# Chapter 2
# Attribute Perceptions as Factors Explaining Mobile Internet Acceptance of Cellular Customers in Germany:
## An Empirical Study Comparing Actual and Potential Adopters with Distinct Categories of Access Appliances

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## ABSTRACT

*The present study analyzes (1) how customers of mobile network operators (MNO) perceive attributes of mobile Internet (MI) offers, (2) how these perceptions are related to MI acceptance and (3) the extent to which these judgments and relationships differ as a function of an individual's adoption status (actual compared to potential MI user) and the appliance category employed to access MI (handset compared to laptop). Data was collected by a survey of 525 effective and 540 potential MI users in Germany. Results show that the perceived relative functional advantage and communicability of MI offers were significantly positively and their trialability was significantly negatively correlated with MI acceptance in both customer groups. The findings provide insights for MNO and appliance vendors on measures which may effectively promote the acceptance of MI.*

## INTRODUCTION

Market researchers report that demand for Internet access and services through cellular communication networks via various portable appliances, i.e., mobile Internet (MI), has recently started to soar in many countries. Further strong MI subscriber growth is expected in the near future. According to IDATE (2009), the number of MI customers in Europe (the U.S.) will expand from about 70 million (35 million) at the end of 2008 to more than 160 million (110 million) at the end of 2012. Main

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drivers of the current MI uptake include improvements in performance and price of MI-enabled customer premises equipment, expansions in the geographical availability of broadband mobile data transmission technologies (e.g., Enhanced Data Rates for GSM Evolution/EDGE; High Speed Packet Access/HSPA) in mobile network operator (MNO) infrastructures, increases in the quantity and quality of MI services, and substantial decreases of end-customer MI access and use prices (Kim, Lee, & Kim, 2008; Verkasalo, 2008).

However, statistics of the International Telecommunication Union (ITU)[1] on "mobile broadband subscriptions per 100 inhabitants" (ITU, 2010, p. 105) for European or North American countries at the end of 2008 – which range from 48.8% in Italy to 3.5% in the Lithuania – imply that the vast majority of MNO customers has never used MI (yet). Compared to Japan and South Korea for which the MI penetration statistic of the ITU amounted to 75.5% and 70.7%, respectively, at the end of 2008 (ITU, 2010), MI acceptance in many Western developed nations is still way behind the Asian leaders (Minges, 2005; Funk, 2007). For instance, a survey of a sample which was representative for residents of Germany and conducted in 2010 indicated that even though 69% of the participants owned a cellular handset with the technical capability to access MI, only 17% of these individuals had effectively used this capacity (Accenture, 2010). In addition, the use intensity of quite a few MI customers is shallow, and a considerable share of customers even completely ceases to use MI after its initial adoption (Lee et al., 2007; Kim, Lee, & Kim, 2008).

Nevertheless, MNO continue to set their hopes on MI as a market arena with high subscriber and revenue growth potentials (BITKOM, 2011). Taking into account these growth aspirations and the MI "utilization gaps" illustrated above, a thorough understanding of why MNO voice customers expand their demand to innovative MI offerings or refuse to do so, is evidently of pivotal interest for both MNO managers involved in their firms' MI strategy development and scholars working in the fields of innovation, information technology (IT) management, or consumer psychological foundations of marketing. Thus, it should not come as a real surprise that a substantial number of recent scholarly studies have attempted to empirically identify factors significantly associated with criteria suspected to capture the degree of acceptance of MI in a narrow sense or of other more or less advanced mobile data services (MDS) or devices.

This work may be systematized depending on whether it did not or did deliberately compare MI attribute perceptions and acceptance determinants across mobile customer groups varied with respect to their adoption status. Non-comparative MI acceptance studies, i.e., "single sample investigations", may be further divided subject to whether the work focused on potential users (pre-adoption research), actual users (post-adoption research), or a "mixed" sample including both potential and effective users. Pre-adoption research typically scrutinizes potential customers' behavioral intentions to use MI in general or specific advanced/value-added MDS as dependent criteria. Current examples of this category of investigations are Chen (2008), López-Nicolás, Molina-Castillo, & Bouwman (2008), Lu et al. (2008), Chen, Yen, & Chen (2009), Kim & Garrison (2009), Mallat et al. (2009) and Yuan et al. (2010). Post-adoption analyses tackle with determinants of actual users' intentions to continue with MI or other more or less advanced MDS in the future. Hong, Thong, & Tam (2006), Bouwman et al. (2007), Lee et al. (2007), Hong et al. (2008), Kim, Lee, & Kim (2008), Bouwman et al. (2009), and Kuo, Wu, & Deng (2009) rank among recent instances of this research approach. "Mixed" sample research mainly includes dependent criteria similar to those of pre-adoption studies but occasionally goes beyond them by adding participants' self-assessment or unobtrusive objective measures of use frequencies of MI or other value-added MDS.