Foreword

Among the numerous questions that occupy management practitioners and scholars, one question is arguably central: What is it that makes a firm profitable? Researchers have identified a broad range of factors, in particular a firm's resources and its market environment. Related to a firm's environment, the concept of "industry architecture" proved helpful in further understanding the differential profitability of firms. However, this concept has an important gap: it does not account for the position that a firm occupies in the various value chains that it is part of. Yet, a firm might supply the same input for the same final product as a tier-one or a tier-two supplier. Surely, this position should affect its profitability.

This is where Alexander Hoffmann's dissertation makes an important contribution. The author shows, using sophisticated game-theoretical models, how a firm's position in the value chain – everything else equal – should affect the share of the overall industry profit that it can capture. Using powerful and well-researched case studies Alexander Hoffmann then demonstrates empirically that a firm may indeed find itself on various levels of the value chain even though its own contribution remains unchanged.

This dissertation is the result of intense and dedicated research, requiring analytical skills as well as creativity and commitment. It was a pleasure to be part of this endeavor as Alexander Hoffmann's dissertation advisor. The concepts and results developed in this work provide important insights to research and practice, and I recommend it to scholars and practitioners alike.

Joachim Henkel

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Abstract

Today, value chains design and produce most goods and the value captured as a whole is distributed among the chain's members through bargaining. For complex products bargaining typically comprises several individual negotiations structured according to the hierarchical organization of the respective industry. In this research, I introduce the notion of "bargaining structure" to describe the sequence and participants of these individual negotiations.

Using cooperative game theory—in particular the Shapley value and extensions of it—I show how bargaining structure affects the distribution of value among the constituent firms of the value chain. I find that positions in the bargaining structure most conducive to value capture are those where large complementarity gains are realized and split, ideally, among a small number of negotiators.

Since the bargaining structure of a value chain is to some extent malleable, each member has an incentive to shape it in such a way as to optimize its own value capture. I suggest that the bargaining structure is shaped by the underlying architecture of the value chain and the action of powerful firms. Product architecture is a key lever to influence the architecture of the value chain and can be used to shape bargaining structure and enhance value capture. Using examples from the commercial aircraft and the white goods industries, the results of my research posit that bargaining structures are indeed malleable and, to some extent, under the control of the central firm.

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