The Factors Affecting the Relationship between Scientific Productivity and Email Use among University

Scholars

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Abstract:

Scholars are major consumers of vast amounts of information, and their ability to process it quickly and effectively is "mission-critical" to their researched and teaching activities. Keeping track of new information is no easy task in our cluttered digital world. It has been observed that academic-based scholars are confronted with evergreater amounts of email. Incoming messages can be of a personal or professional nature, advertising and spam. Senders include colleagues, research partners, fellow academics and students, as well as family and friends. As email becomes more entrenched in the workplace, scholars are called upon to invest increasing time managing their email, which is often open on the desktop throughout the day, acting as an alert system.

Computer-Mediated Communication (CMC) technologies benefit knowledge workers in all settings. This is especially true for university scholars, with their need to communicate with peers and to have access to current and relevant scholarly information, potentially impacting on the productivity of their scientific endeavors. Since its invention, we have seen a steady quantitative growth of email use, for society as a whole and for the academic community in particular. This trend continues today. Nowadays, email use is ubiquitous in the university, though not all university-based scholars manage their email correspondences equally.

Scholars, as knowledge workers, receive more information than they need and delete many incoming email messages without adequately scanning them first, inadvertently missing potentially important information. Not only does this *email overload* not contribute to competent work processes, by diminishing one's capacity to reason and make decisions, it is counter-productive to their work, incurring possible economic

loss. If scholars are to perform efficiently they must be empowered to examine all

relevant incoming messages and respond in a rational and timely way.

The purpose of this study was to look at productivity measures of individual

university scholars (publication and grant counts) and measures of the use and

management of email and to determine whether or not a correlation between the two

variables exists; to what extent email use is associated with scholarly productivity.

The data was gathered from information management systems of Bar-Ilan University

and a survey questionnaire. The scholarly community of Bar-Ilan University was

surveyed; the n was 390. Statistical analysis included univariate, bivariate and

multivariate analyses, and was performed with the SPSS package.

Most previous studies limited measurement of email use to the amount of messages

sent in a day, and to whether or not membership entries in association directories

contained an email address. This study goes beyond the existing research in the nature

of the variables, the scope of the study population and the depth of analysis.

Univariate and bivariate analyses of data were used to assess the correlation between

email use and scientific productivity. Pearson's Chi Square and Spearman's Rho were

used to analyze many of the bivariate relationships. Chi square tests were used to help

determine a relationship between rank and discipline and to determine gender

differences in the responses to the variables. Chi-Square was also used to test whether

CMC users were disproportionately represented in certain groups, such as rank,

academic status, and gender. t-tests and ANOVA were used to determine productivity

by looking at the quantity of messages sent and the extent to which email is used for

professional tasks. Multivariate regression techniques including MANOVA were used

to examine the statistical relationship between email usage and productivity. Cross

tabulations were used to examine return variations between academic disciplines.

ANOVA were performed to test differences of perceptions and to test differences

among group means.

This study confirmed the major findings of previous research in this domain: there is a

direct relationship between the use of email and the productivity levels of academics.

Evidence suggests that the direction of this relationship is that productivity is

dependent on email communication, to a certain degree. Among various demographic

population groups – gender, age, disciplinary – variance still exists, but the gaps are

decreasing.

We conclude from the evidence of this examination that with increased email usage

for work-related purposes one is indeed a more productive scholar. Email is mediating

the work of science, as it is mediating all knowledge work and knowledge workers.

The significance of this study is in two principal areas: bringing awareness to the

university scientist of email management issues and empowering information

professionals to provide better service to the scholars. Through this study, it is

anticipated that information professionals will be informed of how email management

will likely affect the productivity of university scholars and how these professionals

may transfer this information to the scholars.

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