dead time just waiting outside the GP’s office or in the hospital’s cafeteria.

Coordinating with stationary colleagues

A further difficulty that Pharma’s reps experience is coordinating with co-workers who are operating within a stationary work setting. The reps need to cooperate closely with field secretaries who partly arrange the rep’s meetings with GPs. However, in some situations the lack of mutual awareness with regard to the actions undertaken by the reps and the secretary in terms of booking time for meetings with GPs can be detrimental to the rep’s relationship with GPs:

“The worst thing that may happen is that when you have just booked a doctor for yourself and then for the same time the secretary makes you a booking with another doctor and they are both very important. Then you have to decide what to do, which one you have to transfer to another time. It is not easy as they are busy and you may not find another time to catch him or her”

The lack of a real-time awareness of the booking actions undertaken by both the secretary and the rep also hinders the ability of the secretary to book meetings with the GP, as one rep mentioned:

“Sometimes I tell my secretary that I have just written an e-mail to a doctor am waiting for his reply. Then my secretary is also waiting, she is a kind of engaged, she does not have all the potential that she would have in another case if she knows what is happening in my day. She needs to wait until I check the doctor’s answer when I get access to my e-mails at the end of the day”.

In some situations, even mobile phones fail to support the reps in alleviating this kind of coordination problem as one rep explained :

“It is not always possible to reach the secretary by phone, when I have some time and try to call and inform her about the days I suggested to doctors. I may find all the lines busy because there are four other reps trying to call her and all of us are served by the same secretary. When she tries to call me back, I may be in meetings or driving and not available to take her call”

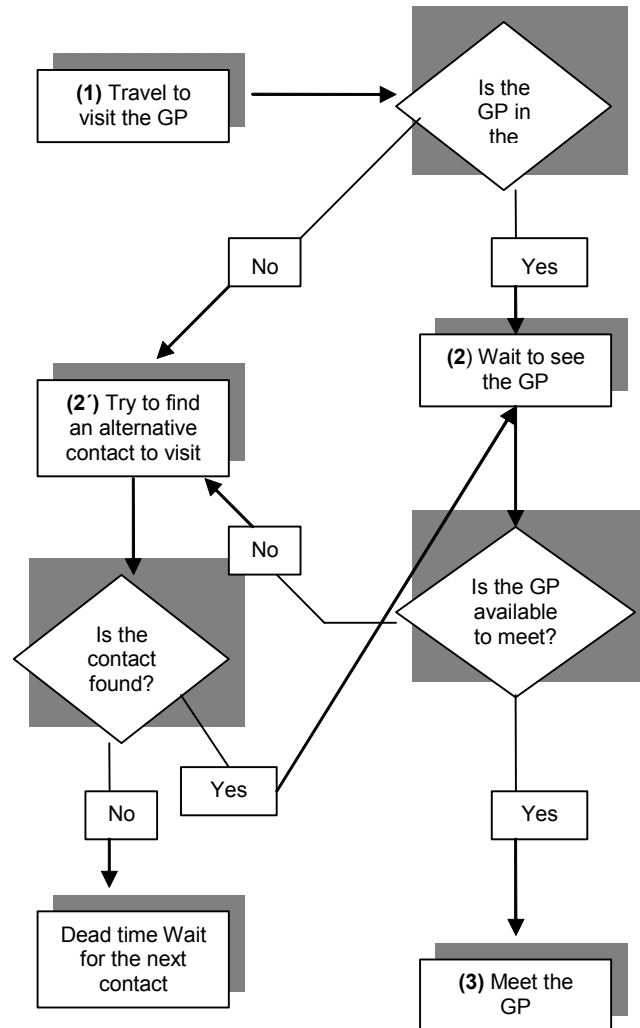


Figure 2: A chart depicting the uncertainty the rep faces with regard to dealing with dead time

3.3 Post-Mobility Challenge: Achieving the Life/Work Balance

Once at home, Pharma's reps have to accomplish work-related activities that they were not able to do during the day, as one rep explained:

"When I come back home, I have to open the laptop and start doing reporting and administrative work. There I have the telephone line that allows me to connect to the company resources. I do my reports; I read and reply to e-mails, try to find information for doctors. I prepare expense reports and send the receipts to the head office so that my bank account gets updated. It takes too much time. Sometimes I do part of that on Friday night or Sunday morning. I have also to read reports and studies to answer doctors' questions".

The time that the reps devote to accomplish work-related tasks at home is used at the expense of their leisure and family time.

"I attach great value to not being obliged to open my laptop after 4 pm so I can fully concentrate on my little daughter, my hobbies and my everyday tasks at

home. You don't get paid after 4 pm. It is quite embarrassing to keep working on Sunday morning at home".

4. Implications for the Design of Mobile Support Systems

In terms of the implications of this study for the design of support systems that can support pharmaceutical sales reps when they are operating in a mobile work setting, the study offers ways to improve the development of such systems in a number of possible respects. More specifically, mobile support systems that could have supported the reps participating in the study would have the following characteristics.

- Be running over a mobile client that would help the rep to work anytime. The device should have such physical characteristics as being easily portable, not obstructive to use during a meeting (e.g. with the doctor) and not requiring a lengthy boot-up time to be ready for action.
- Allow and manage a virtual shared space linking the sales rep with the doctors. The fact that doctors are stationary workers, spending most of their working day in an office next to their desktop computer, should be exploited to deal with the problems associated with the availability of the rep during working hours to satisfy doctors' impromptu information needs. For example, each time the doctor has a drug-related question he can enter it into the created virtual shared space, which may be running over the Internet. Then the rep would receive notification over his mobile device each time the doctor enters a question. When the rep has some time available (e.g. between two meetings), he may try to enter his answer to the shared page or seek collaboration from colleagues if he finds the question difficult to answer. The doctor may also use the shared virtual space to enter useful information about his meetings with the reps. Examples of such information may include cancellation of the next meeting, possible change of meeting time or some drug samples that the doctor may need.
- Support the fact that the reps' information need is often short-lived. In other words, they have only little time available to get the information that they may need to carry out the task at hand. This may be achieved through alerts consisting of information that the rep may use as arguments during his/her interaction with doctors, or doctors targeting related information. The alerts can be pushed to the rep's device by the marketing department, R&D department, a colleague or a third party such as a market research company. Likewise, the reps can receive alerts about upcoming e-mails that fit their predefined preferences in terms of the e-mails they want to check during the working day. Indeed, the reps may invest some time looking for information they feel they need to deal with a task at hand. However, because of their considerable mobility, they may not be able to find time to check possible information that would support them during their interactions with doctors. As a result, the standard pull paradigm of information may not be appropriate to satisfy the reps' highly situational and short-lived information. In addition, the time to access corporate resources should not be too long in order to ensure that the required information is relevant.
- Allow a monitoring of stationary colleagues', such as the field secretaries', actions more easily in order to ensure better coordination. This could be achieved by enabling the rep to check, irrespective of location, updates about the actions the secretaries have taken in terms of booking meeting times with doctors.
- Exploit the knowledge of the rep's current geographical position to provide him/her with targeted support that fits his/her predefined preferences and changes of context. In the case of an unexpected cancellation of a scheduled meeting, for example, knowledge of the rep's geographical location could help the service

provider to offer alternative contacts nearby that the rep might consider visiting, possibly together with route recommendations. Similarly, if the rep is holding meetings in a large hospital, the marketing department, using knowledge of his/her location can send alerts about possible sales leads in the hospital.

- Prevent forgetting of useful information. This would be achieved by providing the reps with convenient and time-effective ways for note-taking during or just after the sales visit. Solutions might include entering information about the sales visit by checking over a predefined sales report format or voice entry of useful sales visit information when the rep has only a short time to take notes and report activities. Appropriate support in terms of reporting sales visits and market-related information is important, as many stakeholders would benefit from the information if the rep made it available over the corporate system. First, there is first the rep him/herself, who can use the stored market-related information in order to perform his or her knowledge mediator role effectively. Other stakeholders include the other reps that can use the shared information in their own sales interaction. The company's management can benefit from the wealth of information that the rep could provide in designing sales campaigns and providing customer-targeting guidelines for the sales force.
- Support effective use of the time the reps spend driving from one location to another. This would involve enabling the rep to carry out, during driving time, activities that do not require the same physical and cognitive capabilities needed for driving the car (e.g. visual attention). Reps could, for example, make use of the time they spend driving to update their knowledge base by listening to updates about drug-related information or market intelligence. Likewise, the reps could use such time to make a voice-based report of their previous meeting. Similarly, during driving time, if the systems enabled the reps to detect another colleague who was driving, then the two reps could use such time to share knowledge with each other. Potentially other reps engaging in travelling could join in their discussions.

5. Conclusion

The paper explored the challenges that pharmaceutical sales representatives face when operating in a mobile work environment. The paper classifies such challenges as pre-mobility, in-mobility and post-mobility challenges. In addition to this analysis, the paper discusses some implications of the study in terms of the features of mobile support systems that would support the reps in their daily work activities.

Mobile technologies could act as an enabler of effective mobile support systems for the sales force thanks to certain unique features that they offer. Further research would involve integrating the insights provided by this study into the continuous development of mobile technologies in order to develop value-adding applications that would enable the sales force to work effectively at any time.

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