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If you could watch TV, view videos, or read text on your cell phone while you're away from your desk or home (perhaps standing in a queue, or driving in your car), would you? Ubiquitous computing in the form of video-on-the-go services has entered the international marketplace in an engaging and affordable way. Will you, your students, or the companies you research be among the early adopters of this technology in the U.S.? This article by Shim, Shim, and Ahn reports important, original research findings from their Korean studies that examine the critical success factors necessary for the adoption of mobile multimedia services, or "TV-on-the-Go, also known as digital multimedia broadcasting (DMB), or "cellevision." Their insightful analysis of the current state of the art for DMB in Korea serves as a prescient preview for users. Additionally, their emerging list of critical success factors in the successful implementation of DMB is a bonus for researchers who will want to compare adoption of digital multimedia broadcasting cross-culturally in the years ahead.

"Cellevision" and "Takeout TV": Literally, TV On-the-Go

by J. P. Shim, Mississippi State University; Julie M. Shim, Cambridge, MA; Kyungmo Ahn, Kyunghee University

Korea's introduction of digital multi-media broadcasting (DMB), video-on-the-go services that deliver television to cell phones, has marked a milestone in the world of technology. DMB cellular phones, dubbed as "takeout TV," or "cellevision," is a multicast process that captures digital broadcasts and delivers multimedia (text, television images, and videos) to mobile devices in motion, such as cellular phones, PDAs, and in-automobile devices. Several factors will determine the success of mobile multimedia services, including the cost of service, content options, and network coverage.

On December 1, 2005, terrestrial DMB (T-DMB) service launched in Korea. Satellite DMB (S-DMB), T-DMB's rival technology, began its service seven months before, on May 2005 (Shim, 2005). One of the major differences between the two is the service business model while T-DMB is a free service, S-DMB is a fee-based service (subscribers pay \$13 per month and a \$20 one-time activation fee). T-DMB providers gener-

ate revenue through advertising. This article will present an overview of DMB and findings on users' perception of DMB cellular phones.

DMB and Current Issues

DMB consists of a set of competing standards that deliver multimedia content to different types of devices. Two major standards are DMB and digital video broadcasting-handheld (DVB-H). DMB, an extension of DAB (based on the Eureka 147 DAB radio standard), was approved in July 2005 by WorldDAB as a standard specification. As mentioned earlier, DMB has two subtypes including satellite-DMB (SDMB) and terrestrial-DMB (TDMB). S-DMB is based on videos beamed from a communication satellite while T-DMB works on over-the-air signals. DVB-H, similar to T-DMB, broadcasts digital mobile TV via ground to handheld terminal devices. The DVB-H technology has been adopted as the standard in Europe, and seems to be gaining popularity as pilot tests are conducted across Europe and

the U.S. Recently, Qualcomm Inc. designed their own system, MediaFLO, in the U.S. to rival the technology of DMB and DVB-H.

European telecommunication companies are as optimistic as their Asian counterparts that DMB will take off in their markets since digital audio broadcasting (DAB) is already prevalent across Europe. A pilot project of DMB has been launched in Germany with the objective to deliver advanced mobile entertainment. However, the U.S. telecommunications industry is a bit more reserved in its enthusiasm for DMB technology for several reasons. First, since the U.S. has not approved of any standard or specification at this time, it will take quite some time to adopt and implement. Secondly, 77 percent of American consumers commute to work, via a personal vehicle, so the chances of access-

ing a mobile videophone-related device on the road are slim.

Also, some states in the U.S. have banned the use of any phone device in vehicles. However, in Asia and in Europe, there's a greater chance of commuters using DMB phones, since more commuters there use mass transit. Thirdly, the geography of the U.S. does not lend itself well to a technology such as DMB. With the volume of space and the distances between major markets, large up-front capital investments would be required in order to create a network with the capability to provide reliable service to its users.

DMB Service Business Model

DMB data service is a framework of the following groups: data provider, audio/video contents producer, DMB producer, advertiser, and customer. A schematic view of DMB data service and the components, shown in Figure 1, provides a basic understanding of the general structure of DMB business model. The figure also shows interaction of the DMB producer with other groups of DMB data services. For example, the DMB producer provides a variety of content and programs to customers for a service fee. The DMB producer charges an advertising fee to the advertiser, from whom customers can directly purchase for advertised services via the DMB device. The audio/video content producer and data provider each provide a variety of content to the DMB producer for a fee.

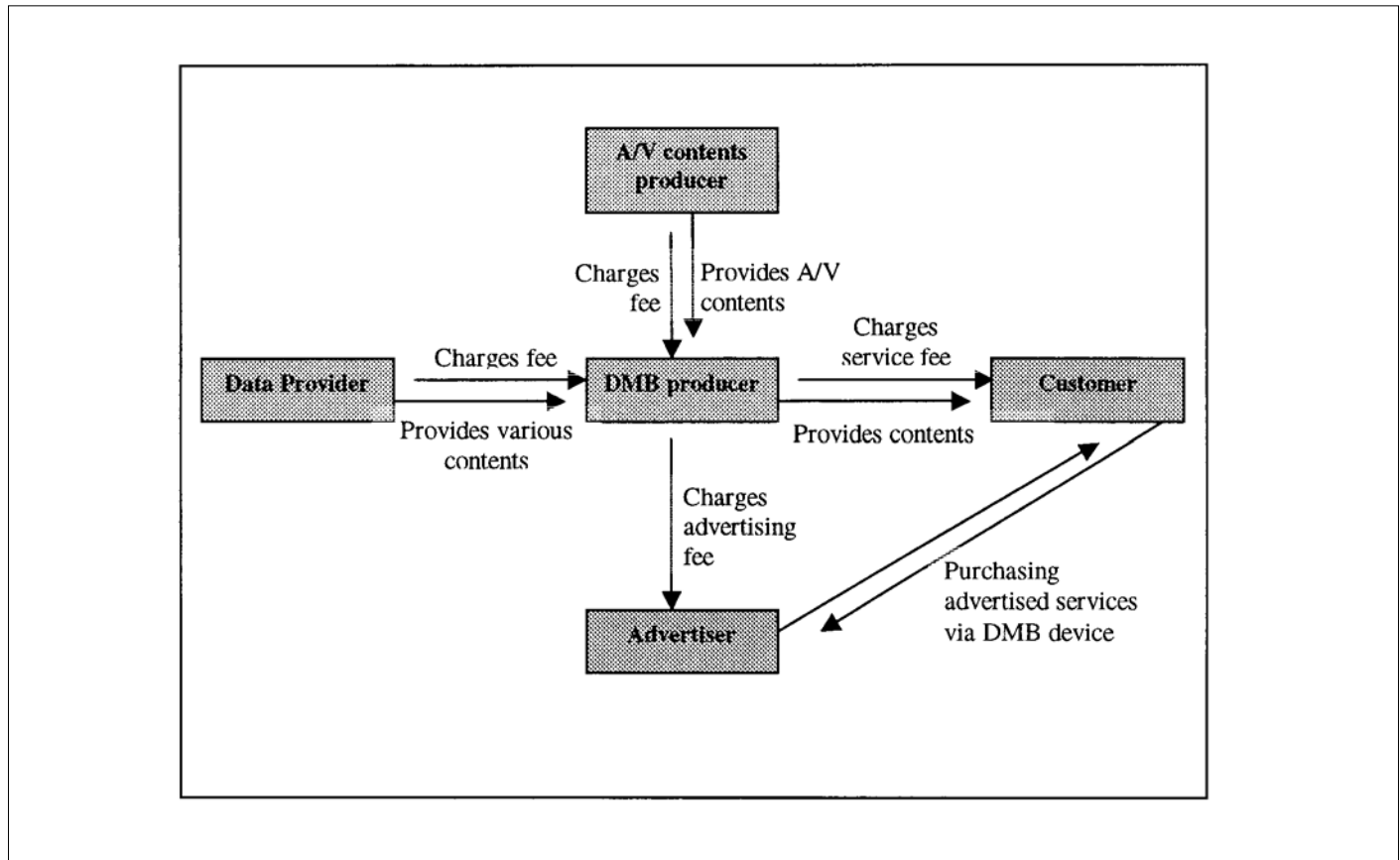


Figure 1. A schematic view of DMB Data Service Business Model [Source: Adapted from KORA Research 2003-10, "A Market Policy Study on DMB," Research Report of Korea Radio Station Management Agency, May 2004].

Future Outlook and Findings from DMB Two-Phase Study

The authors recently researched DMB service and content providers to gain insight into various age groups and their perceptions. This two-phase study explored users' reactions to DMB contents and services, pricing of DMB phone handsets, phone usage time, program contents, and DMB carrier services. Findings from the use of qualitative method of existential phenomenology were explored further with quantitative analyses including T-test, ANOVA, and Duncan test. The DMB market strategy will benefit by focusing future decisions on the younger generation, as they will comprise the future trendsetters with their mindset and lifestyle (Shim et. al, 2006). A market forecast outlook by Electronics and Telecommunications Research Institute (ETRI) in Korea predicts that terrestrial-DMB users by 2010 will be 8.5 million and satellite-DMB users by 2010 will be 4 to 8 million. In-Stat/MDR (Teng), a high-tech market research firm, expects the Korean DMB market to surpass \$800 million in annual revenue by 2010 (Teng, 2004).

Conclusion

The "Cellelevision" is the most interactive and ubiquitous mobile multimedia product as of yet, and will continue to have a great impact on us as our personalized digital tool. Given the demand for ubiquitous computing in an impatient, technology-hungry, instant-gratification-seeking population, the desire for "Cellelevision" is growing. Once the handheld devices are deemed marketable, they will pose as tremendous competition to the telecommunication and related companies, as they will scramble to introduce more sophisticated devices. The multimedia content creators can utilize this opportunity to create value-added business. The following critical success factors are just some of the factors that will determine the future of "Cellelevision": device price, quality programming content, performance/reliability, and usage/connection time.

The "Cellelevision" phone service industry has very complex issues that span across technical, logistical, social, and cultural issues. Thus, cooperation is required among the cellular and network service providers, service providers, and equipment makers to collaborate with the government and consumers to create growth in the "Cellelevision" industry.

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6th Global Conference on Business & Economics, sponsored by the Association for Business & Economics Research and International Journal of Business & Economics, will be held October 15-17, 2006, at Harvard University, USA. Submission deadline is May 30, 2006.

Competitive papers (or abstracts) are invited in all areas of business, including: Management Information Systems; Global Business; Marketing Theory and Applications; Accounting; Economics; Finance & Investment; General Management; General Business Research; Business & Economics Education; Production/Operations Management; Organizational Behavior & Theory; Strategic Management Policy; Labor Relations & Human Resource Management; Business Law; Public Responsibility and Ethics; Technology & Innovation; Public Administration and Small Business Entrepreneurship. Papers are also invited papers on teaching issues such as: curriculum, ethics in higher education, promotion and tenure, accreditation, teaching methods and styles, administration, technology in the classroom, faculty evaluation, and related topics.

Qualified individuals will referee papers submitted through a process of double blind peer review. Accepted papers will be published in Conference Proceedings. Selected completed papers will be considered for publication in the International Journal of Business & Economics (ISSN 1543-1614) (<http://www.facultyforum.com/ijbe>). All completed papers will be considered for the Best Paper Award in their respective areas.

Electronic Submissions should be sent in MS Word format to: Editorijbe@Yahoo.Com; or hard copy submissions (four (4) copies of your manuscript or abstracts) should be sent to: Dr. Atul Gupta, P.O. Box 11172, Lynchburg, VA 24506, USA, Telephone: (434) 544-8651; Fax: (434) 385-8667; E-mail: Editorijbe@Yahoo.Com ■