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The use of Internet-based communication in support of long-term customer relationships in a period of corporate change

A thesis by

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"By the grace of God go I."

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DECLARATION

I declare that:

The use of Internet-based communication in support of long-term customer relationships in a period of corporate change

is my own work, that all sources used or quoted have been indicated and acknowledged by means of complete references, and that this thesis was not previously submitted by me for a degree at any other university.

T. S. van Eeden

02/08/02

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The use of Internet-based communication in support of long-term customer relationships in a period of corporate change

by
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Department: **Department of Information Science**
School of Information Technology
Promoter: **Prof Dr JC Cronjé**

Synopsis

The research addressed the factors contributing to the success or failure of an Internet-based communication web site in assisting business-to-business companies to create, establish and/or enhance sustainable customer relationships.

To achieve the outcome, a web site was designed, developed, delivered and evaluated to assist a business-to-business company to create, establish and enhance a sustainable corporate image as perceived by their primary clients.

The design, development and evaluation of the web site consisted of the following sub-processes:

- A review of relevant literature: firstly to reflect upon communication through the wired world, and secondly to determine how the information revolution influences the way people think, work an live.
- A survey of the literature dealing specifically with new strategic marketing perspectives, in order to identify the demands placed on a company's business strategy by the new strategic marketing perspectives, and to determine what these strategies are.
- A survey of the literature dealing with information design and the web usability of Internet-based programmes with a view to designing and developing a web site for a business-to-business company which complied with various design specifications that influence the effectiveness and accessibility thereof.
- Finally, designing and evaluating the web site to identify potential usability problems. The

three evaluation methods used were paper prototyping, machine prototyping and usability testing. The rationale being to identify major usability problems and to obtain measure from intended users and a usability expert on the effectiveness, efficiency and user-interface satisfaction of the web site.

The web site was used as basis for compiling a survey questionnaire to test the degree to which respondents strongly agreed or disagreed with statements on the following features of the web site:

- Communication
- Relationship building
- Customer service
- Design
- Usability

The questionnaire also covered aspects on computer and Internet usage experience, access and literacy of the respondents. The survey questionnaire was sent to the target population of primary clients of the participating company, the group of intended end users.

The empirical results obtained indicated that employing good information architecture that is based on customers' needs, as well as the iterative development of a web site could assist a business-to-business company to create, establish and enhance a sustainable corporate image as perceived by their primary clients.

Key terms: Internet-based communication, relationship building, customer service
information design, web usability

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Die gebruik van Internetgebaseerde kommunikasie ter ondersteuning van langtermynkliëntverhoudings in 'n tydperk van korporatiewe verandering

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Samevatting

Die doel van die studie was om vas te stel watter faktore 'n bydrae lewer tot die sukses of mislukking van 'n Internetgebaseerde kommunikasiewebwerf in 'n sakemilieu. Die moontlike bydrae wat so 'n webwerf tot die verhouding tussen 'n besigheid en sy kliënte kan lewer is ondersoek.

'n Webwerfontwerp wat aan die hand van webgebasseerde ontwerpbeginsels ontwikkel is, is deurgaans geëvalueer en onderwerp aan bruikbaarheidstoetsing. Hierdeur is die effektiwiteit, doeltreffendheid en aanvaarbaarheid van die webwerf getoets.

'n Gestruktureerde evalueringsvraelys is deur die kliënte van die deelnemende maatskappy voltooi. Data-analise is op die response wat met die onderstaande aspekte verband hou gedoen:

- Kommunikasie
- Kliënt verhouding
- Kliënte diens
- Ontwerp
- Bruikbaarheid
- Interne gebruik
- Internettoegang
- Internetgeletterdheid

Die empiriese analise van die response het aangetoon dat goeie inligting argitektuur wat op kliënt behoeftes gebaseer is, asook deurlopende evaluering van 'n webwerf in die ontwikkelingsfase, 'n maatskappy kan help om 'n koöperatiewe beeld te bou, te verbeter en by sy kliënte te vestig.

Sleutelwoorde: Internetgebaseerde kommunikasie, kliëntverhouding, kliëntediens, inligtingontwerp, webwerfontwerp

Terminology

Agents: Individuals representing the supplier and dealership at end-user level. They are responsible for physically selling the products.

Authorizing system: A software product designed for users without programming skills to be used for developing and testing multimedia applications.

Business-to-business (B2B): The portion of the Internet market that affects transactions between business operations and their partners in marketing, sales, development, manufacturing and support. This is the largest portion of the Internet marketplace, and the fastest-growing sector.

Business-to-customer (B2C): Defined as the communications and transactions between a business and a consumer via the Internet.

Business networks: Relationships between suppliers, buyers and intermediaries, usually organised by industry group, or the contacts of an individual organisation.

Business-to-business (B2B) transactions: Business transactions conducted over public or private networks, including public and private transactions using the Internet as a delivery vehicle. These transactions include financial transfers, on-line exchanges, auctions, product and service delivery, supply-chain activities and integrated business networks.

CD-ROM: Compact disc read-only memory. A disc storage device standardised for data with 680 megabyte capacity enabling it to store 250 000 pages of text and used extensively for storing multimedia titles.

Channels of distribution: A distribution channel is a method of providing a product or service to the target user of the system. This could be an on-line mall, a portal, an own brand site or a distribution supply chain.

Community: An electronic forum where individuals or groups gather to find relevant and pertinent information. They are often segmented by interest or geography.

Constructivist theory: Jerome Bruner's theory is that learning is an active process in which learners construct new ideas or concepts based upon their current/past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so. Cognitive structure (i.e., schema, mental models) provides meaning and organization to experiences and allows the individual to 'go beyond the information given'.

Crop protection: The control of weeds, pests and crop diseases to increase the yields and quality of the harvest.

Customer Relationship Management (CRM): The strategy, processes and technology designed to support the effective optimization of the customer relationship. Most systems support these activities involving customers before the sale, during the sales process, in rendering customer service and over the length of the relationship.

Distribution channel: The process of conveying goods and services through different stages from the producer to the market.

Dealership: Grouping of agents together in one legal entity in which the relevant agents and management team have shareholdings. The dealership is responsible for selling, distributing, and servicing the products at end user level.

Focus-group design and paper prototyping: Both these techniques are means to involve users in the design process from a very early stage, and provide usability practitioners with the ability to measure application usability even before a prototype has been developed.

Hawthorne effect: A social desirability tendency. Most persons will try to give answers that make themselves appear well-adjusted, unprejudiced, rational, open-minded and democratic.

Heuristic evaluation: A variation of usability inspection where usability specialists judge whether each element of a user-interface complies with established usability principles.

Hypermedia: The provision of a structure of linked elements through which the user can navigate interactive multimedia.

Interactive multimedia: The ability of the viewer to control the elements of a multimedia project when delivered.

Iterative usability testing: Usability testing is a powerful tool for quantitatively measuring the usability of software applications. In order to maximise its effectiveness, usability testing should be applied in different forms from very early in the design process and should be applied iteratively throughout the remainder of the entire development process.

Interview: Gathering information about users by talking directly to them. An interview can typically gather more information than a questionnaire and go into a deeper level of detail. Interviews are good for getting subjective reactions, opinions, and insights into how people reason about issues. Interviews may be conducted in person or over the telephone.

Pull strategy: The dissemination of product-oriented and services information for potential and existing secondary clientele (end users).

Push strategy: The ongoing communication of the principles, objectives, products and services of a company to their dealerships and their agents.

Primary customers: The members of the dealerships and agents.

Multimedia: An interwoven combination of text, graphic art, sound, animation and video elements.

Secondary clientele: The end users, namely individual farmers and the corporate food production industry.

Survey: A technique for gathering information from a large number of users. A survey can be conducted through a large number of telephone interview, a direct-mail questionnaire, or an online questionnaire.

User-centric design (UCD) framework: This framework provides organisations with a process which, if followed carefully, can help cost-effectively to enhance the usability of any software application in development. The framework advocates the early understanding and definition of all variables that can affect the end user's ability to effectively operate a proposed user interface. The UCD framework usually consists of three phases, namely analysis, design and construction.

Usability: Usability addresses the relationship between tools and their users. In order for a tool to be effective, it must allow intended users to accomplish their tasks in the best possible way. The same principle applies to computers, web sites, and other software. In order for these systems to work, their users must be able to employ them effectively.

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