

## **Is e-media more Sustainable than print?**

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The 'Roadmap to a Resource Efficient Europe' published by the European Commission in September 2011 consistently highlighted the need for accelerated innovation in materials, products, services and technologies as key to enabling smart, sustainable growth. However, this must be accompanied by a firm understanding of the environmental, social and economic implications of emerging and disruptive technologies.

The publishing industry provides an excellent case in study. Changing lifestyles, behavioural changes and emerging technologies have driven a radical change in the way newspapers, magazines and books are consumed. Traditional physical publishing supply chains are being replaced and/or supplemented by digital media. The initial move to online publishing focused on the delivery of standard content delivered over the Internet and accessed via consumers' PC and laptops. More recent and current developments are seeing the rapid emergence of publications using the platforms provided by tablets, smart phones and, in the case of books, dedicated e-readers.

Physical newspaper, magazine and book publishing is built on energy intensive processes such as pulp & papermaking, printing and physical distribution. In some publishing supply chains difficulties in forecasting demand also result in high levels of unsolds, which are then repulped without ever having been consumed. Thus, there is an immediate presumption that the services provided via these new e-channels provide a more sustainable alternative compared to traditional publishing. At first sight, they appear to offer significant opportunities for dematerialisation, waste reduction, energy efficiency and carbon reduction.

However, these presumptions have so far been supported by very little hard data or structured analysis. Plenty of tools and methodologies are available for understanding the life cycle implications of products and services, but the pace of change in technologies and consumption patterns means that these have only been applied to the emerging digital publishing sector on a limited scale. Technology providers themselves seem more focused on product functionality and impact of their own devices in isolation, rather than taking into account the wider life cycle impacts.

However, using best available techniques and data in life cycle assessment and carbon foot printing the Innventia research team has been working with publishers directly to help them further their understanding of the sustainability impacts of traditional versus emerging publishing channels. This paper will present an overview of the findings from a review of the existing literature plus the results of original research and analysis by Innventia in this field. The results achieved and conclusions drawn are often surprising. As well as highlighting the uncertainties in making such analyses (arising from data gaps, modelling assumptions and allocations), the results demonstrate how important user behaviour can be in determining the magnitude of impacts for different media channels.

The research into e-publishing demonstrates both the opportunities and challenges faced when rapidly bringing new technologies to the market place. This paper attempts to highlight how understanding consumer behaviour, predicting how technologies will be used, and identifying the potential impacts at an early stage are essential elements for achieving the transition to more sustainable products and services.