

Cambridge Elements

Elements in Business Strategy

edited by
J.-C. Spender
Kozminski University

EVOLUTION OF THE AUTOMOBILE INDUSTRY

*A Capability-Architecture-Performance
Approach*

Takahiro Fujimoto
Waseda University



CAMBRIDGE
UNIVERSITY PRESS

Cambridge University Press & Assessment
978-1-108-46894-7 — Evolution of the Automobile Industry
A Capability-Architecture-Performance Approach
Takahiro Fujimoto
Frontmatter
[More Information](#)



Shaftesbury Road, Cambridge CB2 8EA, United Kingdom
One Liberty Plaza, 20th Floor, New York, NY 10006, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre,
New Delhi – 110025, India
103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment,
a department of the University of Cambridge.

We share the University's mission to contribute to society through the pursuit of
education, learning and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9781108468947

DOI: 10.1017/9781108658041

© Takahiro Fujimoto 2023

This publication is in copyright. Subject to statutory exception and to the provisions
of relevant collective licensing agreements, no reproduction of any part may take
place without the written permission of Cambridge University Press & Assessment.

First published 2023

A catalogue record for this publication is available from the British Library.

ISBN 978-1-108-46894-7 Paperback
ISSN 2515-0693 (online)
ISSN 2515-0685 (print)

Cambridge University Press & Assessment has no responsibility for the persistence
or accuracy of URLs for external or third-party internet websites referred to in this
publication and does not guarantee that any content on such websites is, or will
remain, accurate or appropriate.

Evolution of the Automobile Industry

A Capability-Architecture-Performance Approach

Elements in Business Strategy

DOI: 10.1017/9781108658041
First published online: May 2023

Takahiro Fujimoto
Waseda University

Author for correspondence: Takahiro Fujimoto, fukazawa.fujimoto@gmail.com

Abstract: This Element applies the capability-architecture-performance (CAP) approach of industrial analysis to the evolution of the automobile industry and the strategies of its leading manufacturing firms between the late nineteenth century and the early twenty-first century. It regards a manufacturing site (“genba,” such as a factory, development facility, etc.) and a product (and other economic artifacts, such as processes) as the two basic units of analysis. Both an industry and a firm can be seen as a collection of sites, as well as a collection of products. The CAP framework predicts that dynamic fits between the sites’ organizational capabilities and the product/process architectures lead to sustainable competitive performance. Such key concepts as flows of value-carrying design information, productive/market/profit performance, design-based comparative advantage, integral/modular architectures, multiskilling, coordinative capability building, evolutionary capabilities, industry life cycle, and architectural evolution are discussed in a systematic and dynamic way.

Keywords: industrial evolution, automobile industry, competitive performance, lean manufacturing capability, integral/modular architecture

© Takahiro Fujimoto 2023

ISBNs: 9781108468947 (PB), 9781108658041 (OC)
ISSNs: 2515-0693 (online), 2515-0685 (print)

Contents

1	The Field-Based Framework of Industries and Firms	1
2	Competitive Performance of Sites, Products, and Firms	8
3	Product Technology of the Automobile	23
4	Product Architecture of the Automobile	34
5	The Automobile Industry as Value Flows	42
6	Evolution of Coordinative Manufacturing Capability	58
7	Automobile Industry Life Cycle and Architectural Evolution	75
8	Summary and Future	89
	References	91