Mémoire

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# Impact of Computer Mediated Communication Technologies (CMCTS) on Users'Interpersonal Orientation and Job Satisfaction

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# IMPACT OF COMPUTER MEDIATED COMMUNICATION TECHNOLOGIES (CMCTs) ON USERS' INTERPERSONAL ORIENTATION AND JOB SATISFACTION[1]



*A Project Submitted In Partial Fulfillment Of The Requirements For The Award Of The Degree Of Master of Science (M.Sc) In Industrial/Organizational Psychology*

**BY**

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# CERTIFICATION

**Amaeshi, K. M.,** a postgraduate student in the Department of Psychology and with Reg. No. PG/M.Sc/96/22989 has satisfactorily completed the requirements for course and research work for the degree of M.Sc in Industrial/Organisational Psychology. The work embodied in this project report is original and has not been submitted in part or full for any other diploma or degree of this or any other University.

**Prof. O. N. Osuji**
**Supervisor**

**Prof. B. N. Ezeilo**
**Head of Department**

# Dedication

*To my family –* ***Dad, Mum, Genevieve, Conrad, Donald &***
***Dennis*** *– for their encouragement and* ***Bola*** *for all she is to me*

# Acknowledgement

I grateful to God for life to accomplish this task, and to

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**From: Kenneth M. Amaeshi**

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# ABSTRACT

This study investigated the impact of Computer-Mediated Communication Technologies (CMCTs) on user's Interpersonal Orientation (IO) and Job Satisfaction (JS). The Job Description Index (JDI) and the Interpersonal Orientation Scale (IOS) were used to measure participants' JS and IO, respectively. A total of 300 participants (186 males, 114 females, 148 CMCTs users, 152 non-users, 141 senior staff and 159 junior staff) drawn from Shell Petroleum Development Company (SPDC), Elf Petroleum, Diamond Bank Limited, and Citizens Bank Limited all in Port Harcourt, Rivers State were used for the study. The major instrument for data collection was the questionnaire. MANOVA statistics were used for the analysis of data.

The following seven hypotheses were postulated and tested by the researcher:

- CMCTs usage will have no significant impact on user's Interpersonal Orientation
- CMCTs usage will have no significant impact on user's Job Satisfaction
- Gender will have no significant impact on user's Interpersonal Orientation
- Gender will have no significant impact on user's Job Satisfaction
- Job status will have no significant impact on user's Interpersonal Orientation
- Job status will have no significant impact on user's Job Satisfaction
- There would be no significant relationship between Interpersonal Orientation and Job Satisfaction.

The first two hypotheses proved significant and it was concluded that CMCTs usage has an impact on IO and JS. Gender affects user's IO but not JS while job status affects JS but not IO. The final hypothesis showed a very weak and negligible relationship (c.a. 2.5%) between IO and JS and it was accepted that no relationship exists between IO and JS. Discussions on the implications of the findings were made leading to the following suggestions:

- Organisations should seriously consider CMCTs usage in relation to user's Interpersonal Orientation and Job Satisfaction in their choice and implementation of CMCTs
- Organisations should invest more time to develop adequate personnel selection (especially as it relates to *job description* and *person specification*) for jobs involving CMCTs. This will at least ensure that the right people are placed on the right jobs.

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# INTRODUCTION

The purpose of any technology is to extend human capability (Tornatzky, 1989). Historically, technology has always advanced to ease our burden and to maximize our efficiency (Perlman & Kaufman, 1990). To a large extent, intellectual history is a chronology of the development of increasingly sophisticated and helpful tools or technologies; and in a sense, all technologies have knowledge embedded in them in one form or another (Pelz & Munson, 1980 cited in Tornatzky, 1989). However, it is only within the last three to four decades that man has been able to embody in machines more extensive intellectual functions such as memory, performing complex relational tasks, and abstract learning and re-learning. These latter developments have been closely tied to the revolution in micro-electronics from the development of the transistor in the 1950s to successive generations of electronic devices, which have permitted computer-assisted technologies for the execution of human activities (Tornatzky, 1989). Currently, Information Technology (IT) is the culmination of computer-assisted technologies.

Longley and Shain (1986) defined IT as "the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a microelectronics-based combination of computing, telecommunications and video" (p.175). IT has arisen as a separate technology by the convergence of computing, telecommunications and video techniques; computing providing the capability for processing and storing information, telecommunications the vehicle for communicating it, and video providing high-quality display of images. While information transmitted through moving images - television, video, computer terminal - is becoming the norm in contemporary society (Perlman & Kaufman, 1990), the realization of Computer-Mediated Communication Technologies



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(CMCTs) has continued to be a major break-through in both Computer Technology and Communication Engineering.

However, like any other human technology, IT is gradually affecting all aspects of life. The workplace has been recognized as the arena in which IT has been the most influential (Palmquist, 1992). This influence is mostly exhibited through and in office automation - "the use of information technology in an office environment to create, process, store, retrieve, use, and communicate information in the performance of managerial, professional, technical, administrative, and clerical tasks" (Mowshowitz, 1986). Evidently, IT in the workplace is mainly being used to support communications and data processing. In some cases these two functions are clearly differentiated, in others they are inextricably intermingled. For example, electronic mail is primarily a communications function, whereas word processing mainly involves information processing. On the other hand, computer conferencing is a hybrid activity that blends communications and information processing. Nonetheless, Mowshowitz (1986) has noted that this is an awkward time to catalogue IT in the workplace because the distinction between information processing and communications is being dissolved as networking evolves to support greater integration of workplace activities. Decision support, for example, is absorbed in computer conferencing or networking systems.



IT has also been recognized as a major source of technological change, which in turn is a prominent source of pressure for organizational change. In confirmation, Coates (1991) asserts that "... technology causes trouble. As a major agent of change, IT intrinsically, not accidentally, dislocates and distresses established relationships and forces economic, political or social change" (p.389). Unfortunately, it is impossible to offer a simple account

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of technological change in the work force of today (Wallace, 1989) because for each argument that IT provides for greater prosperity (Strassmann, 1985), there is a counter argument that it can enslave the individual and degrade the quality of life (Postman, 1991). Unfortunately, too, as noted by Palmquist (1992), among these predictive arguments, there seem few attempts to examine the impact of IT empirically. Continuing, she argued that even when the examination is made, "... one of the most studied impacts of IT is how it affects the organisation of work. If we examine the studies that focus on the individual worker, the amount of literature decreases" (Palmquist, 1992).

Notwithstanding, the individual worker with his (her) personality and orientations is still a prominent component part of the organisation of the workplace. Thus, to effectively appreciate IT as a precursor to organizational change, it is necessary as well to appreciate the influence of the same on the individual worker. This research is, therefore, intended to examine the impact of IT on the individual user's interpersonal orientation (IO) and job satisfaction (JS).

The construct of IO is a function of individual difference and was proposed by Swap and Rubin (1983) as useful for understanding behaviour in certain social situations. It is possible, for example, that people differing in IO will seek out different kinds of situations or relationships and will respond to them differently. According to them, "high IOs are interested in and reactive to other people whereas low IOs are less interested in and responsive to others and more concerned with economic features of relationships" (p.108). In other words, the construct of IO is embedded within the larger framework of social perception - the way individuals perceive and evaluate other people (Crider, Goethals, Kavanaugh, & Solomon, 1983). According to Wilson, Hantz and Hanna (1992),



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our perceptions influence communication in our relationships from start to finish. They shape the attraction we feel for others, the traits we assign to them, our expectations of them, and the way we understand what they do and say. Our perceptions function together with our expectations for ourselves and others to create communication rules for our relationships and influence our relationship positions. These positions summarize how we view ourselves in relation to the other person.

However, the reality of social perception is subsumed in that of social interaction - the way people affect and respond to each other (Crider et al., 1983). By nature, man is a social being and realizes his socialization through social interaction anchored on interpersonal communication. Napoli, Kilbride, and Tebbs (1988) defined communication as "the process of sending and receiving messages through which others and we are known and understood. It may involve words (oral, signed, or written), symbols, or non-verbal language. It also involves careful receiving (listening) on the part of the person to whom the message is directed" (p.314). Communication is critical in developing and maintaining interpersonal relationships. Several studies point to strong association between good communication and the general satisfaction of relationships (Markman, 1981; Murphy & Mendelson, 1973; Navran, 1967). These studies suggest that making the self-accessible to others through self-disclosure is intrinsically gratifying. Gratification, in turn, leads to the development of positive feelings for the other person upon which, effective social interaction is built.

The workplace, evidently, provides an excellent avenue for social interaction. This provision has greatly invigorated the contemporary recognition of social interaction as a work value (Napoli et al., 1988). According to the authors, our need for social contact and



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affiliation is an important aspect of a satisfying career. To associate with others whom we respect and with whom we find comradeship is quite important to our long-term satisfaction. This involvement has the potential to provide for friendships, support, love, and affection.

Therefore, this social interaction built on interpersonal communication is essential to the workplace and constitutes a major characteristic of organizational communication. With this understanding and writing on the importance of organizational communication, Bass and Ryterband (1979) report that when senior executives are observed continuously over many weeks, logs show they spend at least 80% of their time just talking with others. And for managers, taken as a group, interpersonal communications are a particularly important part of their working life. The effectiveness of their communications bears heavily on their success or failure. Moreover, satisfied interpersonal relationship as a social need, in turn, plays an important part in the motivation of individual workers (McGregor, 1960) - an essential ingredient of job satisfaction.

Baron and Byrne (1978) defined job satisfaction "as the extent to which a worker is content with his or her position in an organisation, the work conditions, compensation, and general treatment relative to others in the organisation" (p.487). It is generally accepted that job satisfaction is beneficial to the worker and perhaps to the organisation. Satisfaction with work may not necessarily increase productivity (Musialowski, 1986 cited in Baron & Byrne, 1987; Nelkin & Brown, 1984), but the better the fit between employee and job, the greater will be that person's eventual job satisfaction and productivity (Hunter & Schmidt, 1983).



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Unfortunately, there have only been very few studies on the impact of CMCTs, as an aspect of IT, on social interaction and job satisfaction. In addition, the most unfortunate of all, is that these few studies are extremely diverse and mixed in their conclusions. It is in view of this diversity that the aim and significance of this research become clear and distinctive.

## AIM OF THE STUDY

It is evident that organizational communication revolves more around social interactions anchored on interpersonal communications. It is also evident that effective communication enhances job satisfaction. Scott and Mitchell (1976) further examined the uses of communication in organizations, and identified the following as very general functions that different types of communication serve:

- Information services
- Sources of motivation and control
- Emotional expression.

These functions are obviously important to organizations and people in them. But communication does not always work as well as an organization would like.

As such, CMCTs have recently been introduced to offer alternative communication tools to alleviate common human communication problems (White & Massello, 1987). It is, therefore, the aim of this research to investigate the impact of these CMCTs on user's interpersonal orientation and job satisfaction.



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## STATEMENT OF THE PROBLEM

CMCTs will invariably increase communication and information (Turnage, 1990). Therefore, it becomes necessary to find out whether using these CMCTs might have behavioural or social consequences since the user is exposed to increased communication. But even if they do, what impacts would these CMCTs have on user's interpersonal orientation, and job satisfaction? Will user's job status and gender contribute to these impacts? These are problematic questions that this research will attempt to provide answers to.



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# CHAPTER TWO

# LITERATURE REVIEW

This chapter will focus on the review of literature that is directly related to the present study. The review will have the following divisions and sub-divisions:

- **CONCEPTUAL FRAMEWORK**
  - Communication : An Overview
  - Concept of Interpersonal Orientation
  - Concept of Job Satisfaction
- **EMPIRICAL STUDIES ON CMCTS**
  - CMCTs and Interpersonal Relations
  - CMCTs and Job Satisfaction

Each of the review is expected to highlight the relevance of the findings to the present study.

## CONCEPTUAL FRAMEWORK

### ❑ *Communication: An Overview*

Communication is a human activity which, however, exceeds the anthropological bounds of the human nature- i.e. communication is not restricted to human beings alone. But for the interest of this study, human communication will be mostly emphasized.

However, human communication may be intrapersonal, interpersonal or mass. Thus Sereno and Mortensen (1970) broadly defined communication as "a process by which senders and receivers of messages interact in given social contexts" (p.5). The means by

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which human communication takes place are complex and variable. Nevertheless all communication events, however, have certain common components - *source, message, channel, target, feedback* and *noise.* Some of the communication models are succinctly discussed below.

- *H. D. Lasswell's Model (1948)*

Harold Lasswell's interest in the role of mass media in society led him to pose five questions that help to isolate the essentials of the communication process. Lasswell (1948) felt that these five questions indicated the major variables in an act of communication:

*Who*

*Says What*

*In Which Channel*

*To Whom*

*With What Effect?*

These simple questions isolate several key elements in the process. The source (*Who*) is the originator of the message. He initiates the process of communication. The source is the person who, through verbal and non-verbal symbols, intentionally or unintentionally structures the cognitive field of the receiver (*To Whom*), a second, element identified by Lasswell. The receiver is the person who perceives stimuli transmitted by the source. These stimuli are the verbal and non-verbal symbols that the source sends as a message (*Says What*) to the receiver. Lasswell's model identifies the message as an element in the process, but fails to include non-verbal messages. Lasswell's emphasis on the verbal aspects of a message overlooks an extremely important body of stimuli available to the sender. The fourth element identified by Lasswell's model is the channel of



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communication. Channels are the means of conveyance of the stimuli that the sender produces.

The final element in Lasswell's model is the effect of the message. This element isolates an important aspect of communication. The effect is identified independently from the source, message, or receiver. It is instructive to recognize that the intentions of the source may not coincide with the effect of the message. This may be due to a number of variables that are explored in more recent models of communication. The effect of a message is within the province of a receiver's interpretation of the stimuli, the source, and other variables. The interaction of these elements leads to the attachment of meaning to stimuli - perception (Huseman, Lahiff & Hatfield, 1976).

Lasswell's model has also been criticized because it seems to imply the presence of a communicator and a purposive message. It has also been called over-simplified, but, as with any good model, it focused attention on important aspects of communication.

- *C. Shannon and W. Weaver (1949) Mathematical Theory of Communication*

At nearly the same time that Lasswell described an act of communication in five steps, Shannon and Weaver (1949) , two mathematicians, were developing a model to explain a communication system and its problems. This model possesses the essential elements necessary for generalization to the human communication process. Consequently, it has been used extensively in explaining communication as a process of interaction between two humans.



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The model explains communication in the following way. An information source originates a message that is encoded into verbal and non-verbal stimuli (*transmitter*). This message is then transmitted in its encoded form to a *receiver* who decodes the message and provides it with some meaning at its destination. The Shannon and Weaver model adds a new element to the communication process - a *noise* source. The message originated and encoded by the sender may not be equivalent to the message of the receiver. The noise in the process accounts for the differences between messages.

In the Shannon and Weaver model, the message refers to the meaning that each individual in the communication dyad attaches to the verbal and non-verbal symbols emitted by the sender. The model identifies an essential proposition of semantics - meaning is in people. Recognition of this situation requires some element to account for it. The Shannon and Weaver model offers an explanation. A noise source exists between the meaning of the sender and the receiver. It is now recognized that this *noise* may be physical or psychological. Physical noise may include physiological impairments of hearing, vision, or speech, or environmental disturbances such as others talking or contextual distractions. Psychological noise is usually attributed to the process of perception. The meaning attributed to a message by the sender may not be the meaning attributed to that same message by the receiver.



According to Severin and Tankard (1988), other major contributions are Shannon and Weaver's concepts of a message composed of entropy and redundancy and the necessary balance between them for efficient communication while offsetting noise in a channel. Briefly, the more noise in a channel, the greater the need for redundancy, which reduces the relative entropy of the message (e.g., the wireless telegrapher transmitting in a noisy

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channel repeats key portions of the message to ensure their reception. By using redundancy to overcome the noise in the channel, the amount of information that can be transmitted in a given time is reduced).

- *E. X. F. Dance's Model (1967)*

Although linear models like those of Shannon and Weaver (1949) have greatly advanced our understanding of the process of communication, both models have failed to include feedback in the process. Communication does not begin and end as neatly as the previous models have described. Communication is more circular or continuous, and it is this quality of communication that led Dance to postulate his helical model of communication.

Dance's model includes feedback in a dynamic model communication that also emphasizes the effect of past experience on communication. A helix by means of its geometrical shape demonstrates that communication, while moving forward and adding new experiences, is also dependent on its past. The helix turns back on itself yet moves onward as well. The communication process, then, is affected by learning. It can correct itself through the intervention of feedback - an essential element of communication.

Huseman et al. (1976) argue that the inclusion of feedback in a model of communication is a significant advancement. The concept of feedback originated in cybernetics where it operated as a self-regulating agent in a closed system. Feedback allows a system to correct itself. For example, one can through feedback ascertain whether ones behaviour is interpreted properly by another. Appropriate corrections in the sender's verbal and non-verbal cues can then be made.



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- ***Human Communication System And Modern Technology***

As evident from the models, any human communication consists of a series of systems coupled into chains. Thus, Schramm (1955) defined a system "as any part of an information chain that is capable of existing in one or more states or in which one or more events can occur" (p.132). A communication system can be the telephone wire, the air, or a human optic nerve. Systems include the channels of information but also include sources, transmitters, receivers, and destinations. Systems must be coupled with one another in order to transfer information, and the state of any system depends on the state of the system adjoining it. If the coupling is broken, information is not transferred (Severin & Tankard, 1988).

With the advancements in communication and electronic engineering, electronic communication systems have been devised to aid, through imitation, the human communication system. Electronic communication refers to "the process of conveying information-bearing signals from one point to another that is physically separate" (Haykin, 1992). The information-bearing signal, or baseband signal, may be in analogue form as in the case of voice and video signals or in digital form as in the case of computer data. In any event, the purpose of an electronic communication system is to transmit information-bearing signals from a source, located at one point in space, to a user destination, located at another point. Typically, the message produced by the source is not electrical in nature. Accordingly, an input transducer is used to convert the message generated by the source into a time-varying electrical signal called the message signal. By means of another transducer at the receiver, the original message is recreated at the user destination.



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An electronic communication system, therefore, consists of three major parts: (1) transmitter, (2) communication channel, and (3) receiver. The main purpose of the transmitter is to modify the message signal into a form suitable for transmission over the channel. This modification is achieved by means of a process known as modulation.

The communication channel may be transmission line (as in telephony and telegraphy), an optical fiber (as in optical communications), or merely free space in which the signal is radiated as an electromagnetic wave (as in radio and television broadcasting). In propagating through the channel, the transmitted signal is distorted due to non-linearities or imperfections in the frequency response of the channel. Other sources of degradation are noise and interference picked up by signal during the course of transmission through the channel. Noise and distortion constitute two basic problems in the design of electronic communication systems. Usually, the transmitter and receiver are carefully designed so as to minimize the effects of noise and distortion on the quality of reception.

The main purpose of the receiver is to recreate the original message signal from the degraded version of the transmitted signal after propagation through the channel. A process known as demodulation, which is the reverse of the modulation process in the transmitter, accomplishes this recreation. However, owing to the unavoidable presence of noise and distortion in the received signal, the receiver cannot recreate the original message signal exactly (Haykin, 1992). The type of modulation scheme used influences the resulting degradation in overall system performance. Some modulation schemes are less sensitive to the effects of noise and distortion than others.

The reality of CMCTs finds amplification in and through the electronic communication system. This amplification is further orchestrated in the appreciation of CMCTs as



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electronic communication channels. Among the varied arrays of CMCTs are: bulletin board, computer conferencing, e-mail, facsimile, teleconferencing, videotext and video telephone.

- ***Concept of Interpersonal Orientation (IO)***

The IO construct has its conceptual origins in Rubin and Brown's (1975) - an effort that was designed to review and partially integrate the findings of nearly 1,000 experimental studies of interpersonal bargaining. Rubin and Brown (1975) posited the person who is high in IO to be "first and foremost, responsive to the interpersonal aspects of his relationship with the other. He is both interested in, and reactive to, variations in the other's behaviour" (p.158). The high IO individual is described by Rubin and Brown as taking the other's behaviour very, perhaps unduly, personally and as being sensitive and reactive to such relational features as the other's co-operativeness or competitiveness; the distribution of power and dependence in the relationship; and the other's adherence and deviation from norms of equity, exchange, reciprocity, and so forth. In short, virtually all aspects of one's relationship with the other person are of interest and importance for the high IO bargainer (Swap & Rubin, 1983).

In contrast, the low IO individual is "characterized, first and foremost, by a non-responsiveness to interpersonal aspects of his relationship with the other. His interest is neither in co-operation nor competing with the other, but rather in maximizing his own gain - pretty much regardless of how the other fares" (Rubin & Brown, 1975:159). According to Rubin and Brown, the low IO bargainer does not take the other's behaviour personally and is therefore not likely to respond to the other's co-operation and competition with co-operative or competitive overtures of his or her own. Rubin and



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Brown conclude: "Thus, regardless of the other's behaviour or disposition, the low IO's behaviour is simply designed to achieve as much tangible or intangible gain for himself as he can" (1975:160).

Swap and Rubin (1983) also noted that IO could be correlated with other variables. In their study, they found out that consistent with Rubin and Brown's (1975) theorizing, females scored significantly higher (m=101.93) than males (m=97.55; t=7.62, p<.001). Modest age and racial difference were found, with whites scoring somewhat higher than non-whites and younger students scoring somewhat higher than older students. Students majoring in or planning to major in behavioural sciences or occupational therapy scored highest; social science, natural science, and humanities majors, next highest; and engineering students scored lowest in IO. Thus, the people-oriented majors scored highest, and object oriented majors scored lowest, results that are consistent with theoretical expectations. Although differences in IO were found for students in various major fields, the authors acknowledged that these differences were fully accounted for by the sex distributions in these majors - e.g., engineering had the lowest scores but also the highest proportion of males.

In comparing IO with other personality variables, Swap and Rubin (1983) administered a battery of additional tests - Snyder's (1974) self-monitoring scale; the Short-Form Dogmatism Scale (Troldahl & Powell, 1965); Christie and Geis's (1970) Machiavellianism (Mach IV) scale; field independence, as measured by the Hidden Figure Test (Form 5; ETS, 1962); Rotter's (1966) Internal-External Locus of Control Test; and Kassarjian's (1962) Inner-Directedness and Other-Directedness scales (all cited in Swap & Rubin,



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1983) - to a sample of subjects who had previously completed the IO scale. The results of the correlation between IO and each of these scales are significant.

IO correlated positively with self-monitoring. Since "the self-monitoring individual is one who, out of a concern for social appropriateness, is particularly sensitive to the expression and self-presentation of others in social situations" (Snyder, 1974:528), it is not surprising that the correlation is positive. In addition to self-monitoring, for the combined male and female sample, IO correlated negatively with Machiavellianism and field independence. Since high Machs "have a *cool detachment*, which makes them less emotionally involved with other people" (Robinson & Shaver, 1973:592 cited in Swap & Rubin, 1983), the negative correlation with Machiavellianism makes conceptual sense. According to the authors, the interpretation of the negative correlation with field independence is considerably more speculative. It may be that for high IOs, other people may get in the way of an objective view of a situation in the same way that a confusing patterned background may interfere with accurate recognition of a stimulus. On the other hand, males, but not females, showed a large negative correlation between IO and inner-directedness, suggesting that, similar to other-directed people, high IO males "depend upon the people around them to give direction to their actions" (Kassarjian, 1962:213).

When the IO item pool was initially generated, a number of items related to empathy were included. It was thought that being interested in what people are like might be associated with empathetic feelings for others. A few of these items are as follows: "When buying a present for another person, it is often the case that I find myself choosing something that may not like but that I think the other person will"; "Even if I knew someone had been under a lot of strain, I might find it hard t overlook unpleasant behaviour"; and "I could



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easily forgive a friend's angry remark to me if I knew he had just been fighting with his parents". Although these admittedly are not pure empathy items, they certainly include a component of "getting inside the other's skin", yet none of the empathy items correlated with overall IO scores (Swap & Rubin, 1983). In addition, the authors remarked that it is important to note that "although sociability is clearly part of the IO construct, the two are not synonymous" (p. 215).

On theoretical grounds, one would expect little relationship between IO and social interest as conceptualized by Crandall (1980). Crandall writes that social interest involves "reducing hostility, feelings of threat, jealousy, and interpersonal conflict" and "a decreased concern for protecting a vulnerable, threatened self" and that it should lead to "a healthier attitude toward the frustrations, failures and losses that are inevitable for anyone" (1980:482). Thus, one would expect high IOs to score low on these components of social interest, since high IOs are more sensitive to criticism, more emotional, and more anxious than are low IOs. But based on the data presented by Swap and Rubin (1983), "high-IO subjects seemed quite concerned with their selves, but as objects of the actions of others" (p.215).



- ***Concept of Job Satisfaction***

The concept of job satisfaction constitutes a perplexing enigma. Researchers have, thus, understood this concept in various ways - as a *feeling* (Schachter & Singer, 1962), as a *cognitive or social-cognitive construction* (Caldwell & O' Reilly, 1982), as a *disposition* (Bandura, 1986) and even as *resulting from genetic factor*s (Arvey, Bouchard, Segal, & Abraham, 1987 cited in Landy, 1989). However these understandings might be, they form our modern day concept of job satisfaction - "the extent to which a worker is content with his or her

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position in an organization, the work conditions, compensation, and general treatment relative to others in the organization" (Baron & Byre, 1987:487).

This work cannot boast of covering all the theories of job satisfaction. In the section below, the researcher will only highlight some of these theories while references will also be made to others not highlighted intermittently.

- *R. H. Schaffer's Theory (1953)*

Schaffer emphasized variables within the individual as contributing to satisfaction and dissatisfaction. He felt there was some psychological *set* or mechanism that operated to make people satisfied or dissatisfied in general. This set was thought to effect satisfaction with work as well. When certain *needs* the individual had were not fulfilled, tension was created, the amount of tension being directly related to the strength of the unfulfilled need. In other words, the objective characteristics of the job were only part of the *equation* of job satisfaction; another part was related to the needs of the individual. In effect, Schaffer proposed that workers looked at jobs through *need-coloured* glasses.



Schaffer proposed that individuals had 12 basic needs. The set was composed of needs such as recognition, affection, mastery, and economic security. Since it was unrealistic to think that the 12 needs were equally important to all individuals, an analysis was done to identify those needs that contributed substantially to overall job satisfaction. This was done by first asking for three pieces of information from each respondent:

- the importance of each of the 12 needs
- the degree to which each of the needs was being satisfied, and
- an indication of overall job satisfaction.

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Schaffer was able to determine that the overall job satisfaction of an individual could be predicted from information concerning only the first two most important needs of that individual. In short, if the individual's two most important needs were not being satisfied, overall dissatisfaction would be reported.

The importance of Schaffer's work was not in the identification of the two most important needs of an individual, but in the demonstration that there are reliable individual differences in the importance of needs. This approach can be seen in the dynamics of modern motivation theories [e.g. in Maslow's theory (1943), the most important needs would be found at the level in the hierarchy that has not yet been satisfied]. In instrumentality theory (Vroom, 1964), these most important needs would be represented by *valence*, or in Porter-Lawler (1968) version, the *value of the reward.* Even though Schaffer's work was crude by current standards, the results anticipated (or possibly provided the foundation for) some important theories of work motivation.



- *The Two-Factor Theory - Herzberg et al (1959)*

DeMan (1929) came to a conclusion that satisfaction and dissatisfaction were two completely different phenomena. Subsequently, Herzberg, Mausner, and Snyderman (1959) conducted a study with 203 accountants and engineers from the Pittsburgh area of U.S. These individuals were interviewed and asked to describe a time when they felt particularly good or bad about their jobs. The responses were examined for indications of:

- the situations that led to the feelings
- the needs or drives that were activated by these situations
- the duration of the feelings

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The results of the Herzberg study indicated that the following factors were related to good feelings about a job: achievement and recognition, the nature of the work itself, responsibility, advancement, and salary. Bad feelings about a job seemed to be related to the following factors: company policy and administration, technical supervision, salary, interpersonal relations with supervisors, and working conditions. In addition, good feelings seemed to persist long after the events or situations that caused them had disappeared. This seemed to suggest that negative attitudes had a weaker effect on performance than the fact that they did not last as long.

These findings led Herzberg et al to propose what has come to be known as the *two-factor theory* or the *motivator-hygiene theory*. The basic propositions of the theory are straightforward:

- Every individual has two sets of needs. One set, labeled hygiene, relates to the physical and psychological environment in which the work is done. Such persons or things as co-workers, supervisors, working conditions, and company policy would meet these needs. This second set of needs, labeled motivator needs, relates to the nature and challenge of the work itself. These needs would be met by such things as the stimulation provided by job duties and responsibility attached to the job.
- When hygiene needs are not met, the individual is dissatisfied. When the hygiene needs are met, the individual is no longer dissatisfied (but is not satisfied either).
- When motivator needs are not met, the individual is not satisfied (but not dissatisfied either). When motivator needs are met, the individual is satisfied.



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The research on two-factor theory has been voluminous and generally discouraging. In spite of the absence of empirical support, Landy (1989) states that Herzberg's theory is probably a reasonable one at the descriptive level. It does a good job of describing what a manger might expect to find - *on the average.* The factors listed as motivators are probably important to a majority of the work force in a particular organization (e.g. the stimulation provided by the job duties). But description is not explanation. Being able to describe the characteristics of majority of the work force is a long way from understanding the relationships among satisfaction, motivation and performance. On the whole, Herzberg has had a positive effect on the research in job satisfaction. As a result of his theory, variables are more clearly understood, the operations involved in measuring important variables are more reasonable, and people are thinking more flexibly about the meaning of job satisfaction than they did before his theory appeared (Landy, 1989).

- *The Facet Satisfaction Model - Lawler (1973)*

A book on motivation in work organizations by Lawler (1973) proposes a model of job satisfaction that differs from most others. It is really an expansion of the section in the Porter-Lawler (1968) model of work motivation dealing with the relationship between actual rewards for performance and perceived equitable rewards. The model predicted that when perceived equitable rewards exceeded actual rewards, dissatisfaction would result. On the other hand, if actual rewards exceeded or equaled perceived equitable rewards, satisfaction resulted.

The single most important process implied in this model is *perception.* This process takes the form of *perceived* personal job inputs, *perceived* inputs and outcomes of significant others, *perceived* job characteristics, and *perceived* outcomes (rewards). This model of satisfaction

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differs in one important respect from the treatment of satisfaction in the motivation model of Porter and Lawler (1968). In the current model, if actual rewards *exceed* perceived equitable rewards, guilt, discomfort, and presumably tension are the result. If perceived equitable rewards exceed actual rewards, dissatisfaction results. In the earlier motivation model of Porter and Lawler, satisfaction was thought to result if actual rewards met or exceeded perceived equitable rewards. This change in operation moves the phenomenon of job satisfaction much closer to cognitive dissonance (equity) theory. It says that some psychological discomfort results from the knowledge that we are receiving more than we deserve. This psychological discomfort is synonymous with physical discomfort (tension) and provides the impetus for actions necessary to relieve this tension.

Although this model describes the satisfaction an individual will experience with any particular aspect or facet of the job (e.g. pay, co-workers, challenge), Lawler feels that the combination of the feelings a worker has about all aspects of the job defines *overall job satisfaction.* He qualifies this somewhat by saying that facets or aspects contribute to overall satisfaction according to their importance to the individual.



- *The Value Theory - E. A. Locke (1976)*

Locke (1976) distinguishes between value and need. He thinks of needs, as elements that ensure an individual's survival, much in the sense that we use the term *biological need.* He considers needs to be objective, existing regardless of the desires of the individual. Values, on the other hand, are subjective and represent what a person *desires* at either a conscious or subconscious level. Given this distinction, Locke's theory of job satisfaction might be stated as follows:

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> Job satisfaction (is) the pleasurable emotional state resulting from the perception of one's job as fulfilling or allowing the fulfillment of one's important job values, providing these values are compatible with one's needs (p.1342).

From this statement, it is obvious that Locke does suggest an interesting role for the concept of *importance.* It is reasonable, therefore, to expect that job satisfaction is not the simple sum of satisfactions with individual elements of the job. One component that might play a role is the relative *importance* of each of the factors being considered. Thus, if pay is extremely important to one and pleasant co-workers are relatively unimportant, pay should play a greater role in determining ones overall satisfaction than pleasant co-workers. This would mean that we should get a more accurate prediction of an individual's overall satisfaction if we weight satisfaction with each specific job element by its importance.

Locke suggests that the importance of a particular job aspect affects the range of emotional response a given job element can produce, rather than the actual satisfaction with that element. In other words, if something is relatively unimportant to me, I will not be either very satisfied or very dissatisfied with it; I will be indifferent regardless of the amount of that element I receive. On the other hand, if I value a particular job element very highly, then slight variations from optimal amounts of that element will produce wide variations in satisfaction. However, in addition to the fact that a number of studies have shown that weighting by importance does not improve the prediction of overall job satisfaction (Ewen, 1967; Mikes & Hulin, 1968), Landy (1989) concludes that "Locke's theory is philosophically rather than empirically based" (p.457).



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- ***The Vitamin Model – Warr (1987)***

Warr (1987) suggests a model of job satisfaction that is patterned after the notion of how various vitamins work on physical health. He suggests that there are nine particular attributes of work that produce variations in satisfaction. This is similar to the notion that various vitamins, as a group, affect physical health. Warr further suggests that like vitamins, we need some minimum daily *dosage* of these nine attributes (i.e. money, physical security, valued social position, externally generated goals, variety, clarity, control, skill use and interpersonal contact) to remain satisfied with our jobs. It is here, however, that Warr departs from conventional thinking.

Still using the vitamin notion, he suggests that although meeting the minimum daily requirements will bring an individual to a state of positive mental health, too much of some of the attributes will lead to toxic reactions. In other words, too little of any attribute can be harmful, but too much of some of these attributes will also cause problems. He likens this circumstance to that of taking too much of certain vitamins (i.e. vitamin A and vitamin D). For example, certain environmental attributes will not cause any harm in an overabundance. These environmental attributes he referred to as constant effect (CE) factors and similar in action to vitamins C and E that are excreted when they are consumed in abundance. But other attributes he identified as additional decrement (AD) factors and similar in action to vitamins A and D will actually cause a decrease in emotional well-being just as individuals may experience toxic reactions to overdose of vitamins A and D. The table below illustrates these two different types of factors and their proposed effects.



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## *Effects of High Levels of CE and AD Variables*

| | Variable | Effect |
|---|---|---|
| **High levels of CE variables** | Money | Constant effect at high levels |
| | Physical Security | Constant effect at high levels |
| | Valued Social Position | Constant effect at high levels |
| **High levels of AD variables** | Externally generated goals | Overload; stress |
| | Variety | Low concentration and achievement |
| | Clarity | Little control or opportunity for development |
| | Control | Overload; stress |
| | Skill Use | Overload; stress |
| | Interpersonal Contact | Lack of personal control; overcrowding. |

Warr's vitamin model is interesting from a process perspective because few other theories propose that too *much* of an attribute can cause problems in and of itself. For example, Herzberg implied that too much of either motivator or hygiene factors had no effect beyond some critical value. Instrumentality theory implies that greater rewards yield more effort. Equity theory suggests that too much of a reward causes imbalance (or dissonance), but Warr's theory takes a substantially different approach to the issue of emotional distress. In addition, Warr suggests that particular attributes cause toxic reactions, but equity theory implies that *any* imbalance causes tension. Thus, there are substantive differences between the vitamin model and equity theory as well. According to Landy (1989) Warr's theory is an interesting one and should receive the careful attention of researchers.



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## EMPIRICAL STUDIES ON CMCTS

### ▫ *Impacts of CMCTs*

In recent years, CMCTs have begun to capture the attention of scholars and practitioners from a wide variety of disciplines. A small but growing community of researchers in information science, communication, psychology, sociology, computer science, and management science have pursued the study of CMCTs, often accompanying their work with a rationale for the relevance of their respective disciplines to CMCTs research.

This academic pursuit has rendered the scope of literature on CMCTs extensively diverse, to even include such issues as CMCT design features (Miller & Vallee, 1980; Kerr & Hiltz, 1982) and standards (Schicker, 1981; Panko, 1983). However, this extensive diversity of literature provides for researches on adoption, use, and impacts of CMCTs a very large database to draw from.

Research on the impacts of CMCTs has exhibited growth and vitality over the past several years. Led by researchers at the New Jersey Institute of Technology's Computerized Conferencing and Communication Center and Carnegie-Mellon University, a tradition of controlled experimentation assessing impacts on group communication and decision-making processes continues to flourish. On the other hand, large-scale, systematic impact assessments conducted in field settings remain rare. Nonetheless, theory and speculation, along with findings from pilot studies and occasional user surveys, do appear with increasing frequency in the CMCTs literature (Steinfield, 1986b p.184). Among the major classes of impacts covered are those on cognitive information processing (specifically, information load), group process and decision making, productivity and media substitution, and organizational structure and societal issues.



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The question of whether CMCTs increase users' abilities to handle greater amounts of information or results in information overload has been addressed by Kerr and Hiltz (1981; 1982) and Hiltz and Turroff (1985). In both papers Kerr and Hiltz summarize reports from a panel of experts familiar with CMCTs system use. Findings are inconclusive because experts are mixed in their voting on these two cognitive impacts (Steinfield, 1986b). In a similar attempt, Johansen and DeGrasse (1979) found out that computer conferencing increased the reported frequency of communication with distantly located researchers and those within other disciplines. These findings, the authors noted, raise the possibility of more geographically separated working groups, which could also lead to information overload among some computer conference participants. Nonetheless, a recent study by Toppinen and Kalimo (1996) found out that "information overload is a problem characteristic to computer professionals" (p.204).



An explicit focus on computer-mediated effects on groups by organizational researchers has been much less common than predictions and research about how computing will affect work and life for the individual (Palmquist, 1992). Notwithstanding, group organizational decision-making rests on communication. The group-decision support system (GDSS), a new technology, has emerged to improve organizational decision-making and ensure that organization members will feel that they are part of decision-making efforts and therefore will support resulting changes. Essentially, a GDSS functions as a real-time, electronic brainstorming session among members of a decision-making work group. It uses the computer to conceal the contributors' identities so that ideas can be suggested and selected according to merit rather than the contributor's organizational role. The primary benefits believed to be derived from GDSS are an improved sense of group cohesion and an increase in the individual's interest in group activities. Such

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systems are believed to transfer some of the protocol of decision-making to the system and appear to reduce the amount of intra-group tension in difficult decision-making situations (Palmquist, 1992).

Most studies in this area use a controlled experimental method in which groups are given certain problems to solve and measures of group interaction and performance are collected. Typically, results from face-to-face conditions are then compared with CMCTs. Most studies focus on the reduced social context and non-verbal cues afforded by CMCTs as an explanation for observed differences in group processes. Hiltz, Johnson, Aronovitch & Turoff (1980) set the context for much of this research, using college students and comparing the results of face-to-face and computer conference groups in their efforts to solve two different types of problems. A value-laden, human relations problem with no specific solution and a ranking problem with a correct solution were given to groups in each communication mode. Equality of participation, leadership emergence, ability to reach consensus, quality of decision, and satisfaction were among the dependent variables examined. Generally, face-to-face groups tended to be more satisfied, reach consensus more quickly, and were more likely to have a leader emerge who dominated discussion. These differences did not occur uniformly across both problem sets, however. For the scientific ranking problem, neither the face-to-face nor the computer conferencing group showed any tendency for a leader to emerge. Moreover, there were no differences in decision quality.

In an extension of this experiment, Hiltz, Turoff and Johnson (1984 cited in Steinfield, 1986b) compared CMCTs groups with and without structures to help select a leader as well as computer-generated displays of data measuring the extent of agreement. Subjects



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were members from a real organization, and ability to reach consensus and decision quality were the primary dependent variables. Consensus was high under all conditions, and no significant differences emerged. However, decision quality was higher in groups with a leader only if that individual was more knowledgeable about the task. Groups tended to choose the most verbose participant rather than the most knowledgeable as the leader. Interestingly, computer-generated feedback seemed to counter the influence of the most knowledgeable group member in favour of achieving consensus. In a related effort, Finn (1986) conducted a content analysis of CMCTs transcripts to investigate the effect of certain organizing strategies (e.g., developing an agenda) on group performance but believes that measurement limits may have obscured differences.

Researchers at Carnegie-Mellon focus on additional dynamics of the communication process in computer conferencing and electronic mail. Decision quality, quality of participation, and ability to achieve consensus remain variables of interest, but particular attention is paid to the high incidence of uninhibited verbal behaviour, such as profanity and hostility (often referred to as flaming) frequently observed on CMCTs systems. To explain this behaviour, Kiesler, Siegel, and McGuire (1984) propose that CMCTs is a new medium without an established etiquette, characterized by an absence of regulating feedback and few status cues. This paucity of social-context information and lack of widely shared norms of behaviour are hypothesized to lead to difficulty in co-ordinating and comprehending messages, a reduction in social influence manifested in more equal participation, and more impersonal, less-inhibited interaction. Experiments were conducted with college students assigned to synchronous and asynchronous CMC as well as face-to-face conditions (Dubrovsky, Kiesler, & Siegel, 1983 cited in Steinfield, 1986b; Kiesler, Zubrow, & Moses, 1985; Siegel, Dubrovsky, Kiesler, & McGuire, 1986).



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Generally, the above expectations were supported. Later research also demonstrated a milder form of uninhibited verbal behaviour as well as status equalization in electronic messages in an organizational setting (Sproull & Kiesler, 1984 cited in Steinfield, 1986b).

Hiltz, Turoff, & Johnson (1985 cited in Steinfield, 1986b) disagree that uninhibited verbal behaviour is a natural result of the lack of non-verbal regulating cues. They argue that the findings reported by Kiesler et al. (1984) result from the use of college students without an established social history and lack of shared norms. Eighteen groups of middle mangers and professionals from a large corporation participated in an experimental test of what Hiltz and her colleagues call disinhibition and deindividuation (defined as the tendency to rely less on one's own opinion and conform more to group opinions and norms). Three conditions – a pen-name and a real-name synchronous computer conference and a face-to-face mode – were compared. Little uninhibited behaviour (in the form of verbal hostility or profanity) was observed under any condition, with pen-name groups more likely to experience a *bandwagon* effect once someone entered an uninhibited remark. Less inhibited behaviour was also more likely to consist of criticism of the company than profanity or insults. Little difference in the degree of conformity was observed as nearly all groups reached consensus.



Social influence in group discussion is communicated through verbal, paralinguistic, and social context cues (such as seating position; e.g. Patterson, 1983, pp. 2-3). From a series of experiments conducted by Kiesler et al. (Kiesler & Sproull, 1986; Kiesler, Zubrow, & Moses, 1985; Siegel, Dubrovsky, Kiesler & McGuire, 1986; Sproull & Kiesler, 1986) it is deductible that the speed, amorphousness, and text form of interaction using computers reduces paralinguistic and social context cues and prevents the full exchange of views and

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feedback possible in face-to-face interaction. When the time for discussion is held equal or nearly equal, the number, length, complexity, and novelty of arguments is less in computer-mediated discussions than in face-to-face discussions.

These findings suggest that computer-mediated communication might be used to examine the impact of restricted discussion on multi-attribute risk choice. Thus McGuire, Kiesler, and Siegel (1987) studied the effects of group and computer-mediated discussion in risk decision making. This study examined hypotheses, based on theories of group decision making and an extension of prospect theory to a social context, and about the influence of group communication and group decision processes on group decisions. Managers individually and in 3-person groups made multi-attribute risk choices (two investment alternatives, each with multiple outcomes). Two group decisions were reached during face-to-face discussion, and two were reached during (real-time) computer-mediated discussion. In comparison with pre-discussion individual preferences, groups' multi-attribute risk choices and attitudes after face-to-face discussion were risk averse for gains and risk seeking for losses, a tendency predicted by prospect theory (Kahneman & Tversky, 1979). By contrast, group decisions during computer-mediated discussion did not shift in the direction of prospect theory predictions. The results are consistent with persuasive-arguments theory, in that computer-mediated discussion contained less argumentation than face-to-face discussion.



Spears, Lea, and Lee. (1990) used a CMCTs (Topmail) to explore the effects of de-individuation on group polarization. Their study shows that experimental conditions, which in some respects mirrored typical conditions of real-world use of CMCTs – namely, visually anonymous communication either between individuals or between members of

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groups and organizations – produced greatest divergence in polarization. Previous work on CMCTs has shown that greater polarization may be obtained using this medium than in face-to-face interaction (Kiesler et al., 1984; Siegel et al., 1986). Current thinking places an emphasis on informational explanations to account for this. For example, it is argued that the nature of the medium encourages participants to focus on the content of the message by reducing the social context in which the communication takes place and, in addition, that the medium encourages greater equality of participation and thereby increases the range of opinions exchanged (Siegel et al., 1986). A further argument is that, by reducing social context cues, the medium encourages more uninhibited behaviour leading to the exchange of more extreme views, compared with the face-to-face situation (Kiesler et al., 1984). However, it is worth noting here that none of the above informational explanations could account for the findings of Spears et al in which significant variations in the extent and direction of polarization were found even though the computer communication medium was identical across all experimental conditions. Thus they remark that their "results suggest that the capacity for social influence via this medium (CMCTs) will vary widely depending on the user's perceived relation to others on the network" (p.132).

In a similar effort, Stephenson, Ayling and Rutter (1976) examined the role of visual communication in social exchange. They predicted that in comparison with face-to-face conversations, conversations by audio link would be *depersonalized* and *task oriented.* Results supported both hypotheses. Thus they conclude that "visual communication serves to make social interaction more *spontaneous*, *diversified*, and finally, more *conventionalized* in terms of features of role relationship which it makes salient. Absence of visual communication formalizes speech and concentrates the mind on the issues rather than the people" (p.119).

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Another class of impacts frequently mentioned in the literature involves the creation of new communication links among individuals in groups in organizations. The formation of new links may then have longer-range effects on the formal structure of an organization. Moreover, new patterns and locations for work may be possible because of the freedom from time and distance constraints.

Olson and Lucas (1982) envision a number of impacts on the long-range functioning of organizations. Among their many propositions are predicted structural changes based on increased cross-departmental communication (confirmed by Verdin, 1988), less face-to-face interaction, greater total volume of communication, increased span of control, and new methods of monitoring performance. Redistribution of power and authority as possible effect of electronic mail results in changes in who communicates with whom rather than simple media substitution, a breakdown can occur in hierarchical authority relationships. Geographic dispersion and altered work locations are additional communication system effects offered by Markus (1984, p.57).



- *CMCTs And Interpersonal Relations*

Obviously, interpersonal orientation will have an impact on interpersonal relationships, which in turn, are anchored on interpersonal communication. There are some studies on the impacts of CMCTs on interpersonal relation and communication; though, with mixed results.

Surveys of teleconference users, for example, consistently report that "getting to know someone" is difficult over a video medium, but maintaining friendly relations is reported in these surveys as being less difficult (Albertson, 1974; Casey-Stahmer & Havron, 1973;

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Williams, 1973 all cited in Albertson, 1977). These suggest that the video image may be sufficient to act as a reminder stimulus if the person is already known, although people using teleconference for regular meetings still experience the need to meet face-to-face about once in every three or four meetings (Casey-Stahmer & Havron, 1973). Albertson (1977) has noted that a problem that is often overlooked is that telecommunications can only represent the auditory and visual dimensions, although our total sensory awareness also includes tactile, gustatory, and olfactory dimensions. Removing these dimensions obviously precludes some activities which are often associated with business meetings, such as shaking hands or sharing a meal; and although research in the area is limited, nonverbal communication theory (Argyle, 1967) provides some basis for expecting that the absence of these dimensions may explain some of the difficulty experienced in getting to know someone over a video link. Although ingenious substitutes for some of these activities have been proposed, such as the hydraulically controlled glove for remote handshaking, it seems unlikely that these dimensions can be telecommunicated in a psychologically meaningful way.

On the contrary, Rice and Case (1983) found that many university administrators in the Stanford Terminals for Managers program developed new contacts as a result of using e-mail. In another in-house analysis, a spread of organizational functions across geographic regions occurred through the use of the systems (Birks, 1980). Kerr and Hiltz (1982) also report greater cross-location communication as likely impact of CMCTs, based on the findings of system administrators and experts. Steinfield (1985; 1986a) reports that broadcasting information requests and getting to know someone are among the uses of e-mail in one organization, while having co-workers in another location was one of the



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strongest predictors of task use. Tapscott (1982) also reports that greater inter-departmental communication resulted from an e-mail system.

The idea of flexible work location, particularly work from home, continues to attract a few researchers. Turoff and Hiltz (1983) speculate about the application of computer conferencing to home-based work. They note that not only must workers' needs for social interaction be met but problems associated with the distinction between home and work roles must be addressed. Computer conferencing, rather than simply connecting a home worker to a database, is viewed as a way of fostering group projects and providing social interaction.

Olson (1983) studied remote work pilot projects, noting that telecommunication was not a requirement for many. She wonders about the role of e-mail in monitoring performance and adds that questions of social interaction and visibility in the workplace must be answered before remote work becomes more common place. However, Olson (1989) found out that although the productivity of home-based workers was about the same as office-based workers, the managers were uncomfortable in dealing with remote workers because the managers had to be better organized, do more planning, and spend more time in formal communication than with on-site workers.

Still on the same issue, Bush (1990) looks specifically at telecommuting work done in software development. He developed seven case histories over 15 years and found that the reasons for telecommuting work could be categorized as task-based, structural, and social. The primary task-based reason for telecommuting is efficiency. Work can be done more quickly because interruption and socializing are reduced. The single biggest disadvantage is



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the loss of help that is available in an office from co-workers. The structural effect is the reduced need for office space with its overhead costs. The advantage of good, well-planned worker-manager communications becomes a serious disadvantage if the relationship between them is vague or intermittent. Finally, social effects are increased worker motivation, job satisfaction, and job enrichment. Telecommuting demonstrates trust and gives the worker more autonomy and family time.

- *CMCTs And Job Satisfaction*

As a formal area for empirical research, job satisfaction did not really exist until the mid 1930s, although there was a good deal of qualitative theorizing about the concept which has continued to linger (Landy, 1989). After a late start, however, researchers more than made up for this dearth of early research. Well over 3,00 studies on job satisfaction were published by 1972 (Locke, 1976). Further, there seems to have been no slackening in the rate of satisfaction research between 1976 and today.

Notwithstanding, studies on the impact of CMCTs on job satisfaction have been few and also with mixed results. Surveys (e.g. Albertson, 1974; Williams, 1973; Duncanson & Williams, 1973) have typically reported that more than 90% of users profess to be highly satisfied with such facilities. Despite these surveys, it is still obvious that the design of the instrument of work is likely to constitute a source of dissatisfaction to the worker. Barber and Lucas (1983) studied the impact of online system response time on Cathode Ray Tube (CRT) terminals' operator productivity and job satisfaction. The JDI questionnaire was used to measure job satisfaction. A negative relationship was found between increased response times and job satisfaction. In another effort, Baroudi (1984 cited in Baroudi & Ginzberg, 1986) has shown that key Data Processing/Information System personnel job



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outcomes (e.g., turnover, organizational commitment, job satisfaction) are affected by job design, leadership characteristics, and role variables. Baroudi and Ginzberg (1986) investigated another class of variables, the technological environment faced by Data Processing/Information System personnel, that might impact these job outcomes. The technological environment includes (1) development methodologies employed, (2) project teams, reporting relationships, and (3) work characteristics. Variables from all classes were found to impact DP/IS job outcomes. Notwithstanding that the statistical analyses used for the study – correlation analysis and analysis of variance (ANOVA) – are not strongly adequate since more than one dependent variable is involved, over 11% of the variance in DP/IS job satisfaction is explained by these variables.

Although the introduction of computing technologies has improved productivity, it also seems to cause less of job satisfaction. Insurance service representatives liked their jobs significantly less after a computerized information system was introduced. In the study by Kraut, Dumais, & Koch (1989), contact with colleagues became less frequent, and even though their overall work loads decreased, these workers experienced less interest and enjoyment on the job.

Job satisfaction is related to job enhancement. De-skilling is the chief concern among those who study how information technology affects enhancement. However, this variable has carried with it mixed conclusions. Attewell (1987) provides a well-grounded study of de-skilling using U. S. Bureau of Labor statistics data. He used several insurance industry case studies to examine the controversy more closely than statistics would allow. His data do not support the de-skilling hypothesis and show instead an upgrading of the insurance workplace from 1960 to 1980. In contrary, another study of the insurance industry by Kraut et al. (1989) found strong evidence that automation of the record system made jobs



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less complex and less interesting. In addition, the skills gained by service representatives who went on to become service managers became less relevant. Millman and Hartwick (1987) examined the impact of an automated office system on middle managers in Montreal, Canada. While the sample is poorly defined, the mailed survey drew responses from 75 of the 151 middle managers contacted from 14 different organizations. Respondents were asked to state whether automation had increased, decreased, or not affected 15 aspects of work. The aspects were derived from previous work and covered added elements about work interest, freedom and responsibility. The middle managers felt that automation had led to changes that without exception demanded more skill and accuracy but also increased work enrichment and satisfaction.

It is obvious that stress is negatively related to job satisfaction. In another study, Ivancevich, Napier and Wetherbe (1983) examined occupational stress among information systems personnel. A Stress Diagnostic Survey (SDS) instrument was specifically devised to assess: (1) stress factors; (2) various job-related attitudes; and (3) health behaviors among MIS personnel.

A total of 580 information systems personnel from 18 large corporations in the midwestern and southwestern sections of the U. S. completed the anonymous, multiple-item, self-report survey. The survey tapped a number of factors: stressors, job satisfaction, current health status, and demographic information (age, sex, level in company, year in the MIS field, et cetera). The respondents in the study ranged in age from 19 to 68 years with a mean age of 34 years. They had job experience ranging from 1 to 30 years in information systems. The average time with the present employer was 8 years. Job satisfaction was measured by using the 20-item Minnesota Satisfaction Questionnaire (MSQ) Short Form. A mean score of 3.59 was obtained. Although the study report did not give any account



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of the statistical analysis used, the authors conclude that the mean score of 3.59 indicates that information system professionals are reasonably satisfied with their jobs. However, this *reasonable satisfaction* is ambiguous and calls for further investigation.

One of the factors which research (e.g. Mobley, Griffeth, Hand, & Meglino, 1979) has consistently shown to be significantly related to turnover is job satisfaction. The research suggests that the greater the job satisfaction, the less the likelihood that the individual will leave the organization. Bartol (1983) examined the issue of turnover among computer specialists with the following as major variables of examination: Job satisfaction, organizational commitment, professionalism, and perceived organizational reward criteria. Participants were 250 members belonging to a subgroup or division of "a large national association of computer specialists" (p.808). The sample was drawn randomly from the subgroup membership list after members from foreign countries and memberships held by institutions had been removed from the membership roster. Data show that the average respondent engaged in some postgraduate studies, is between 35 and 39 years of age, and spent 3.94 years in a present position, 7.25 years in the present organization, and 13.41 years working full-time in the computer field. All but a few of the subjects were males. Job satisfaction was measured by the JDI. When analyzed using correlation analysis, the results of the study showed significant inverse relationship between turnover and job satisfaction ($r=0.404$; $p<0.001$). This study, however, seems to be an oversight of sex as a demographic factor, and does not identify the source of job dissatisfaction among computer specialists.

Following the mixed results associated with researches on CMCTs and job satisfaction and due to the paucity of literature on the same and the individual worker (both evident



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through the review of literature), the researcher, as his contribution to knowledge, has chosen to investigate more on the issues of job satisfaction and interpersonal orientation with CMCTs in focus.

## HYPOTHESES

In view of the statement of the problem, the following hypotheses are postulated:

- CMCTs usage will have no significant impact on user's Interpersonal Orientation
- CMCTs usage will have no significant impact on user's Job Satisfaction
- Gender will have no significant impact on user's Interpersonal Orientation
- Gender will have no significant impact on user's Job Satisfaction
- Job status will have no significant impact on user's Interpersonal Orientation
- Job status will have no significant impact on user's Job Satisfaction
- There would be no significant relationship between Interpersonal Orientation and Job Satisfaction.



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# CHAPTER THREE

# METHODOLOGY

## ❑ PARTICIPANTS

Three hundred participants (CMCTs users=148, non-users=152, males=186, females=114, senior staff=141, junior staff=159) were used for the study. These participants were drawn from 4 organizations (Shell Petroleum Development Coy, Elf Petroleum, Diamond Bank Ltd. & Citizens Bank Ltd.) that use CMCTs – all in Port Harcourt, Rivers State. The population was first stratified into CMCTs users and non-users, males and females, and senior and junior staff. From each of the strata, participants were systematically selected. The initial sample pool was 396 participants, but only 323 copies of the questionnaire were returned. Out of these 323, 23 were wrongly completed and thus removed; and the remaining 300 were finally used for the study.

## ❑ INSTRUMENTS

The Job Descriptive Index (JDI) (Smith, Kendall & Hulin, 1969) was used to measure job satisfaction; specifically, *satisfaction with the work itself* sub-scale – Part D, while the Interpersonal Orientation Scale (IOS) (Swap & Rubin, 1983), was used to measure interpersonal orientation. The choice of these instruments is not arbitrary.

The JDI is being widely used in satisfaction research. According to Landy (1989), it was very carefully developed and documented, is relatively easy for workers to use and understand, and relates logically and empirically to other measures of job satisfaction. Two studies (Johnson, Smith, & Tucker, 1982; Schneider & Dachler, 1978) among others have



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confirmed the reliability and validity of the JDI. In addition to the five separate scores for the various aspects of job satisfaction, it has also been suggested that the JDI can be used as a measure of general job satisfaction (Hulin, Drasgow, & Komocar, 1982; Parsons & Hulin, 1982). On the other hand, Swap and Rubin (1983) report that the Interpersonal Orientation Scale is reliable; the parameters of the construct agree in most ways with those developed theoretically by Rubin and Brown (1975). Its construct validity is further supported by correlation studies, which indicate that the scale correlates in appropriate and meaningful ways with other reported behaviour and individual difference measures.

## ❑ PROCEDURE

### *1. Pilot Study*

In order to adopt the JDI (Smith et al. 1969) and adapt the IOS (Swap & Rubin, 1983) to the Nigerian workplace, the instruments were jointly administered to 30 participants (18 males, 12 females; 16 senior staff, 14 junior staff) randomly selected from NITEL Plc (Port Harcourt Office). This administration was followed by an interview.

At the end of the interview, the researcher found out that the participants understood the items of the JDI; thus the scale was adopted. It was also noticed that most of the participants (about 90%) found items 4, 15 and 22 of the IOS confusing. After consulting with the researcher's supervisor and three more experts, these items were re-worded:

4. I am interested in knowing what makes people *tick* (behave the way they do).
15. I often find myself wondering what my *professors* (boss and colleagues) are really like.
22. Sitting on a bus *or a subway*, I sometimes imagine what the person sitting next to me does for a living.

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In items 4 and 15, the bracketed words replaced the italicized words while in item 22, the italicized words were removed entirely.

These word changes necessitated a re-validation of the IOS. A test-retest reliability was carried out at an interval of 5 weeks. The first test was administered to 35 participants (19 males, 16 females; 17 senior staff, 18 junior staff) randomly selected from NITEL Plc (Owerri Office). On the second test, the researcher was only able to reach 32 participants of the former 35.

The test-retest reliability co-efficient is 0.82 – a little above 0.76 of Swap and Rubin (1983). The corrected *r* is .90.

### 2 *Main Study*

The researcher administered the instruments simultaneously and, personally. Some of the responses of the participants were collected immediately while others later, depending on the convenience of the respondents.

## ▫ DESIGN/STATISTICS

*2x2x2* design and MANOVA statistical analysis were employed. According to Ellis and Haase (1987), multivariate (MANOVA) models are Analysis of Variance (ANOVA) model that are suitable for analysis of data from researches that give rise to more than one dependent variable, as in this study. Pearson *r* correlation statistical analysis was used to determine the relationship between interpersonal orientation and job satisfaction.



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# CHAPTER FOUR

# RESULT

- *Table i: Mean scores of variables with levels and sub-levels*

| | | | | IO | | JS | |
|---|---|---|---|---|---|---|---|
| **Usage** | **Gender** | **Status** | **N** | **Mean** | **Std. D** | **Mean** | **Std. D** |
| *Users* | Male | Senior | **47** | 93.4 | 6.87 | 79.0 | 13.99 |
| | | Junior | **49** | 93.92 | 5.311 | 73.23 | 9.046 |
| | Female | Senior | **28** | 96.0 | 5.36 | 77.0 | 12.99 |
| | | Junior | **24** | 97.0 | 4.04 | 77.0 | 9.2 |
| **Non** | Male | Senior | **39** | 94.1 | 5.1 | 54.41 | 43.0 |
| | | Junior | **51** | 93.51 | 7.4 | 43.0 | 9.7 |
| | Female | Senior | **43** | 101.2 | 7.0 | 61.0 | 13.4 |
| | | Junior | **19** | 104.0 | 7.1 | 43.0 | 12.6 |
| **Overall** | Male | Senior | **86** | 93.75 | 6.0 | 66.70 | 28.5 |
| | | Junior | **100** | 93.7 | 6.36 | 58.12 | 9.37 |
| | Female | Senior | **71** | 98.6 | 6.18 | 69 | 13.2 |
| | | Junior | **43** | 100.5 | 5.57 | 60 | 10.9 |
| | *Total Participants* | | **300** | 96.64 | 6.02 | 63.46 | 15.5 |

- *Table ii: MANOVA Table showing the effect of CMCTs Usage on Interpersonal Orientation and Job Satisfaction*

| *Test Name* | *Value* | *df* | *Error df* | *F* | *Sig. of F* |
|---|---|---|---|---|---|
| *Pillais* | .51122 | 2 | 291 | 152.182 | .001 |
| *Hotellings* | 1.04592 | 2 | 291 | 152.182 | .001 |
| *Wilks* | .48878 | 2 | 291 | 152.182 | .001 |
| *Roys* | .51122 | | | | |

The above stated result shows that CMCTs usage has a significant effect on IO and JS jointly.



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- *Table iii: MANOVA Table showing the effect of Gender on Interpersonal Orientation and Job Satisfaction*

| *Test Name* | *Value* | *df* | *Error df* | *F* | *Sig. of F* |
|---|---|---|---|---|---|
| *Pillais* | .14245 | 2 | 291 | 24.17 | .001 |
| *Hotellings* | .16611 | 2 | 291 | 24.17 | .001 |
| *Wilks* | .85755 | 2 | 291 | 24.17 | .001 |
| *Roys* | .14245 | | | | |

From the result above, it is deducible that gender has a significant effect on IO and JS, jointly.

- *Table iv: MANOVA Table showing the impact of Job Status on Interpersonal Orientation and Job Satisfaction*

| *Test Name* | *Value* | *df* | *Error df* | *F* | *Sig. of F* |
|---|---|---|---|---|---|
| *Pillais* | .10167 | 2 | 291 | 16.47 | .001 |
| *Hotellings* | .11318 | 2 | 291 | 16.47 | .001 |
| *Wilks* | .89833 | 2 | 291 | 16.47 | .001 |
| *Roys* | .10167 | | | | |

The result table shows that job status has a significant impact on IO and JS, jointly.



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- *Table v: Univariate Analysis of Variance Summary Table For Interpersonal Orientation*

| Source of Variance | SS | DF | MS | F | Sig F |
|---|---|---|---|---|---|
| Usage (A) | 534.82 | 1 | 534.82 | 13.5 | .001 |
| Gender (B) | 1868.96 | 1 | 1868.96 | 47.20 | .001 |
| Job Status (C) | 38.11 | 1 | 38.11 | 0.96 | NS |
| A x B | 488.80 | 1 | 488.80 | 12.34 | .001 |
| A x C | 0.67 | 1 | 0.67 | 0.17 | NS |
| B x C | 40.56 | 1 | 40.56 | 1.02 | NS |
| A x B x C | 24.08 | 1 | 24.08 | 0.61 | NS |
| Error | 11567.64 | 292 | 39.62 | | |
| Total | 14563.64 | 299 | | | |

The above table shows that CMCTs usage and gender have significant impact on Interpersonal Orientation, respectively, while job status does not. Thus the 1st and 3rd null hypotheses (Ho) are rejected, while the 5th null hypothesis (Ho) is accepted. Gender and CMCTs usage show a significant interaction effect on Interpersonal Orientation.



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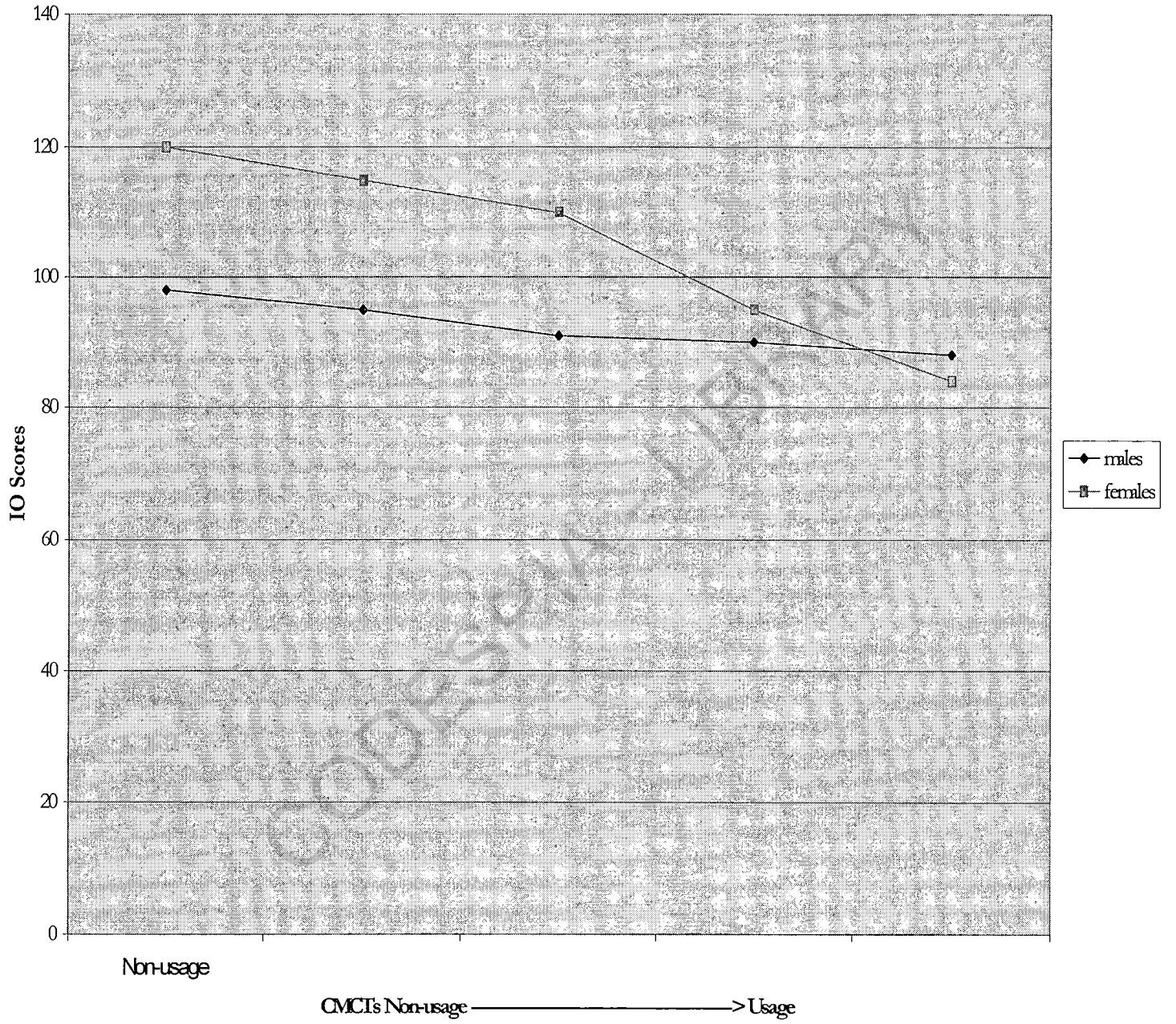
*Fig. 1: CMCTs Usage and Gender Interaction on Interpersonal Orientation*

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❑ *Table vi: Univariate Analysis of Variance Summary Table For Job Satisfaction*

| Source of Variance | SS | DF | MS | F | Sig F |
|---|---|---|---|---|---|
| Usage (A) | 39144 | 1 | 39144 | 289.43 | .001 |
| Gender (B) | 222.3 | 1 | 222.3 | 1.64 | NS |
| Job Status (C) | 4309.41 | 1 | 4309.41 | 31.86 | .001 |
| A x B | 69.10 | 1 | 69.10 | 0.51 | NS |
| A x C | 2160.33 | 1 | 2160.33 | 16.00 | .001 |
| B x C | 5.24 | 1 | 5.24 | 0.04 | NS |
| A x B x C | 575.10 | 1 | 575.10 | 4.25 | NS |
| Error | 39492 | 292 | 135.25 | | |
| Total | 85977.48 | 299 | | | |

The above table shows that CMCTs usage and job-status have significant impact on Job Satisfaction, respectively, while gender does not. Thus the 2nd and 6th null hypotheses (Ho) are rejected, while the 4th null hypothesis is accepted. Job Status and CMCTs usage show a significant interaction effect on Job Satisfaction.



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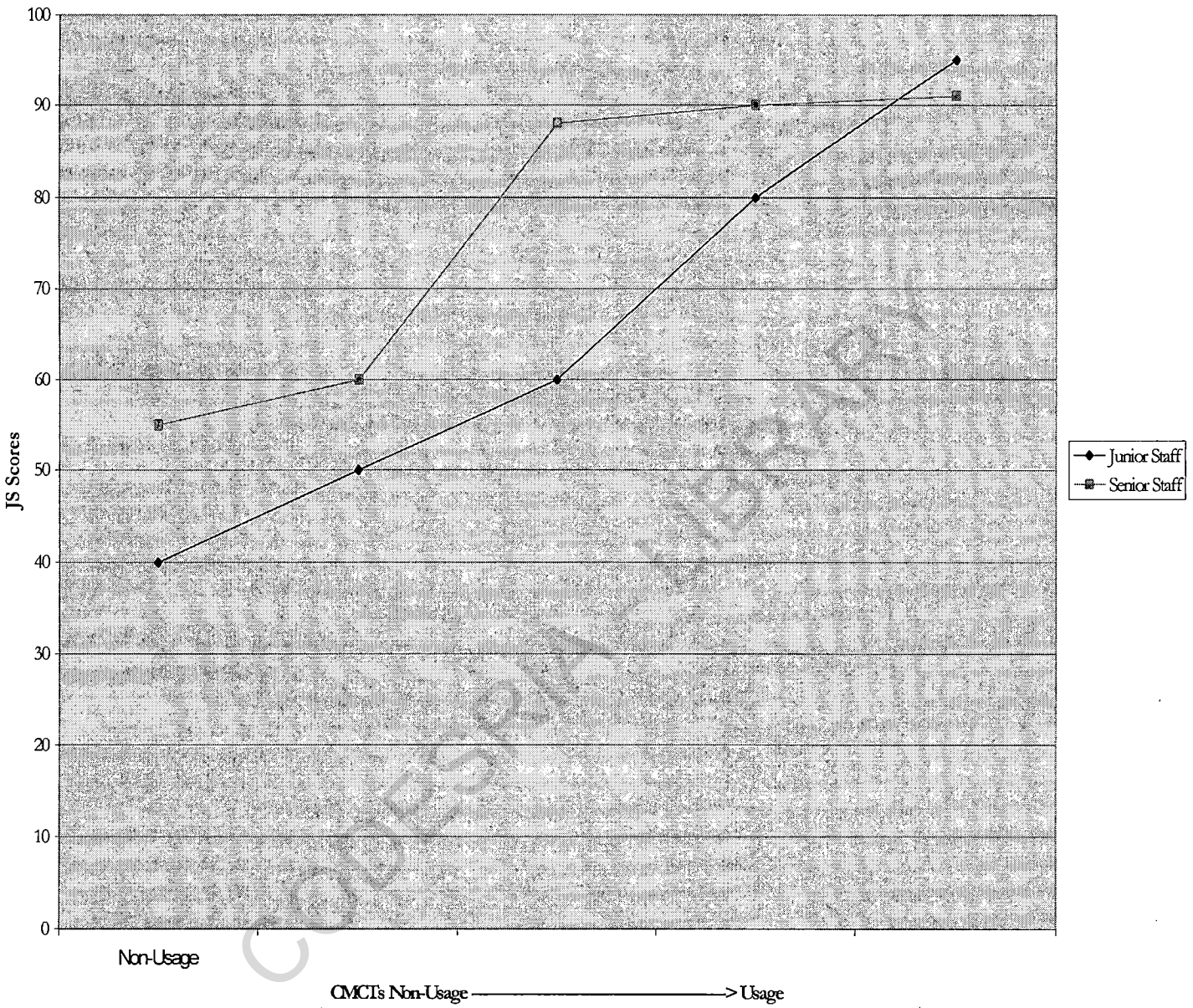
*Fig.2: CMCTs Usage and Job Status Interaction on Job Satisfaction*

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❑ *Table vii: A 2x2 Table showing the relationship between Interpersonal Orientation and Job Satisfaction*

| | *Interpersonal Orientation (IO)* | *Job Satisfaction (JS)* |
|---|---|---|
| *Interpersonal Orientation (IO)* | 1 | -.1644 |
| *Job Satisfaction (JS)* | -.1644 | 1 |

The table shows a very weak and negligible relationship (about 2.5%) between interpersonal orientation and job satisfaction ($p > .05$). Thus the 7th alternate hypothesis ($H_1$) is accepted.

## SUMMARY OF THE RESULTS

CMCTs usage showed significant impacts on both IO and JS. Gender showed a significant impact on IO, but not on JS; while job status showed significant impact on JS, but not on IO. No significant relationship was found between IO and JS. There exist significant interaction effects of gender and CMCTs usage; and job status and CMCTs usage, respectively, on IO and JS. Job status and gender did not show any significant interaction effect on IO and JS.



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# CHAPTER FIVE

# DISCUSSION

The results of this study show clearly that CMCTs usage has a significant effect on interpersonal orientation (IO) and job satisfaction (JS). CMCTs users scored significantly higher (m= 76.4) than non-users (m= 50.28, p< .001) on JS, while non-users scored significantly higher (m=98.10) than users (95.06, p< .001) on IO. These results disagree with the findings of Kraut et al. (1989) that the introduction of computer technologies into the workplace causes less of job satisfaction; but instead corroborate some survey studies on the impacts of CMCTs on JS (e.g. Albertson, 1974; Williams, 1973; Duncanson & Williams, 1973), which have typically reported that more than 90% of users profess to be highly satisfied with such facilities. These also support the findings of Ivancevich et al. (1983) that information system professionals are reasonably satisfied with their jobs.

However, this satisfaction arising from usage can be examined from Herzberg's (1959) two-factor theory of job satisfaction. According to the two-factor theory, the following factors are related to good feelings about a job: achievement and recognition, the nature of the work itself, responsibility, advancement, and salary. These factors according to Herzberg, are the primary causes of job satisfaction. CMCTs add to the nature of the work itself and thus would necessarily enhance job satisfaction as theorized by Herzberg et al. (1959). Viewed also from Locke's (1976) concept of *job-satisfaction-component-importance*, it is reasonable, therefore, to expect that job satisfaction is not the simple sum of satisfactions with individual elements of the job. Thus, if CMCTs usage is extremely important to one and pleasant co-workers are relatively unimportant, CMCTs usage should play a greater role in determining ones overall satisfaction than pleasant co-workers. In other words one



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can comfortably assert that the level of job satisfaction expressed by users of CMCTs is directly related to the importance they attribute to such usage.

On the other hand, that non-users scored higher than CMCTs users on IO variable is consistent with Rubin and Brown's (1975) theorizing and Swap and Rubin (1983) finding that object-oriented majors are likely to score low on IO. CMCTs users' more satisfaction with their jobs shows their interest in computer application and science – an object-oriented major. Similarly, Rice and Case (1983) in their study of University administrators using e-mails, rated the medium as most inappropriate for interpersonal tasks such as bargaining or getting to know someone. Sproull and Kiesler (1986) have also found out that CMCTs users are relatively self-absorbed; they focus more on themselves (high use of the pronouns "I" and "my") than on others or on work. This finding strengthens Morley and Stephenson (1970) suggestion that in certain circumstances, CMCTs may depersonalize conversations so that , in a negotiation for example, a speaker will be less aware of the impact of what he says on his opposite number. He will know less about how the other feels about his statements and, hence, the conversation will more likely concentrate on the issues dividing the parties. In a similar effort, Stephenson et al. (1976) predicted that in comparison with face-to-face conversations, conversations by audio link would be *depersonalized* and *task-oriented.* Report supported both hypotheses. Thus they conclude that "... absence of visual communication formalizes speech and concentrates the mind on the issues rather than the people" (p.119). These issues of self-centeredness and speech formalization will invariable reduce users' IO.

The result of the study also shows that gender has a significant effect on IO but not on JS. Females scored significantly higher on IO ($m = 99.44$) than males ($m = 93.73$, $p < .001$).



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Swap and Rubin (1983) also found a difference between the scores of males (m= 97.55) and females (m= 101.95) on IO. This finding is also in consonant with Rubin and Brown's (1975) theorizing.

On the other hand, given the fact that the organizations used in this study are among the well-paying organizations in the Nigerian standard, the issue of women (m= 64.32) being as job satisfied as men (62.35 p< .001) goes a long way to affirm the opinion of Smith et al. (1969) that "... with a comparable level of income, women are as satisfied as men" (p. 96).

Deducible from the result of the study, also, is the fact that job status has a significant effect on JS. Senior staff scored significantly higher (m= 67.67) than junior staff (m= 59.00, p < .001) on JS. However, the issue of job status in relation to JS is very much confounded by some variables like level of education, job tenure, and pay (Smith et al., 1969). From every indication, therefore, it is most likely that the senior staff would be more educated, longer on the job and paid more than junior staff. In other words the sole effect of job status on job satisfaction cannot easily be accounted for, unless some of these confounding variables are controlled. Despite this confounding effect, it is still evident, drawing from Herzberg (1959), that recognition, responsibility and advancement characteristics of high job status are likely to account for this significant difference. The insignificant difference between the scores of senior (m= 96.00) and junior (m= 97.00, p< .001) staff on IO does not corroborate an opinion put forward by Swap and Rubin (1983) that low-power (high-OI) people (e.g. junior staff) may be more interpersonally responsive because their lives are more likely to be affected by the actions of their superiors (p. 218).

The findings of the study do not identify any significant relationship between IO and JS.



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## IMPLICATIONS OF THE STUDY

Information Technology (IT) is the technology of our time. Like every other technology, it is likely to show its impacts on all sectors of the society, working life, home and private life, leisure activities, administration, and community life. This study assessed the impact of IT through CMCTs on the working life; and the results established that CMCTs have significant effect on IO and JS. These results imply that organizations should seriously consider CMCTs usage in relation to user's gender and job status in their choice and implementation of CMCTs. The study also implies a proper personnel selection for jobs involving CMCTs usage especially for the benefits of the individual workers as well as those of the organizations – the goal of personnel psychology.

## LIMITATIONS OF THE STUDY

- A major limitation of this study is the smallness of the samples. Given time and money, the samples would have been drawn from varied and many organizations across Nigeria to strengthen the generalizability of the findings.

- There is every possibility that the novelty of CMCTs in the Nigerian workplace might have instigated some personal biases and prejudices in relation to these technologies. These biases and prejudices associated with technological change are most likely to affect the perceptions and feelings of the participants used for the study.

- Since the study was a survey research, it is also possible that some extraneous variables – e.g. socio-economic and personality factors – would have contributed to the findings.



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## SUGGESTIONS

In view of the limitations recorded in the study, the researcher hereby makes the following suggestions:

- A study of the effects of CMCTs usage on IO and JS should incorporate varied organizations and not limited to the financial institutions and oil industries.
- A controlled experimental study will invariably yield more trustworthy results than a survey of this kind.
- It is also advisable to follow-up studies in CMCTs usage as the application grows and widens in Nigeria. This will at least help check results likely to arise from biases and prejudices associated with the novelty of CMCTs.

## SUMMARY AND CONCLUSION

This study investigated the effect of CMCTs on user's IO and JS. The JDI and IOS were used to measure participants' JS and IO, respectively.

A total of 300 participants (186 males, 114 females, 148 CMCTs users, 152 non-users, 141 senior staff and 159 junior staff) drawn from Shell Petroleum Development Company (SPDC), Elf Petroleum, Diamond Bank Limited, and Citizens Bank Limited all in Port Harcourt, Rivers State were used in the study. The major instrument of data collection was the questionnaire. MANOVA statistics was used for the analysis of data.

Seven hypotheses were postulated and tested by the researcher. The first two hypotheses proved significant and it was concluded that CMCTs usage has an impact on IO and JS. This means that CMCTs user and non-users differ somewhat in their levels of IO and JS. Gender

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affects user's IO but not JS while job status affects JS but not IO. The final hypothesis showed a very weak and negligible relationship (c.a. 2.5%) between IO and JS and it was accepted that no relationship exists between IO and JS. The implications of these findings and the limitations of the study were highlighted, and suggestions proffered thereafter.

Finally and however it may be, it is worth-while to point out that in addition to the findings of this study, there are more to CMCTs usage than JS and IO. Thus this study should serve as an encouragement for further investigations into the impacts of CMCTs usage on the individual. This encouragement is further orchestrated especially at this point in time, the Nigerian electronic market is witnessing a sudden jump in user-demand of information technology (IT) accessories.



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*APPENDIX*

Department of Psychology
University of Nigeria
Nsukka.

September 20, 1999

Dear Sir/Madam,

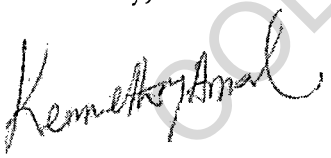
I am a postgraduate student of Industrial/Organizational Psychology, University of Nigeria, Nssuka, carrying out a research on the *Impact of Computer-Mediated Communication technologies (CMCTs) on user's Interpersonal Orientation and Job Satisfaction.*

I shall be very much pleased if you would kindly complete the attached questionnaire at your earliest convenience.

Be assured that your responses shall be highly classified, confidential and shall not form part of any public discussion outside academics.

Thanks for your co-operation.

Yours truly,



Amaeshi, Kenneth Michael
PG/M.Sc/96/22989



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## *QUESTIONNAIRE*

### ❑ *Personal Data*

1. Organization:
2. Gender:
3. Position (Junior or Senior staff):
4. Do you use Computer Communication Technologies (e.g. bulletin board, computer conferencing, e-mail, fax, teleconferencing, video telephone, et cetera) YES or NO?:

### ❑ *Part 1: The Interpersonal Orientation Scale*

*SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree.*

| | *SA* | *A* | *N* | *D* | *SD* |
|---|---|---|---|---|---|
| I would rather think about a personal problem by my self than discuss it with others. | | | | | |
| I consider myself a forgiving person. | | | | | |
| Other people are the source of my greatest pleasure and pain. | | | | | |
| I am interested in knowing what makes people behave the way they do. | | | | | |
| When I receive a gift, I find myself thinking about how much it must be worth. | | | | | |
| Under no circumstances would I buy something I suspected had been stolen. | | | | | |
| I am greatly influenced by the moods of the people I am with. | | | | | |
| Sometimes the most considerate thing one person can do for another is to hide a bit of the truth. | | | | | |
| Sometimes simply talking about things that bother me makes me feel better – regardless of who, if anyone, hears these thoughts. | | | | | |
| My friends and I seem to share the same musical interests. | | | | | |
| I am reluctant to talk about my personal life with people I do not know well. | | | | | |
| I generally view myself as a person who is not terribly interested in what other people are really like. | | | | | |
| Sometimes I think I take things that other people say to me too personally. | | | | | |
| It's important for me to work with people with whom I get along well, even if that means I get less done. | | | | | |
| I often find myself wondering what my boss and colleagues are really like. | | | | | |
| If I were to share an apartment with somebody, I would want to find out about the person's family background, hobbies, and so forth. | | | | | |
| I would prefer to do poorly on an exam that is machine scored rather than do equally poorly on one that is graded by the instructor. | | | | | |
| I tend to like people who are good looking. | | | | | |
| What others think about my actions is of little or no consequence to me. | | | | | |
| The more other people reveal about themselves, the more inclined I feel to reveal things about myself. | | | | | |
| When someone does me a favour I don't usually feel compelled to return it. | | | | | |
| Sitting on a bus, I sometimes imagine what the person sitting next to me does for a living. | | | | | |
| The more I am with others, the more I tend to like them. | | | | | |
| I would rather be given a simple and thoughtful gift than a more extravagant one that involved less thought and care. | | | | | |
| I am very sensitive to criticism. | | | | | |
| When people tell me personal things about themselves, I find myself feeling close to them. | | | | | |
| One good turn does not necessarily deserve another. | | | | | |
| I can be strongly affected by someone smiling of frowning at me. | | | | | |
| I find myself wondering what telephone operators are really like. | | | | | |



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## ❑ *Part 2: The Job Descriptive Index – D: Satisfaction with Work in itself*

Think of your present work. What is it like most of the time? In the blank beside each word given below, write:

Y for "Yes" if it describes your work.
N for "NO" if it does NOT describe it.
? if you cannot decide.

-----Work on the Present Job
-----Fascinating
-----Routine
-----Satisfying
-----Boring
-----Good
-----Creative
-----Respected
-----Hot
-----Pleasant
-----Useful
-----Tiresome
-----Healthful
-----Challenging
-----On your feet
-----Frustrating
-----Simple
-----Endless
-----Gives sense of accomplishment



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