

Association for Information Systems

**AIS Electronic Library (AISeL)**

---

ICEB 2004 Proceedings

International Conference on Electronic Business  
(ICEB)

---

Winter 12-5-2004

## **Supporting Salespersons CRM Efforts through Location Based Mobile Support Systems**

Chihab BenMoussa

Follow this and additional works at: <https://aisel.aisnet.org/iceb2004>

---

This material is brought to you by the International Conference on Electronic Business (ICEB) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICEB 2004 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

## Supporting Salespersons CRM Efforts through Location Based Mobile Support Systems

Chihab BenMoussa

Institute for Advanced Management System Research, Åbo Akademi University, Finland  
cbenmous@abo.fi

### ABSTRACT

The paper aims at assessing how can location based mobile support systems support salespersons' CRM efforts when they are operating within a highly mobile work environment. The paper is structured as follows. In the first section the paper conceptualises key properties of location based mobile support systems. It then introduces the dual role of salespeople in CRM through a brief literature review. A fourth section suggests potential mobile location services and applications that can support salespersons in performing effectively their everyday CRM tasks and links such applications to the determinant of salespersons' performance. The papers concludes with some remarks and suggests some areas of further research

*KeyWords: Mobile location technologies, Customer relationship management, Salespersons tasks, salespersons performance, Personalisation.*

### 1. INTRODUCTION

Effective customer relationship management (CRM) has emerged as a strategic imperative for companies in virtually every business. The rapid rates at which innovations can be made and copied have made product advantages brief (Shoemaker, 2001). However, as Day (2001) observed, because nurturing customer loyalty is usually resource intensive, long term and difficult to manage, loyalty relations can provide a durable competitive advantage.

Today many companies are trying to move closer to their customers by capturing the available wealth of internal and external data to better understand their customer needs, preferences and profitability and then leverage that knowledge in every customer contact. Recent studies show that the movement to CRM is gaining momentum. One study by IDC Group forecasts that the worldwide market for CRM products and services would top US \$ 125 billion while a survey of more than 1500 companies by the Data Warehousing Institute in 2000 found that 91 percent either have or plan to deploy CRM solution in the near future (Goodhue et al. 2002). The impetus for this interest in CRM came from Reichheld, who demonstrated a dramatic increase in profits from small increases in customer retention rates. His study showed that as little as a 5 percent increase in retention had impacts as high as 95 percent in the net present value delivered by customers.

Salespersons play a dual role in CRM. On one hand, forging close relationships between firms begin with the initial contact by a salesperson (Levitt, 1993) who serves as a boundary spanner between the selling firm and the customer. For some customers the salesperson is virtually synonymous with the firm (Crosby et al., 1990; Czeipeil, 1990). On the other hand salespersons possess

valuable source of market information that is frequently needed in strategic planning and CRM programs. However crucial marketing information still remains locked in the heads of salespersons in the form of tacit knowledge. Converting tacit dispersed information possessed by salespersons into explicit knowledge that can be used to better satisfying customer is still a challenge for a number of companies (Choo 1996).

The advent of access to services through mobile and wireless devices has resulted in a fast growing of a number of mobile applications and services. Mobile (or wireless) applications, despite being different in their nature, they share a common characteristic that distinguishes them from their wire-line counterpart: They put the user at the centre of information and communication through the provision of location specific information, personalization, immediacy, and service availability (Durlacher, 2001). These characteristics would enable the development of innovative mobile applications to support firms' salespersons in developing and nurturing committed customer relationships. How and which mobile applications can support these frontline ambassadors in their CRM related tasks are key questions facing a number of stakeholders including sale managers today.

The purpose of this paper is to assess how can location based mobile support systems support salespersons' CRM efforts when they are operating within a highly mobile work environment.

The remainder of the paper is structured as follows. Next the paper conceptualises key properties of location based mobile support systems. It then introduces the dual role of salespeople in CRM through a brief literature review. A fourth section suggests potential mobile location services and applications that can support salespersons in performing effectively their everyday CRM tasks and

links such applications to the determinant of salespersons' performance. The papers concludes with some remarks and suggests some areas of further research.

## **2. KEY PROPERTIES OF LOCATION BASED MOBILE SUPPORT SYSTEMS**

### **2.1 Personalisation**

Personalisation in information systems is about adapting content and services based upon the user's interests, preferences, and behaviour, allowing further optimisation, which results in an optimal experience for the user, targeting the goal of the user (Setten, 2003). One key enabler of providing personalised services to users is ensuring the adaptivity of the system. System adaptivity is the process in which a system adjusts itself based upon some form of model of the user's needs. Location awareness can be a key feature in updating the mobile user's model based on the system's awareness of the user's current spatial context. Information about the user's current geographical position when combined with other elements such as the user's daily schedule of activities, or her predefined preferences in terms of content or interests would enable the service provider to proactively deliver a meaningful mobile support which is based on a continuous update of the user's changing spatial environment. For instance, within the sales force work environment, the service provider can deliver, based on the awareness of the salesperson's geographical position and her predefined preferences about the information she wishes to receive, a personalised support that has the potential to add value within the spatial context where the salesperson is located. Also the support can be delivered in the form that matches the requirements of the salesperson work context (i.e. face to face meeting with a client, in the train or in restaurant). For instance, the service provider can push an alert to the salesperson's smart phone in the form of text message if the salesperson is in face-to-face meeting and thus enabling him/her to read the alert and potentially exploit it during his/her interaction with the client.

### **2.2 Relevance**

Knowledge of the user's spatial position can be a key element in providing relevant support to him/ her. Awareness of the user's geographical position can provide a good filtering mechanism in terms of determining how relevant is the intended mobile support given the user's current geographical location. This has the potential of reducing the functional deficiency associated with information overload, where the amount of information the individual client side user encounters extends her cognitive processing capacity (Ljungberg and Sorensen 2000). For instance, combining the knowledge of the salesperson's current geographical location with her calendar of daily activities can provide the service provider with insights that the salesperson is

about to meet the client X whose address matches the geographical position where she is located. Then the service provider can push to the sales person relevant information that fit him /her predefined preferences about that client that he/she could use during the sales interaction.

### **2.3 Convenience**

The ability of the service provider to know the geographical position of the mobile user can make it faster and simpler for such user to be provided with the targeted support she needs. Indeed it will suffice the mobile user to notify its request to the service provider to get the service he /she is seeking as the service provider can know where the user is located. Indeed, the user's request can be automatically completed by the current location (i.e. if the user asks about the restaurant nearby, the system can infer from the user's geographic position what nearby means and select such restaurants that are in the area (BenMoussa, 2004).

### **2.4 Timeliness**

Another key characteristic of location-based mobile support is the timeliness of the support that service providers can provide users with, based on the knowledge of their locations. The timeliness of location-based mobile support refers to the ability of the service provider to provide the user with support at the moment of value. The moment of value can be defined as "the moment when I a service provider can do something for you where you are and regardless of where I am or what time it is"(Keen, 2001).

### **2.5 Proactiveness**

Another key property of location based mobile support system is the ability of the service provider to proactively enable the user to react to changing trends in the environment. Based on the user's situational context and changing environment, the service provider delivers content without receiving a request from him/her. Providing a proactive support to users can be of great importance in terms of saving time (i.e. alerts about traffic jam), tapping an opportunity (i.e. notifications about nearby tradeshows) or avoiding relationship-damaging problems (i.e. getting in time to a meeting with a new client thanks to the road instruction delivered by the service provider).

## **3. THE DUAL ROLE OF SALESPERSONS IN CRM**

Evidence indicates that salespeople play a central role in the evolution of quality business relationships (Crosby et al, 1990;Dwyer et al., 1987). According to Kotler (1994), personal selling is evolving towards the salesperson as "relational manager" who is able to build strong ties with important customers. Further, Swan and Nolan (1985) contend that firms are seeking out relationships with

their customers and that salespeople are important in helping to build these relationships. One reason for the critical nature of a salesperson's role in developing quality relationship between their firm and the customer lies in the salesperson's ability to develop strong lines of communication with the customer. In addition to their role as relationship-builders, salespeople serve as CRM-enablers through the wealth of market information that they possess and which can serve as a basis in developing effective CRM programs. The following discusses such a dual role of salespersons in CRM.

### 3.1 The Salesperson as Relationship-Builder

In the marketplace, salespersons often perform a vital boundary-spanning role that links their firm to customers. For some customers the salesperson is virtually synonymous with the firm (Crosby et al., 1990; Czeipeil, 1990). Research on buyer-seller relationships suggests that a firm's salespeople are uniquely positioned to address several issues related to quality relationship building. Through their interaction with buyers, salespeople can increase the customer's confidence in the supplier. This helps reduce uncertainty and increase trust (Moorman et al, 1992). The relationship-builder role of salespersons is critical throughout the relationship evolution process.

### 3.2 The Salesperson as CRM-Enabler

The salesperson's role as CRM-enabler stems from the knowledge he/she possesses about the marketplace and which can serve as a valuable input in feeding customer information system for CRM. Marketing scholars have indeed advocated that business salespeople be incorporated into firm's formal marketing information systems for almost 40 years (Webster 1965). For instance Klompmaker (1980) stated, "Salespeople are used because they possess a great deal of information about the market". To leave this rich source of information untapped would be fool-hardy" (Evans et al, 1985).

## 4. LOCATION BASED MOBILE APPLICATIONS TO SUPPORT SALESPERSONS CRM EFFORTS

After discussing the key properties of location based mobile support and the dual role of salespersons in CRM, the paper now presents potential mobile location applications and services (MLS) to support salespersons tasks for better performance. The paper categorises such mobile location applications and services as the adaptive, the proactive, the locative and the disseminative. The paper shows how each category of such mobile location based applications can support salesperson CRM tasks and enhance their overall performance through its impact on a number of mediator variables that constitute salespersons' performance determinants. Indeed, several authors (Mooney et al. 1996; Huber, 1990; Davenport 1999) have proposed that in order to uncover the added value mechanisms and the impact of information

technology on productivity, studies should include intermediate benefits of information technology. For instance according to the theory of the effects of advanced information technology (Huber's 1990), the benefits in individual and organizational effectiveness occur" indirectly "through the positive impact the technology has on information and communication processes. Figure 1 depicts a model linking location-based mobile support system with salespersons' performance.

### 4.1 Adaptive MLS

Location based mobile adaptive applications are aimed at supporting situations where the salesperson is engaged in the interaction with her client and needs useful information about the client so that she can practice adaptive selling. Salespeople's adaptive selling is one of the main determinants of their performance (Weitz et al, 1986; Sipro and Weitz 1990; Sujun 1986). Indeed the process of selling requires that the salesperson matches the customer's needs with the available range of products. The process of adaptive selling involves two stages. In the first stage, the salesperson uses the available information to form impressions about the customer and in the next stage she formulates a sales strategy that maximizes the fit between the customer preferences and the company's offerings. Through the practice of adaptive selling, salespeople exploit the unique opportunities of personal selling. However it has been shown that adaptive selling can be improved by providing salespeople with the necessary market information and resources such that they can link insights from other sales situations to the customer contacts in which they are currently engaged (Weitz et al.1986). For instance, the market intelligence department can push, based on knowledge of the salesperson's location, an alert about a new discount policy released by the company's main competitor related to the product she is selling to her client. The salesperson can then read the alert and prepares suitable arguments should the client raises issues associated with new competitor's discount policy. Likewise, the salesperson can receive, based on her location, real time notifications about the business of the customer she is visiting and use such information in tailoring her proposal to the customer.

Location based adaptive applications can also support salespersons in altering their sales call schedule based on alerts about her customers changing orders and profitability as well as competitors' move, so that they can target their relationship efforts on the most profitable customers. For instance the market research department may push an alert to the salespersons that one of her customers, which is located in the nearby has just cancelled an important order. Such alerts would enable the salesperson to adjust her sales visits schedule so that she can devote more efforts to react to the potential account loss.

## 4.2 Proactive MLS

Proactive MLS enable salespersons to continuously search for market opportunities and experiment with potential responses to changing environment. (Venkatraman, 1989).

An indicative example of proactive location based mobile applications include notifications, based on the salesperson's geographical position, about sales leads which are located in the nearby. For instance, the market research department can push alerts about trade shows in the area where the salesperson is located. Similarly, telemarketing support centre can provide real time alerts to the salesperson about high -quality leads that are in the same area where the salesperson is located. Depending on the quality of the lead (that is, sales versus no sales) and the salesperson's sales calls schedule, the salesperson can accept or deny making face-to-face sales visit to the sales call identified by the telemarketing support centre. If the salesperson accepts to make the sales visit then additional information from the marketing research department can be pushed to his/her mobile terminal about the lead including a rebuttal to prepare him/her for question that the prospect may raise (BenMoussa 2004). Furthermore, proactive MLS may include location based intelligent alerts that would enable the salesperson to respond proactively to the competitors' alerts threatening her accounts.

Another indicative example of proactive MLS is notifications about traffic conditions (i.e. traffic congestion or a road blocking accident together with alternative routes.

Proactive MLS may include also notifications pushed by the different functions within the salesperson's organization. For instance the customer service department can alert the salesperson that the order of a customer located in the same geographical area where the salesperson is may experience a delay in delivery. This would enable the salesperson to contact the customer and proactively suggest alternative solutions. Similarly, the account department may send a notification to the salesperson that the client she is about to meet has not yet paid her invoice so that the salesperson can tackle the invoice payment within her interaction with the customer.

Proactive MLS would enhance the salesperson ability to focus her efforts on value adding activities such as maintaining quality relationship with her customer. In addition proactive MLS have the potential to enhance the salesperson customer orientation, which is a key determinant of salespersons performance. Support for the use of customer oriented selling is provided by the contention that customer orientation is an important characteristic of high performers (Kelly 1992, Bragg, 1986, Mackay 1988; Peterson 1988). For instance according to MacKay (1988) "best" salespeople are

genuinely interested in their customers and that sales representatives sell to people not to computers. Likewise Peterson (1988) contends that successful salespeople work to satisfy the needs of the customers

## 4.3 Locative MLS

Locative MLS are aimed at empowering the salesperson to deal customer requests and problems. The purpose is to shorten the time it takes to address customer problems and concerns. Indicative examples of locative MLS may include product tracking applications, customer support staff locator applications colleagues' locator, and entertaining areas for clients (BenMoussa, 2004).

Product tracking applications consist of enabling salespersons, irrespective of their locations, to track the delivery status of products ordered by customers, either by connecting wirelessly to smart tags incorporated in the products or through receiving location based alerts about the order status of clients situated in the same geographical location where the salesperson is located. This would enhance their ability to answer rapidly, accurately and irrespective of their locations to customer order related inquiries, which their customer orientation. Furthermore, receiving location based alert about customers' orders status would enable salespersons to react to eventual shipment problems that may result in a delivery delay to customers.

Customer support staff locator applications would enable salespersons to locate the nearest customer support staff in order to address a client's problem. The salesperson can send a request to locate customer support staff, display their locations on a map and forward the client's request for service to the nearest field worker. Upon receiving confirmation to perform the service by the field worker, the salesperson can then be able to provide his/her client with accurate personnel arrival time. Dispatching the nearest customer support field employee has the potential to reduce the time needed in providing support to customers, which would enhance the customer's perception of the salesperson's empathy.

Colleagues locator applications would support the situations where the salesperson need to collaborate with her colleagues in order to deal with a complex sales problem. The salesperson can then identify the colleagues who are in the same geographic position as her and checks whether they are available for a meeting or a conference call.

## 4.4 Disseminative MLS

The disseminative MLS support the situation where the salesperson wants to alert her colleagues about a market opportunity and /or potential threats within the colleague's sales area. The salesperson can use the geographical position of her colleague as a filtering mechanism to assess the potential impact of the alert in terms of information overload. For instance the

salesperson can uncover a competitor's deficiency in the sales area of her colleague. The salesperson can then based on her colleague's geographical position and her calls agenda assess whether or not the insight she uncovers may help her colleague in practicing adaptive selling with the client she is visiting. Therefore the salesperson may either push directly the notification to her colleague or elect to submit the alert to the corporate customer database for subsequent forwarding to her colleague.

Disseminative MLS have the potential to exploit the wealth of information the salesperson possess as a result of their daily interactions in the market place. In addition, disseminative MLS provide salespersons with a tool that has the potential of enhancing collaboration among them despite their constant move. Furthermore, enabling salespersons to disseminate the market insight just after it occurs (i.e. after the sales interaction) would enhance their accuracy. The importance of accurate customer knowledge to salespersons performance is intuitive. If salespersons' perceptions are inaccurate, it can adversely affect customer relationship building at least in two ways. First inaccuracy in assessing customer requirements by the salesperson will negatively affect both relationships

building and corporate profitability particularly in industries where sales persons are given the latitude in tailor prices and services to individual customers. Second, the use of inaccurate salespersons' insight in the company's planning process including CRM programs will adversely affect the quality of these plans (Lambert et al.1990).

## 5. CONCLUSION

The paper explored the area of location based mobile support systems within the context of salespersons' CRM efforts, when they are operating within a mobile work setting. More specifically the paper discussed the unique role of salespersons as both an enabler and facilitator of CRM. The paper also suggests potential location based applications to support salespersons in their CRM efforts and linked them to the determinants of salespersons performance. Future research would involve issues associated with the acceptance by salespersons of location based mobile application and services so that they could integrate them into their everyday work life and take benefits from their full potential.

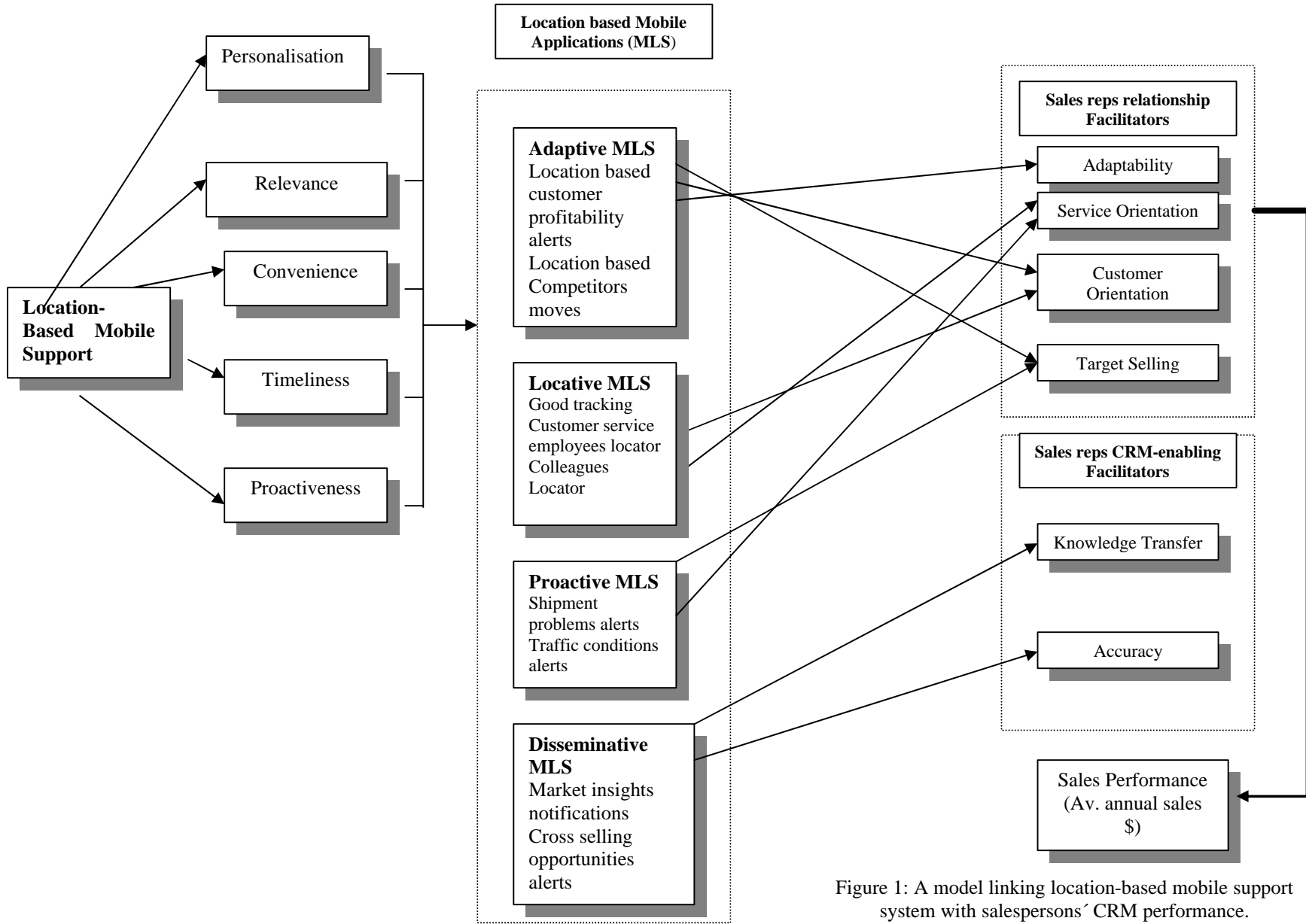


Figure 1: A model linking location-based mobile support system with salespersons' CRM performance.

## REFERENCES

- Apicella.M, Mitchell.K, and Dugan, S (1999). "Customer Relationship Management: ramping up sales service", *Info World*, Vol 21No33, pp. 68-80
- BenMoussa. C., (2003) "Supporting salespersons through location based mobile applications and services", In the proceedings of IFIP world computer congress, Kluwer publisher, Toulouse, France, August 2004,
- Bitner, M., Booms, B.and Tetreault, M (1990). "The Service Encounter: Diagnosing Favourable and unfavourable incidents". *Journal of Marketing*, Vol.54, January.
- Bragg. A (1986)."Turning Salespeople into Partners", *Sales &Marketing Management*, Vol.137.
- Brown.S and Swartz (1989). " A Gap Analysis of Service Quality". *Journal of Marketing*, 53.
- Christopher. M, Payne.A and Ballantyne. D (1991). *Relationship Marketing*. Butterworth-Heinemann, Oxford.
- Crosby, L. A, Evans, K.R and Cowles, D. (1990), "Relationship quality in services selling: an Interpersonal influence approach" *Journal of Marketing*, vol. 54.
- Czepiel, J.A. (1990), " Service encounters and service relationships: implications for research", *Journal of Marketing*, Vol.51.
- Cronin,J. and Taylor.S (1992)." Measuring Service Quality: A Reexamination and Extension". *Journal of Marketing*. Vol.56.
- Davenport C ( 1999). *Performance Measures for knowledge management*. Knowledge management handbook. Edited by Jay Liebowitz
- Day. G ( 2000)."Managing market relationships". *Journal of The Academy of Marketing Science* 28 (1), 24-30
- Eklund S. and Pessi. K. (2001). "Exploring Mobile eCommerce in Geographical Bound Retailing. Proceedings of 34<sup>TH</sup> Hawaii International conference on System Science.
- Girard, K (1998) "Stats not good for sales technology" *Computer world* 32, 14 (April 6), 29
- Goodhue. D, Wixom. B and Watson. H (2002). "Realizing Business Benefits Through CRM:Hitting the Right Target in the Right Way". *MIS Quarterly Executive*. Volume 1, Issue 2.
- Giaglis. G.and P. Kourouthanassis (2003). "Towards a Classification Framework for Mobile Location Services" Idea Group publishing
- Huber, G. (1990), *A Theory of the Effects of Advanced Information Technologies or Organizational*
- Kehoe.L (2002) "Long live e-business: software is finding a new role in helping companies to share information effectively". *Financial Times*, March p.14
- Kelly, S. (1992). "Developing Customer orientation among service employees. *Journal of the academy of Marketing Sciences*, VoL. 20 No 1, pp.27-36.
- Kotler, Philip (1994), *Marketing Management: Analysis, Planning, Implementation and Control*, 8 ed., Prentice Hall, NJ.
- Lambert, D., Marmorstein, H, and Sharma,A. (1990). "The accuracy of salesperson perception of their customers: a conceptual exam and empirical study". *Journal of personnel selling and sales management*. January.pp-18.
- Leijfer, SC (1999) "Bringing Business Intelligence to sale Force Automation" *American Salesman*, 44, 5 (May) 26-30
- Mooney, John G., Gurbaxani, Vijay and Kenneth L. Kraemer (1996), *A Process Oriented Framework for Assessing the Business Value of Information Technology*, The DATA BASE for Advances in Information Systems, Spring, 27, 2, 68-81.
- Raatikainen. K, Christensen. H, and Nakajima. T (2002). "Application Requirements for Middleware for Mobile and Pervasive Systems. *Mobile Computing and Communication Review*, Volume 6, Number 4.
- Rodina,E, Zeimpekis. V, Fouskas.K, (2003). *Remote Workforce Business Process Integration through*
- Jackson.C (1999). "Process to Product: Creating Tools for Knowledge Management"
- Keen P.et al, 1991, (2001). *The Freedom Economy*, Osborne/McGrew-Hill, USA.
- Laitinen. H, Ahonen. S and Kyriazakos. S ( 2001). " Cellular Locations Technologies
- MacKay, H. (1988). "Humanize your Selling Strategies". *Harvard Business Review*. Vol.66.
- Moorman, C., zaltman, G. and Deshpande R. (1992). "Relationships Between Providers and Users of Market
- Peterson. R (1988). "The Canapé approach to Personnel Selling". *Industrial Distribution*.
- Resarch: The Dynamics of Trust Within and Between Organizations", *Journal of Marketing Research*; Vol.29.
- Varshney. U, and Vetter R. (2001). "A framework for the Emerging Mobile Commerce Applications". *Proceedings of 34H Hawaii international Conference on System Science*.
- Reichheld.F (1996)."The Loyalty Effect". Harvard Business School Press.
- Rupnik.R, krisper.M ( 2003)."The Role of Mobile Applications in Information Systems". In the proceedings of The second International Conference on Mobile Business, June 2003,
- Saxe, R.and Weitz. B (1982)."The SOCO Scale: A Measure of the Customer Orientation of Salespeople". *Journal of Marketing Research*, Vol.19.
- Setten.Van ( 2003)."Personalised information Systems".Telematica Institute. Report refernce: GigaCE/D2.3 and Duine/D1.
- Shoemaker.M ( 2001). " A Framework for Examining IT-Enabled Market Relationships". *Journal of Personnel Selling and Sales Management*. Volume XXI, number 2 (spring 2001, pages 177-185).
- Sorensen. C, Mathiassen. L and Masao.K (2002)."Mobile Services: Functional Diversity and Overload".
- Sujan, H., Weitz, B., Kumar, N. (1994), *Learning Orientation, Working Smart, and Effective Selling*, *Journal of Marketing*, 58, July, 39-52.
- Sujan, H., Weitz, B.A., and M. Sujan (1988), *Increasing Sales Productivity by Getting Salespeople to Winner*. R ( 2002). "A Framework for Customer Relationship Management". *California Management Review*. Volume 43. No 4.
- Weitz, B., Sujan, H, Sujan, M. (1986), *Knowledge, Motivation and Adaptive Behavior: A Framework for Improving Selling Effectiveness*, *Journal of Marketing*, 50, 174-191.