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Innovation and Competition in Complex Environments

 Egea

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1.1 Introduction

Do 'large' firms still matter? Do they still represent a sustainable way of organizing economic activities? Can they cope with the continuous emergence of new bodies of knowledge? Can they keep up with increasingly demanding customers? Or are large firms bound to fail against the rapidity and flexibility of smaller firms, organized in networks of specialized producers, closer to their customers, proactive, flexible? These are the fundamental questions on which this book focuses. These are the questions on which a huge amount of research has tried to deal with in the past ten years. A good deal of this research is summarized and condensed, in an admittedly idiosyncratic way, in this book.

The point that this book tries to convey is quite simple. The modern large corporation is different –how unsurprisingly– from the model represented by IBM in the 1970s. Yet, large firms still play a fundamental role in modern societies. Such a role is not related to the traditional, Chandlerian function of coordinating R&D, manufacturing and distribution though. Large firms nowadays act as 'knowledge integrators'. They coordinate loosely coupled networks of suppliers of physical components as well as specialized competencies. While the traditional activity of assembling physical parts still play a crucial –although increasingly neglected– role, the key empirical and analytical focus of the research streams this book aims at synthesizing is the activity of 'knowledge integration'.

The understanding of the strategic role played by knowledge integration is core to the still ongoing debate about the long-term impact of firms' outsourcing and offshoring decisions. Manufacturing is moving away from the traditional great manufacturing powerhouses of the world (e.g. USA, France, Canada, Germany, etc.). It is going toward cheap labour and emerging markets. Many have argued that this is not a problem: in the end, you want to have those people who can design the iPods, not those who make them. The

big, unanswered questions is the following: in the long run, can innovation be separated from production? My personal answer to this questions is: No. Not really. Not by a long shot. This is why we need to better understand how firms integrate skills, competencies and capabilities which are generated from a variety of specialized suppliers, independent firms, scattered manufacturing units. The days of Henry Ford may be gone, but the need to achieve integration and coordination is here to stay. How it is achieved, that may have changed. But large firms have still a lot to do with it. And the concept of 'knowledge integration' is fundamental to understand how they do it.

Knowledge is the key competitive variable of modern economies. Knowledge grows by specialization. Specialized knowledge needs to be embodied in functioning artefacts to generate marketable products. How this process of integration happens has a lot to do with the rationale of modern corporations. The general theme that cut across all the chapters of this book is this: how do specialization and integration coexist? How do they get coordinated? They require different skills and organizational solutions. Yet, system-wide, they are both necessary: specialization is the fundamental process through which new skills are generated and new customers' needs spotted. Integration is the fundamental process through which skills generate new products and customers get satisfied. Balancing specialization and integration is what the large, modern corporation does.

Tensions between specialization and integration are visible in all stages of economic activities. At the country level, at the sectoral level, at the firm level. This book touches upon each level of analysis to show how we can study these issues and how we can provide sensible and robust advice to practitioners and policy makers. This introductory chapter sets the scene for the following chapters. The next two chapters focuses on the conceptual foundations on the basis of which the empirical evidence presented in chapters 4, 5