

THE IMPACT OF TECHNOLOGY ON THE PRODUCTION OF INFORMATION

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ABSTRACT

When new technologies for production and dissemination of information emerge and are adopted, we see a dramatic increase in the quantity of information that is made available for consumption. In recent years, with the wide adoption of digital media, this increase has been dubbed the “information overload”, which is perceived by some to be a boon and by others to be a curse. The implications of this information overload on the quality of information that is available for consumption is unclear. By quantifying the changes in the quality of information that is being produced due to the adoption of new technologies, we will be able to identify those aspects of the technology that result in the increase in the quality of information available for consumption. These insights can therefore be exploited to develop incentive mechanisms and policies to further increase the quality of information being produced. In this paper we develop a framework for the process of information production and use it as the basis for an economic model that captures a profit maximizing entity’s decision to produce information. This economic model is used to study the impact of a new technology on the information that is produced in terms of both the quality and the quantity of information. Our results show that reduction in costs leads to a marginal increase in both the quality and the quantity of information produced by a profit maximizing entity, whereas the reduction in space and time constraints results in a significant increase in the quantity and a marginal decrease in the quality of information. We also find that as the production costs decrease, the overall quantity of high quality information available for consumption increases more rapidly than the overall quantity of low quality information and the reverse effect occurs when the space and time constraints are decreased.

Keywords: Information production, information overload, information quality, economic model, simulations

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