

# A new framework for statistical software development, maintenance, and publishing within a feasible open-access business model

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## Abstract

This paper is divided in two parts. The first part discusses the implementation of a new framework for statistical software development, maintenance, and publishing. The framework has been seamlessly integrated into a highly successful website ([www.wessa.net](http://www.wessa.net)) that operates as an application service provider (of free web-based statistical software). Even though the framework can be used for any statistical environment it is the currently available R-based implementation that is discussed with respect to the statistical applications that have been developed, the underlying business model (production costs, marketing,...), the feedback from users, and the academic impact on research and education.

The second part describes several fundamental problems with statistical software development in the academic community and industry. There are several reasons why commercial software developers, and publishers of traditional scientific journals will have to face the challenge of open access business models. On the other hand, the development and dissemination of academic software/techniques will become increasingly difficult due to a variety of cultural, technical, and economical reasons. This paper tries to shed some light on these fundamental problems, and discusses how compendium publishing offers a feasible solution to many - if not all - mentioned problems. One solution of particular interest is the one where the R system becomes the universal standard for statistical computation, and where it is managed within (an extended version) of the proposed framework. It is argued that the proposed solution would result in a situation where: (1) statistical software can be published, just like any other type of research; (2) empirical and methodological research is properly promoted, and truly reproducible; (3) statistical computing is made available to everyone, free of charge, within an open-access model and without loss of transparency or extensibility.