

Dynamics of Internet Banking: Lessons from Korea

April 2006

Dynamics of
Internet
Banking

The ESRC Centre for Competition Policy (CCP), at the University of East Anglia is the leading UK Centre for research in the economics and law of Competition Policy. Its members undertake high quality, independent, academic research into competition and regulation and its impact on companies and society.

BACKGROUND

- Internet banking has revolutionised the way of banking in several aspects. It reduces transaction costs, speeds up customer services and introduces new products and services to consumers. Theory suggests that in the presence of network effects and standardisation, technology-intensive industries seem to establish concentrated market structures - has this been the case with internet banking? Technological progress in economic growth and welfare has long been recognised by economists - but they have focused on the firm's behaviour. Much effort has been made in analysing how technology would improve productivity whilst not enough attention has been paid to the impact that the behaviour of consumers has on industry.
- This research aims to fill the gap by examining not only the behaviour of the firms involved but also the motivation of consumers to use (or not) internet banking and provides evidence that internet banking adoption in Korea has been driven by social norm effects and that its aggressive expansion has simply been pre-emptive action by banks with little impact on market structure. While the paper draws on data about internet banking adoption in Korea, the lessons and methodology will be valuable to those involved in examining and understanding its development in other countries.
- Korea has been quoted as a country with one of the highest internet banking penetration ratios per head alongside Scandi-Nordic countries and Canada. Almost 60% of the population use the internet and 35% are internet banking users (as of 2002, Bank of Korea). Broadband take-up, which has benefited from publicly financed cable network, is increasing faster than in other countries. Since the introduction of Internet banking in Korea at the beginning of 1998, the number of banks which offer internet banking reached 13 by the end of 1999 and continuously increased to 20 by the end of 2000 and currently all 14 commercial banks offer internet banking, along side 4 co-operative banks, 2 foreign banks, postal saving and district banking corporation.
- Korean society is characterised by its strong ties to family and the importance of community life, with emphasis on conformity and the collective rather than the individual. Enormous importance is attached to education which is rooted in the Confucian tradition. The proactive policy of Government to implement internet technology nationwide has been the key in establishing a new social norm in Korean society.

METHODOLOGY

- A questionnaire consisting of 37 questions was developed in order to cover demographics, specific issues on internet users and non-users and information about banking behaviour in general. Total 3200 questionnaires were sent to Korean residents and 393 replies were used in the analysis. A cross-sectional data set was used in the static analysis of internet banking adoption and the data were expanded into a panel by assigning binary choice dummies for each monthly interval for the dynamic analysis.
- The findings from the research were used to test a number of propositions which had been developed from economic research and behavioural studies on adoption characteristics.

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- A detailed analysis of the findings of the research was undertaken to understand on the one hand, the “characteristics” of internet banking taken up in Korea and the role of social norms on the process of technology development on the other.

KEY FINDINGS

- Traditional demographic variables such as sex, education, marital status, personal income level, housing type and residential location are not relevant indicators of *whether* internet banking will be taken up or not with the exception of age.
- Demographics do provide an indication of *when* internet banking will be taken up. Males, and in particular those over 45, are more likely to be early adopters than females. This is closely tied with one aspect of social norms within Korea where it tends to be middle-aged males who are likely to make key financial decisions for the household. Single or married consumers are less likely to be early internet banking adopters than divorced or separated people.
- By contrast, the exposure to the new technology and the consumer’s banking behaviour play an important role in the decision to use internet banking.
- Evidence suggests that those who are banking with the largest bank are more likely to adopt internet banking. This would suggest that consumers tend to value the size of a bank more than it being a first mover. It is also the case that those who bank with the largest banks are likely to adopt internet banking more quickly. However, customers of the first mover banks are not particularly early adopters.
- Consumers who have chosen not to adopt internet banking said that they were happy with their existing banking methods and expressed concerns over uncertain online security.
- The market share of the largest bank in internet banking is more dominant than in commercial banking while that of the first mover remains constant. Evidence of rank effects provides grounds to take pre-emptive actions since banks can reinforce their market dominance via internet banking.

POLICY ISSUES

- The most important issue to arise from this research is the increased understanding about the effects that social norms can have on the way in which firms and ultimately markets develop. All too often economic research has paid little attention to this in understanding markets. Greif argues that “a path of economic growth is not a mere function of endowment, technology and preferences but a complex process in which the organisation of society plays a significant role. The organisation of society reflects historical, cultural, social, political and economic processes.”¹
- There have been a plethora of studies that have tried to link imitation within a social structure, consumer behaviour, industrial structure and welfare economics. However, the effort to link the above sociological aspects of economics has been neglected with an increasing focus on technological development. Technological development could be one of the main factors for economic growth since the 20th century. However, without identifying why and how consumers adopt new technologies in the social context, the research on technology is incomplete. There are lessons here for other aspects of economic research.
- By understanding consumer behaviour and the relevance of social norms, policy makers will be in a better position to ensure that new technological developments, such as internet banking, lead to social welfare gain, not to excessive welfare loss. For example,

¹ Greif, A. (1994), “Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies”, *Journal of Political Economy*, Vol.102, Issue 5, pp.912-950

the research provides evidence of possible consumer inertia and risk aversion, identified as the reasons some consumers had not switched to internet banking. Policy makers should take steps to provide a safe internet banking environment to mitigate consumer inertia and risk aversion for the full benefit of internet banking.

FOR MORE INFORMATION:

The full working paper - **CCP Working Paper 06-3. Chang, YT (2006) "Dynamics of Internet Banking Adoption"** - and more information about CCP and its research is available from our website: www.ccp.uea.ac.uk

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