Chapter 9
Summary and Conclusion

EXECUTIVE SUMMARY

This last chapter provides the overall summary and conclusion of this book. This chapter explains why and how each chapter is included and inter-related. In addition, the limitations and contributions of this book are explained.

1. RECAPITULATION OF THEORY AND MODEL

The preface of this book introduced the overall theme and its significance. The general research question is: What is the nature of organizational strategies for technology standards? The concrete research question is how organizations reach and then adapt their strategies for standards before, during, and after the industry-wide standardization process.

The first chapter presented the background of standards strategy, starting with the general definition of standard and gave reasons for selecting the ICT (Information and Communications Technology) industry for this research. The meaning and importance of standards strategy were discussed, and three strands of literature on standards strategies in the ICT sector were reviewed. The first strand of literature is about the technological configurations necessary to stimulate economic factors in technology standardization. The second strand of literature is about creating and maintaining the value networks required to develop the necessary technological configuration among actors. The literature herein identifies various types of collaborations among actors to create and maintain value networks. The third strand of literature is about the role of IPR (Intellectual Property Rights) – this is a significant issue for organizations, because organizations may use IPR as a tool to leverage their power in standardizing technologies. After the review, these three strands of literature were synthesized to draw out the three aspects of standards strategies – Configuration of Value Network, Formation of Standard-setting Organization, and Openness of IPR – that are fundamental to any investigation of organizational standards strategy.

As shown, technology standardizations are the result of agreements among actors including service providers, manufacturers, and govern-
ments. Technology standardization is not only about solving technical problems among systems, but also about strategic and political maneuvers and agreements among actors to gain competitive advantages. Thus, the context and configuration of technologies and markets largely constrain the actors’ standards strategies, which in turn interactively shape the emerging technology standards and the market configuration they facilitate.

To analyze the formulation of organizational standards strategy and study how organizations’ strategies interact and shape the evolution of technology standards, it is necessary to develop an appropriate conceptual model and theoretical framework. Chapter 2 began with reviewing and critiquing the existing theories and ended with introducing the more suitable Self-organized Complexity Unfolding Model based on combining the theories of ANT (Actor Network Theory) and Self-organized Complexity. Based upon this conceptual model, a Framework of Organizational Standards Strategy was developed to analyze individual organizations’ standards strategy. This Framework of Organization Standards Strategy consists of three parts – (1) the organization’s situation, (2) the organization’s interpretation of its situation, and (3) the organization’s formulation of its standards strategy. For part (1), based on the literature review, six elements were identified and proposed for modeling an organization’s situation – (1) an organization’s capabilities to meet market needs and opportunities, (2) the availability of complementary products or compatibility of products/services in the market, (3) the innovativeness of the technology involved, (4) the position of the organization in the market, (5) the availability of alternative or substitutable technologies in the market, and (6) the characteristics of intellectual property rights regarding the technology involved. For part (2), the perspective of “organization’s striving to create and capture value” was used to trace, analyze, and understand how organizations interpret their situations. Lastly, for part (3), the three aspects introduced in Chapter 2 – namely, Configuration of Value Network, Formation of Standard-setting Organization, and Openness of IPR – were used to analyze the formulation of organizational standards strategies given the organizational situations and interpretations.

Traditional theories of competitive advantage such as the Resource-based View and Competitive Forces are perhaps up to the task of analyzing standards strategies in simple and relatively stable industries such as the beverage and retail industries. However, high-tech industries such as mobile communications and personal computers are much more complex and dynamic. Firstly, there are many and diverse actors and many more factors to consider. Secondly, the factors influencing actors’ situations, e.g. technology and product cycles, are continuously changing. Thus, a conceptual model and its associated theoretical framework for analyzing standards strategies in ICT need to be general and flexible enough to capture the changing characteristics of these complex and dynamic industries, yet specific enough to facilitate concrete description and analysis of the impact of organizational standards strategies on the development of the industries. This book illustrates that the Self-organized Complexity Unfolding Model and the Framework of Organizational Standards Strategy, as one approach to analyze these complex and dynamic industries, meet the criteria stated.

To my knowledge, this research is one of the first studies that tries to account for the complexity of real business environments at both the industrial level and the organizational level. Due to the exploratory nature of the research questions, it is important to validate the viability of the proposed model and framework in capturing the dynamic complexity of organizational standards strategies and industry structure. It was the challenge of doing truly large-scale case studies that covered more than 30 years of the mobile communications history. As to be seen, these large-scale longitudinal case studies clearly validate the viability of the proposed model and framework.
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