



# MOTIVATION FOR USING INFORMATION TECHNOLOGY

Donaldo de Souza Dias

Federal University of Rio de Janeiro, COPPEAD - Graduate School of Business, P. O. Box 68514, Rio de Janeiro, 21949-900, Brazil  
Phone: +55(21)598-9859, Fax: +55(21)598-9848, Email: donaldo@coppead.ufrj.br

## ABSTRACT

Data gathered from MBA students, undergraduate students in business administration and school students were utilized to test the motivation for using microcomputers. Three motivators were investigated: perceived usefulness, perceived ease of use and perceived enjoyment. The results suggest that school students have greater enjoyment in using microcomputers than MBA and undergraduate students do, and that undergraduate students in business administration have the greatest perception of the usefulness of microcomputers.

## INTRODUCTION

Information technology implementation is an intervention we make in order to improve the effectiveness and efficiency of a socio-technical system. Using computers to help individuals perform their jobs and tasks is one of the most important actions we take when implementing this technology effectively. Effectiveness of information systems has been extensively studied using, mainly, user satisfaction and quality of information constructs to evaluate users' acceptability (Gatian, 1994; Ives et al., 1983; Jenkins & Ricketts, 1985; Neumann & Segev, 1979). However, sometimes the result of this intervention is not successful at all and may even generate difficulties related to people participation in this process. This leaves us with a question: What motivates individuals to use computer technology in their daily activities? What is the motivational gap among people who belong to different strata of educational level and age?

According to Igbaria et al. (1996), the actual usage of microcomputers has tended to lag, and the potential benefits of these technologies have not been fully realized. Theorists and empirical researchers have been trying to understand the relevant motivators for the implementation and use of computer technology (Adams et al., 1992; Davis, 1989; Igbaria et al., 1995; Igbaria et al., 1996; Moore & Benbasat, 1991). Deci (1975) states that individuals expend effort due to both intrinsic and extrinsic motivation. However, according to Igbaria et al. (1995) "less thought is given to the individual's intrinsic reasons for accepting computer technology".

In this study we intend to generate information for future research on the motivation for using information technology among different classes of users. We focus on the three main motivators studied in the literature: *perceived usefulness* (Adams et al., 1992; Igbaria et al., 1995; Moore & Benbasat, 1991), *perceived ease of use* (Davis, 1989; Igbaria et al., 1995), and *perceived enjoyment* (Igbaria et al., 1995; Igbaria et al., 1996). We aim at finding out how Brazilian graduate, undergraduate and school students feel on the usefulness, ease of use and enjoyment in working with computers.

## RESEARCH HYPOTHESES AND VARIABLES

Computer usage is determined by intrinsic as well as extrinsic motivation (Deci 1975; Igbaria et al. 1995; Igbaria et al. 1996). Level of education and age has shown influence on microcomputer attitudes (Igbaria & Parasuraman, 1989). In this study we intend to find out how graduate, undergraduate and school students, which represent very specific strata of educational level and age, differ on the motivational factors focused in this research. We will test this through the following null hypotheses:

- *H1*: there is no difference in the perceived usefulness for using microcomputers among graduate, undergraduate and school students;
- *H2*: there is no difference in the perceived ease of use of microcomputers among graduate, undergraduate and school students;
- *H3*: there is no difference in the perceived enjoyment for using microcomputers among graduate, undergraduate and school students.

We used the following constructs for measuring perceived usefulness, perceived ease of use and perceived enjoyment, which were measured using the instrument developed by Dias (1998).

- *perceived usefulness* - the degree to which an individual believes that using a particular system would enhance his or her job performance (Davis, 1986);
- *perceived ease of use* - the degree to which an individual believes that using a particular system would be free of physical or mental effort (Davis, 1986);
- *perceived enjoyment* may be defined as the extent to which the activity of using the computer is perceived as being enjoyable in its own right, apart from any performance consequences that may be anticipated (Davis et al., 1992).

## METHODOLOGY

The data for this study was gathered using a questionnaire, written in Portuguese, administered personally to:

- Fifty-three Executive MBA students of a leading public university. Respondents held mainly managerial positions (83%) in forty-three companies, ranging from small firms to large corporations, located in the Rio de Janeiro region. The average age of respondents was thirty-six and they had eleven years average working experience. All the participants were college graduates.
- Forty-six students aiming to degrees in business administration in a private university located in the Rio de Janeiro region, some of them already working part time. The average age of respondents was twenty-two years old.
- Thirty-nine elementary and middle school students enrolled from 4<sup>th</sup> to 8<sup>th</sup> grades, studying in private (82%) and public schools located in the city of Rio de Janeiro. The average age of respondents was eleven years old.

The questionnaire contained randomly presented statements related to user's perceptions on usefulness, ease of use and enjoyment regarding the usage of microcomputers, as shown in Table 1. The questionnaire was designed to be comprehensible to both adults and young people who use computers to perform their daily tasks.

We made the questionnaire as simple as possible. No writing was needed. The respondents had only to mark the desired answer in the questionnaire. There was always a person present during the data collection process to help in the filling of the questionnaire and to explain, if necessary, the meaning of the terminology used.

**Table 1 -Statements on user’s perceptions**

	Fully disagree	Fully agree
	1 2 3 4 5 6 7	
1.- I do not see time go by when I am using a computer	1	7
2.- Using computers enables me to accomplish my tasks more quickly	1 2 3 4 5 6 7	
3.- I find it is easy to use a computer to do my work	1 2 3 4 5 6 7	
4.- Using computers is fun	1 2 3 4 5 6 7	
5.- Using computers improves my job productivity	1 2 3 4 5 6 7	
6.- Using computers makes it easier to perform my tasks	1 2 3 4 5 6 7	
7.- Using computers is exciting	1 2 3 4 5 6 7	
8.- Using computers increases the quality of my work	1 2 3 4 5 6 7	
9.- I think it is easy to use computers	1 2 3 4 5 6 7	
10.- Using computers is pleasant	1 2 3 4 5 6 7	
11.- I find computers useful for my job	1 2 3 4 5 6 7	
12.- I think we should use computers as much as possible	1 2 3 4 5 6 7	

Factor analysis confirmed that these statements for usefulness, ease of use, and enjoyment constituted three distinct perception constructs. It confirmed the existence of three factors with eigenvalues greater than 1.0 that accounted for 63.5 % of the total variance for the 138 interviewed people. The used scales had good internal consistency reliability (Crombach alpha coefficient): usefulness,  $\alpha = 0.81$ ; ease of use,  $\alpha = 0.82$ ; enjoyment,  $\alpha = 0.70$ .

**RESULTS**

Table 2 presents the average value for each perception construct and Figure 1 shows the motivational profile for graduate, undergraduate and elementary students on the usage of computers.

**Table 2. Motivation level**

	Graduate	Undergraduate	School	Total sample
<b>Perceived usefulness</b>	<b>6.17</b>	<b>6.46</b>	5.19	5.99
<b>Perceived ease of use</b>	5.38	6.10	5.61	5.68
<b>Perceived enjoyment</b>	4.62	4.89	<b>5.72</b>	5.02

MBA and undergraduate students were most motivated by computer technology usefulness. The greatest individual motivator for these two groups was “*I find computers useful for my job*” (mean 6.42 and 6.72, respectively). School students enjoyed most the play aspects of microcomputers. The greater individual motivator for them was “*Using computers is pleasant*” (mean = 6.46). According to the ANOVA test, the null hypotheses *H1*, *H2* and *H3* were rejected (significance level:  $p < 0.05$ ).

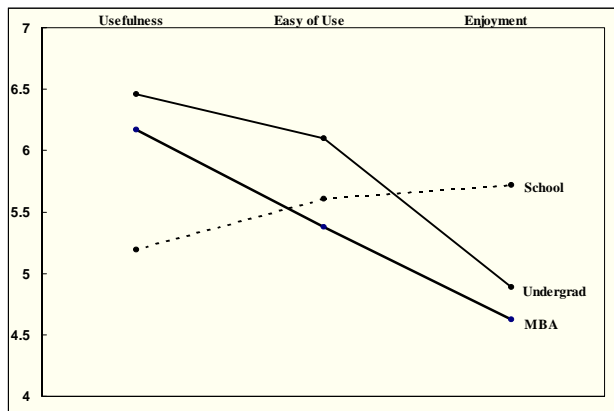


Figure 1 – User’s motivational profile

**CONCLUSION**

The research described here offers several contributions for theory and practice. The study analyzed three motivators for computer technology usage by management, undergraduate and school students: perceived usefulness, perceived ease of use and perceived enjoyment. MBA and undergraduate students said they used microcomputers mainly because they perceived it as a useful tool for their jobs, it increased the quality of their work, and they could accomplish tasks more easily and quickly. School students emphasized the ease and play aspects of microcomputers.

The three null hypotheses tested in our study were rejected. There is difference in the usefulness, ease of use and enjoyment for using microcomputers among graduate, undergraduate and school students. School students have greater enjoyment in using microcomputers than MBA and undergraduate students in business administration do. MBA students are the ones who least enjoy less using microcomputers. Undergraduate students in business administration perceive greater usefulness in the usage of microcomputers than MBA and school students do. School students foresee the least utility in the microcomputer usage. Undergraduate students in business administration think it is easier to use microcomputers than MBA and school students do. MBA students are the ones that think is most difficult to use microcomputers in their daily tasks.

Although managers showed less unanimity on the motivating power of enjoying themselves while using computer technology, this motivating factor clearly showed its importance. Enjoyment seems to act more as intrinsic motivation, while usefulness seems to be linked to a feeling of obligation, something the society expects us to do or attain. The operational reality of organizations probably prioritizes, for adults, the usefulness of computer usage over the pleasure of using them.

**REFERENCES**

Adams, D., Nelson, R. & Todd, P. (1992), “Perceived usefulness, ease of use, and usage of information technology: a replication”, *MIS Quarterly*, 16, p.227-247.

Davis, F. (1986), *A technology acceptance model for empirically testing new end user information systems: theory and results*, Unpublished Doctoral Dissertation, MIT.

Davis, F. (1989), “Perceived usefulness, perceived ease of use, and user acceptance of computer technology”, *MIS Quarterly*, 13, p.319-340.

Davis, F., Bagozzi, R. & Warshaw, P. (1992), “Extrinsic and intrinsic motivation to use computers in the workplace”, *Journal of Applied Social Psychology*, 22, p.1111-1132.

Deci, E. (1975), *Intrinsic Motivation*, New York: Plenum.

Dias, D. (1998), “Managers’ Motivation for Using Information Technology”, *Industrial Management & Data Systems*, 7/8, p. 338-342.

Gatian, A. (1994), “Is user satisfaction a valid measure of systems effectiveness?”, *Information & Management*, 26, p.119-131.

Igbaria, M., Iivari, J. & Maragahh, H. (1995), “Why do individuals use computer technology? A Finnish case study”, *Information & Management*, 29, p.227-238.

Igbaria, M. & Parasuraman, S. (1989), “A Path analytic study of individual characteristics, computer anxiety and attitudes toward microcomputers”, *Journal of Management*, 15, p.373-388.

Igbaria, M., Parasuraman, S. & Baroudi, J.J. (1996), “A

motivational model of microcomputer usage”, *Journal of Management Information Systems*, 13, p.127-143.

Ives, B., Olson, M. & Baroudi, J. (1983), “The Measurement of User Information Satisfaction”, *Communications of ACM*, 26, p.785-793.

Jenkins, M. & Ricketts, J. (1985), “Development of an MIS Satisfaction Questionnaire: An Instrument for Evaluating User satisfaction with Turnkey Decision Support Systems”, *Indiana Uni-*

*versity Discussion Paper 146.*

Moore, G. & Benbasat, I. (1991), “Development of an instrument to measure the perceptions of adopting an information technology innovation”, *Information Systems Research*, 2, p.192-222.

Neumann, S. and Segev, E. (1979), “A Case Study of User Evaluation of Information Characteristics for Systems Improvement”, *Information & Management*, 2, p.271-278.

0 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/proceeding-paper/motivation-using-information-technology/31636](http://www.igi-global.com/proceeding-paper/motivation-using-information-technology/31636)

## Related Content

---

### IoT Setup for Co-measurement of Water Level and Temperature

Sujaya Das Gupta, M.S. Zambare and A.D. Shaligram (2017). *International Journal of Rough Sets and Data Analysis* (pp. 33-54).

[www.irma-international.org/article/iot-setup-for-co-measurement-of-water-level-and-temperature/182290](http://www.irma-international.org/article/iot-setup-for-co-measurement-of-water-level-and-temperature/182290)

### Open Data and High-Tech Startups Towards Nascent Entrepreneurship Strategies

Fotis Kitsios and Maria Kamariotou (2018). *Encyclopedia of Information Science and Technology, Fourth Edition* (pp. 3032-3041).

[www.irma-international.org/chapter/open-data-and-high-tech-startups-towards-nascent-entrepreneurship-strategies/184015](http://www.irma-international.org/chapter/open-data-and-high-tech-startups-towards-nascent-entrepreneurship-strategies/184015)

### The View of Systems Thinking of Dr. James Courtney, Jr.

David Paradice (2009). *International Journal of Information Technologies and Systems Approach* (pp. 70-75).

[www.irma-international.org/article/view-systems-thinking-james-courtney/2547](http://www.irma-international.org/article/view-systems-thinking-james-courtney/2547)

### New Factors Affecting Productivity of the Software Factory

Pedro Castañeda and David Mauricio (2020). *International Journal of Information Technologies and Systems Approach* (pp. 1-26).

[www.irma-international.org/article/new-factors-affecting-productivity-of-the-software-factory/240762](http://www.irma-international.org/article/new-factors-affecting-productivity-of-the-software-factory/240762)

### Signal Processing for Financial Markets

F. Benedetto, G. Giunta and L. Mastroeni (2015). *Encyclopedia of Information Science and Technology, Third Edition* (pp. 7339-7346).

[www.irma-international.org/chapter/signal-processing-for-financial-markets/112431](http://www.irma-international.org/chapter/signal-processing-for-financial-markets/112431)