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2	Dr. Shriram Nerlekar	Demonetization & it's Social Impact-A review of Economic Decision	IMERT,Pune
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9	Dr. Sarang A. Dani	Review of Literature For Technology Management, Organizational Performance and Auto Ancillary	Pune Institute Of Business Management [PIBM], International Conference On Emerging Trends In Business Management

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# Advances in Finance & Applied Economics

 Springer

ISSN 1533-7154

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ISBN 978-981-13-1695-1      ISBN 978-981-13-1696-8 (eBook)  
<https://doi.org/10.1007/978-981-13-1696-8>

Library of Congress Control Number: 2018948622

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# Corporate Finance

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ECONOMETRIC ANALYSIS OF  
WEAK FORM OF

MARKET EFFICIENCY

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A background image for the book cover featuring a teal-colored line graph with several peaks and troughs, overlaid on a grid pattern. The grid is semi-transparent, showing a blurred image of a stock market ticker board with various numerical values like 55.97, 30.17, 34.88, 77.51, 79.14, 94.32, 74.1, 77.09, 85.13, 99.13, 77.13, 96.13, 96.13, and 96.13. The overall color scheme is dark blue and teal.

DR. UTTAM B. SAPATE

# ECONOMETRIC ANALYSIS OF WEAK FORM OF MARKET EFFICIENCY

This book "Econometric Analysis of Weak Form of Market Efficiency" is an outcome of doctoral research work carried out on a large amount of stock market data using MATLAB software. It is a unique study wherein a battery of econometric tests has been applied to test the Indian stock market's weak form efficiency. This book consists of 6 chapters describing the concepts of market efficiency, econometric analysis and outcomes of the study. Each chapter deals with complex mathematical terminology in lucid and simple language for better understanding. This book aims at providing advance knowledge to the researchers for application of econometric techniques to ascertain market efficiency. However, at the same time it is useful as a practical guide to the graduate / post graduate students of management, economics, and securities markets and engineering for carrying out desk research using MATLAB handling large amount of secondary data. The research outcomes are expected to be guiding force to investors, academicians, researchers in many ways wherein this work can further be extended.



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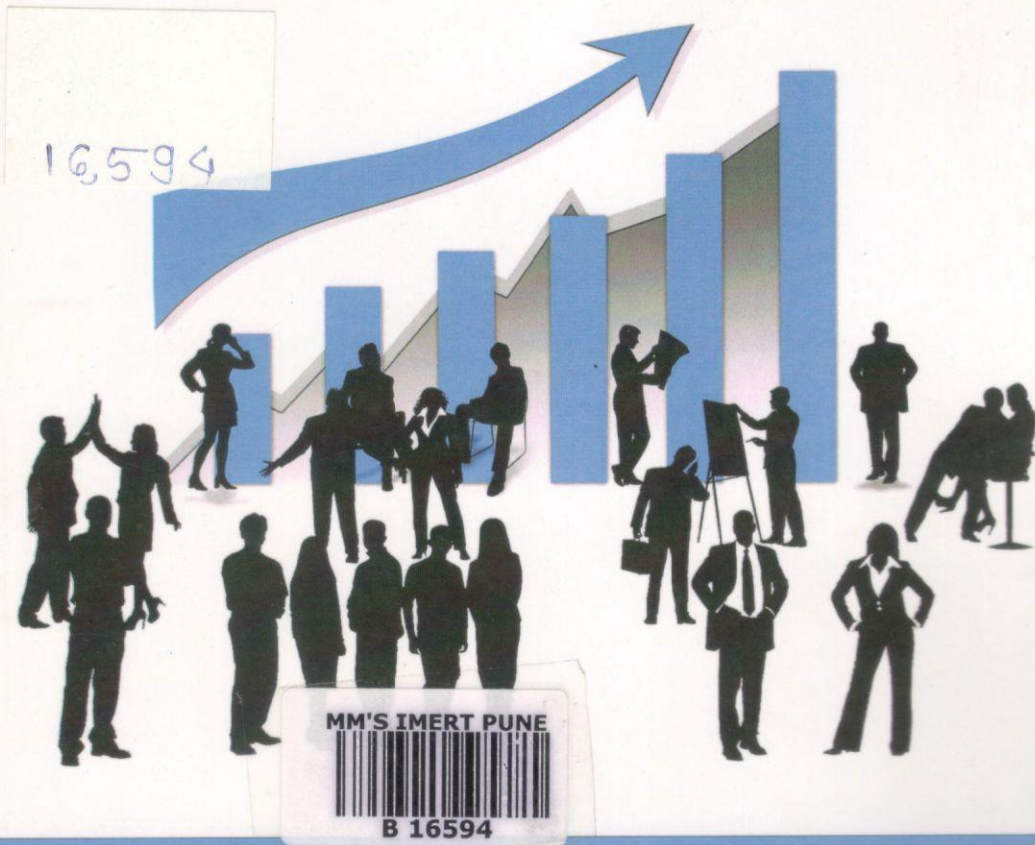
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# SOFT SKILLS MASTER



**DR. K. M. BAWAGE, PhD**

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This book "Soft Skills Master" is written to cater to the needs of students, professors, businessmen and corporate professionals. It aims to inculcate knowledge, offer techniques, and develop desirable qualities of soft skills for building bright careers. The main features of this book are simplicity and concise explanation which make the book easy to read and understand. The comprehensive coverage of the book includes 25 chapters covering the most common soft skills like Interview Techniques, Group Discussion, Body Language, Communication Skills, Leadership Skills, Thinking Skill, Decision Making Skill, Problem Solving Skill etc. along with some additional related topics. Employability is nowadays commensurate with proving multiple soft skills in varied situations in a fast changing world. A person's soft skills play major role in the individual's contribution to the success of an organization. Even though the importance of soft skills is visible and accepted there are hardly any books available on this topic. That acted as an inspiration to write this book which would be useful to students of all educational streams, professors, corporate personnel and businessmen.

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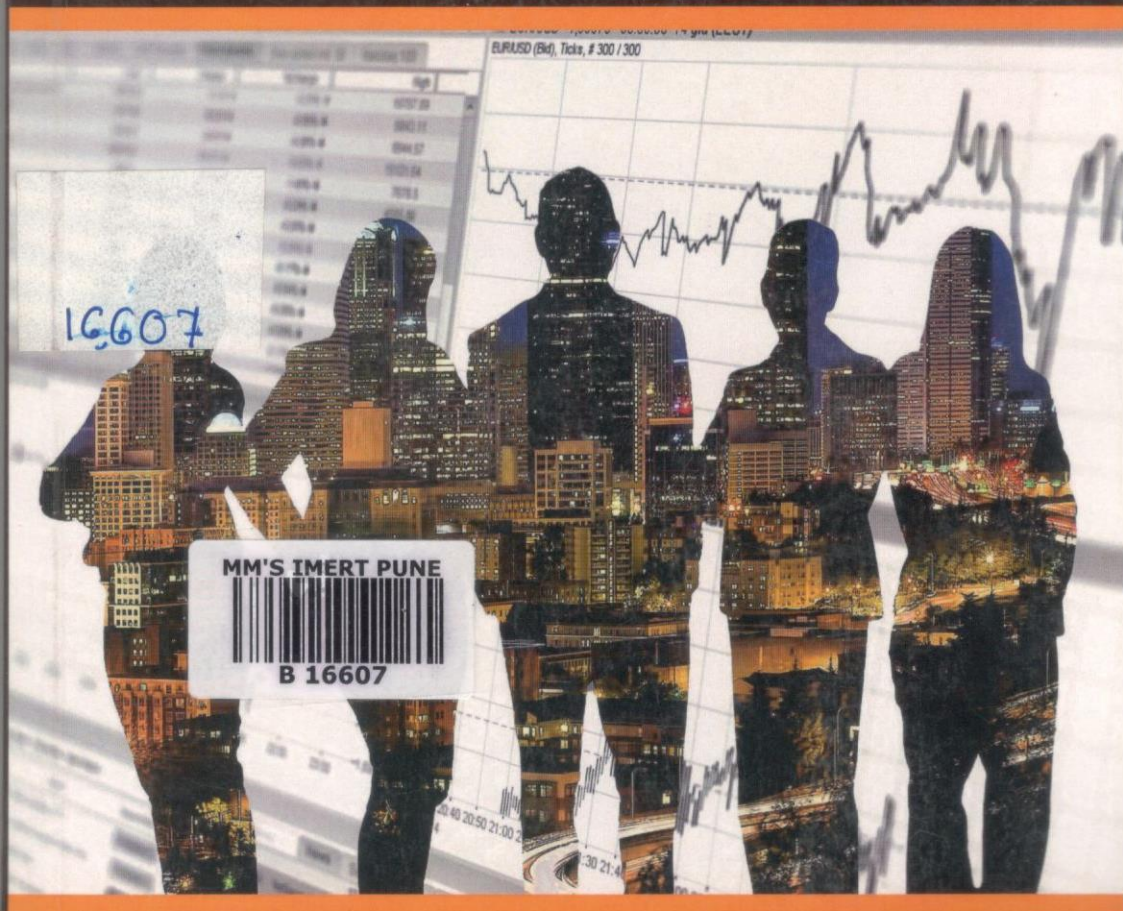


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# BUSINESS KNOWLEDGE MASTER



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This book "Business Knowledge Master" is written to cater to the needs of students, professors, businessmen and corporate professionals. The purpose of this book is to provide a concise collection of business and management terms including concepts of various business aspects, management functional areas, business general knowledge, management thoughts, management gurus and important abbreviations. Need for this kind of compilation was felt and it acted as an inspiration to write this book which would be useful to students of all educational streams, professors, corporate personnel and businessmen. Youth pursuing management education in B-schools require broad conceptual knowledge about different aspects of business and several functional areas of management. They also need information of other business matters not covered in their domain of studies. Need of the students aspiring to start their carrier in business and corporate sector of general knowledge relating to business and management is fulfilled through this book. Professors teaching subjects of business education can enrich their lectures and can conduct quizzes based on the contents.

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# DIGITAL BUSINESS FROM BRICK TO CLICK

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**Dr. Shiram Nerlekar** – A quick connect with and a lasting impact on the audience is Shiram's strength. Simplicity in talk yet energetic imposing presence and spiritual tinge keeps his audience fully involved in the programme. The thought-provoking discussions, challenging the existing paradigms and innovative activities and exercises ultimately leads his audience get unified with the programme objectives. He firmly believes that good *Character Ethics* is the foundation of being a good human being. Shiram brings with him 25 years of work experience which includes 10 years in training design and delivery. He started his career as Financial Analyst particularly focusing on Project Finance. He, after spending 4 years as Analyst, moved to Academics. He progressed till the position of a Director of a Business School starting from Lecturer in a Commerce College. Currently, he is holding a position of Director at Marathwada Mitra Mandal's Institute of Management Education Research and Training, Pune. During this progression he, constantly and gradually, entered into the niche of corporate trainings and MDPs. Shiram is also Erickson Certified Coach. He specializes in Technical Workshops in Finance as well as Life Skills. He has conducted many training programmes for various corporate clients.

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- Jul'05 – Jul'11: Joined Indira Institute of Management, Pune as Assistant Professor and rose to the position of Deputy Director - Academics and amp; Research
- Jun'00 – Jun'04: Mahatma Education Society's College of Commerce, Chembur as Lecturer - Commerce
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- Member of the Committee for designing syllabus of GST
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ISBN: 978-93-5367-748-0



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Published by:

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An initiative of  
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ISBN 978-81-936860-0-3

*Neville Wadia Institute of Management Studies & Research, Pune-411001, (India)*



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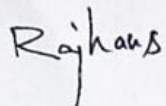
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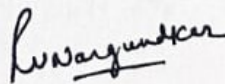
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# **REVIEW OF LITERATURE FOR TECHNOLOGY MANAGEMENT, ORGANIZATIONAL PERFORMANCE AND AUTO ANCILLARY**

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## **ABSTRACT**

One of the basic reasons for secondary market research is to pave the way for primary market research. It gives enough information to know what to ask for primary research. This paper is a review of literature for the topics technology management, organizational performance related to auto ancillary industry. This paper is a compilation of secondary research available in the field of topics under study. The purpose of this paper is to gather the information through secondary resources such as Research Reports, Thesis Government Publications, Annual reports of the companies, Books, Journals Websites etc. With the proper knowledge of existing research researcher will find the research gaps to decide the scope and objectives of the study. This paper is entirely based on secondary resource only.

## **A. LITERATURE REVIEW**

Google search engine fetches 25, 40, 00,000 results of industry 4.0 and is trending since year 2012. Industry 4.0 is a name for the current trend of automation and data exchange in manufacturing technologies. The transformation in production and automation was brought on first by steam and water power (Industry 1.0), then by electrification (2.0), and more recently by the digital computer (3.0). Industry 4.0, digitization, is about companies orienting themselves to the customer through e-commerce, digital marketing, social media, and the customer experience. Ultimately, virtually every aspect of business will be transformed through the vertical integration of research and development, manufacturing,

marketing and sales, and other internal operations, and new business models based on these advances. In effect, we are evolving toward the complete digital ecosystem (see Exhibit 1).

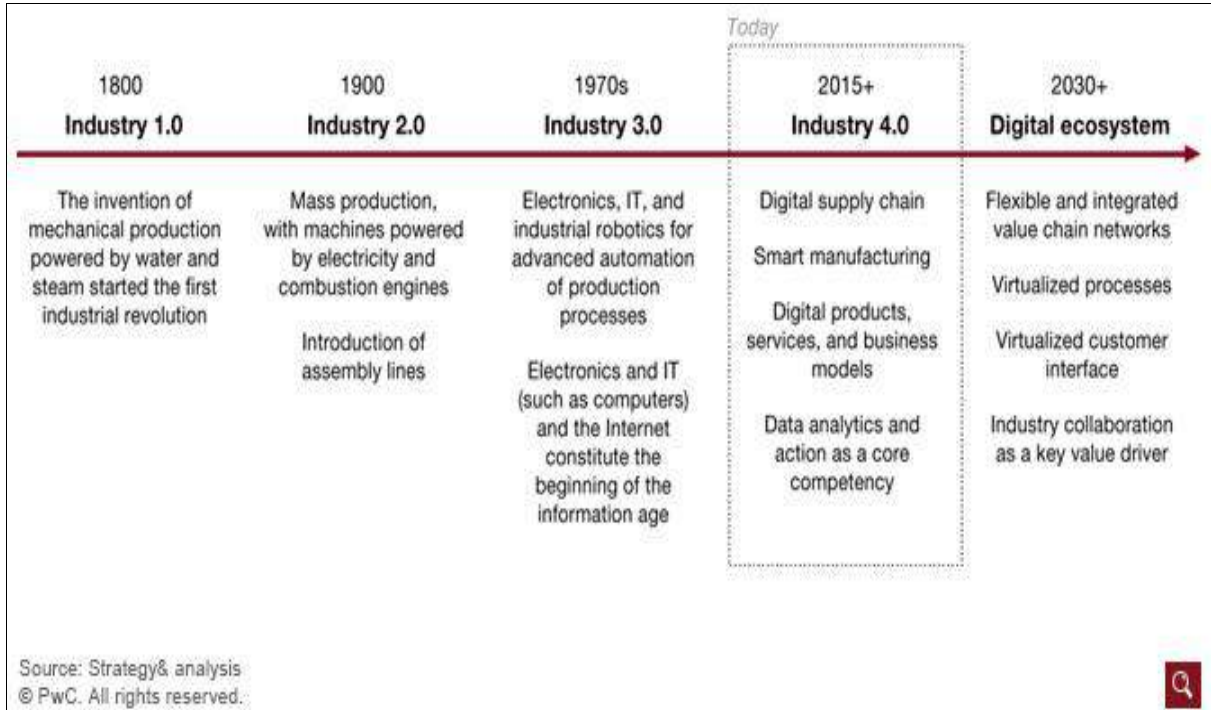


Figure 2.1 Industrial Revolution adapted from PwC

Industry 4.0 (also termed as a fourth industrial revolution) is a jargon used for current trends of automation and data exchange in manufacturing/service technologies.

Three core objective of the industry 4.0 is as follows:

1. Digitization and Integration of Value Chains
2. Digitization of Product and Services Offerings
3. Digital Business Models and Customer Access

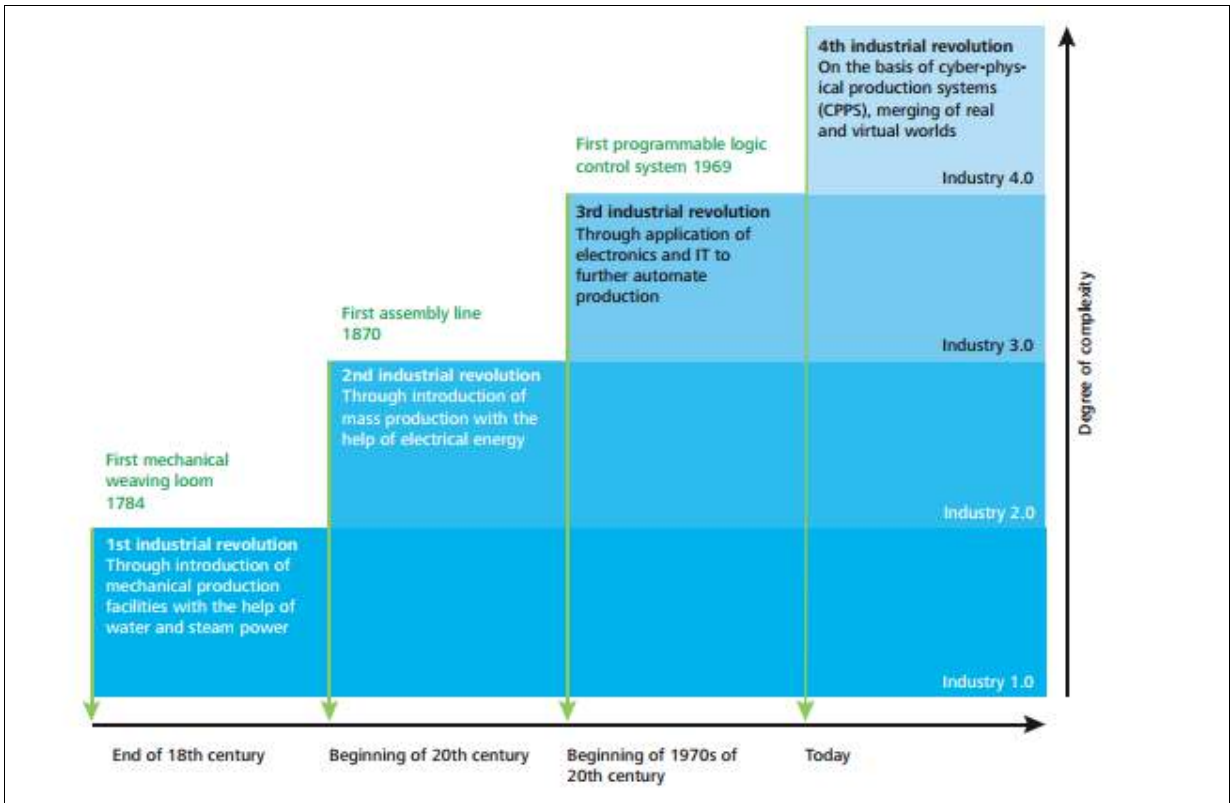


Figure 2.2 <https://www2.deloitte.com/content/dam/Deloitte/ch/Documents/manufacturing/>

With the widespread adoption of one or other technology such as Sensors, Big Data, 3D Printing, Collaborative Robots, Internet of Things, Analytics etc. Auto ancillary industry is the supplier of OEM's and with turnover of \$43.5 Bn in FY 2016-17 at CAGR 7%. Also, this industry employs over 2 Crore employees in India. It is essential to study the impact of automation technologies on the organizational performance. Carrying the research at auto ancillary industry will be more effective as technology will eliminate and reduce current challenges of the industry such as demand swings by OEM, low margins in OEM market, delivery schedules, high quality standards, pricing pressure and unskilled labors. Following table indicates major components assembled by OEM to build a vehicle.

Sub-groups	Products	% to total products
Engine Parts	Pistons, piston rings, fuel injection pump	24%
Transmission & Steering parts	Transmission gears, axles and wheels	16%

Suspension & Braking parts	Leaf springs, shock absorbers	12%
Electrical	Spark plugs, batteries, starter motors	8%
Equipment	Dashboard instruments	7%
Others	Fan belts, sheet metal parts	33%

Table 1: Percentage of components by auto ancillary suppliers. (SIAM India)

The engineering industry continuously faces the challenge of improving performance of production processes and efficiencies. With this objective at the background coupled with management of cost, it becomes more important to develop a strong chain of the suppliers and make them strategic partners of the company. (Jussi Heikkilä, 2002)

Rapert, Lynch and Suter (1996) the resource based view theory outlines that the competitive advantage of an organization lays primarily with the application of the organizations resources. RBV holds that sustained competitive advantage can be achieved more easily by exploiting internal rather than external factors.

Absenteeism is a problem faced by businesses around the world (Johnson, 2006:1; Mudaly and Nkosi, 2015:624). Today, organizations are required to operate at the most optimum level while decreasing expenses and ensuring sustainability in an ever-increasing competitive environment. Hall and Weiss (1967) financial performance study, a positive relationship between company size and profitability was established; Stekler (1964) also used had to make some transformations of their strategies to minimize costs to better their performance. In their, Hill and Perry (1996) investigated financial performance by using liquidity ratio, profitability ratio, and debt ratios in which the results revealed that high performance companies have high liquidity ratios. İcerli and Akkaya (2006), Edg and Bayraktaroğlu (2007) revealed that the liquidity ratio was significant in company performance and stock return evaluation, while Korkmaz and Karaka (2013) revealed that company performance improves the rate of cash dividends. (Yu et. al. 2013) investigated the relationship of company operating efficiency and performance; the results revealed that companies with good profitability ratios have a good level of efficiency. Hall and Weiss (1967) financial performance study, a positive relationship between company size and profitability was established; Stekler (1964) also used company size to predict profitability.

Another financial performance study conducted by Kosaet. al. (1992), found that during the period of low performance, the company had to make some transformations of their strategies to minimize costs to better their performance. Hill and Perry (1996) investigated financial performance by using liquidity ratio, profitability ratio, and debt ratios in which the results revealed that high performance companies have high liquidity ratios. Korkmaz and Karaka (2013) revealed that company performance improves the rate of cash dividends. (Erdogan, E et. al. 2015) studied the effect of financial ratios on company financial performance, the results showed that there was a positive significant relationship between company performance and company size and current ratio and significantly negative relationship with leverage. (Lakonishok et. al. 1994) conducted a study; they investigated the relationship between financial indicators and stock return of listed companies. The results revealed that companies with higher stock book value have higher stock return than those with lower stock book value. Fama and French (1995) revealed that there is a relationship between company size and book value to market value and stock return in addition to profitability. (Pandey et. al. 2013) declared that liquidity and solvency position levels were unacceptable and there was little association between financial variables adopted in the study. Lazaridis and Tryfonidis (2006) reported a significant relationship between profitability and cash conversion cycle. (Gracia-Terual et. al. 2007) declared that by reducing debt collection period could positively influence company's profitability. Working capital impact on profitability was considered by Muthauva (2009) demonstrated that there is a positive relationship between working capital and profitability. According National Institute of Standards and Technology, Cloud computing is a model for enabling ubiquitous, convenient, on-demand network, access to a shared pool of configurable computing resources e.g., networks, server, storage, application, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. Organizational performance as an analysis of a firm's performance as compared to goals and objectives and the primary outcomes analyzed are financial performance, market performance, shareholder value performance and production capacity performance. (Louise James)The performance is an end result of an activity and an organizational performance is accumulated end result of all the organization's work process and activities. It is necessary for the management of the organizations to measure and

assess the organization performance to use organizations resources in a better way and to earn good organization repute. Managers measure and control organization performance because it leads to better asset management, to an increased ability to provide customer value, to improve measures of organizational knowledge and measure of organizational performance do have an impact on an organization's reputation. (Wheelen and Hunger)The Automotive Mission Plan 2026 seeks to define the trajectory for the automotive ecosystem in India including the regulations and policies that govern research, design, technology, testing, manufacturing, etc. of automotive vehicles, components and services. (SIAM India) The Indian auto component industry produces a comprehensive range of components, which include engine parts, drive transmission and steering parts, suspension and braking parts, electrical parts, equipment and other parts. Over the years, the industry is successfully working on the path to fulfil its mandate of localization and moving toward being global suppliers.

Technology development in the auto component industry worldwide has been primarily driven by the automobile manufacturers, regulations and changing customer preferences. In India, the technology development has followed the developments in the developed world and thus technology acquisition through collaborations and alliances has been one of the preferred routes. Strategic technology management in the auto component industry in India.

(A case study of select organizations, Tapan Sahoo, D.K. Banwet, K. Momaya)

Globalization is having a major impact on the automotive industry. A study of the automotive industry in emerging economics by Mukherjee and Sastry (1996) explains that in the case of Asia other than Japan, countries like South Korea, China and India adopted different paths for technology development in the automobile sector. In case of Korea, the technology development has focussed to become world class and global and the Korean companies invest heavily on R&D. The emphasis of Chinese policy has been to meet domestic demand and JV route has been widely adopted. On the other hand, facilitation of growth has been a key driver of technology policy in case of India. A benchmarking study of the auto component supply chain in India and China by Sutton (2004) reveals that the auto industry supply chain has proceeded very rapidly in both the countries at the level of auto manufacturers and tier-1 suppliers. The main weakness of the supply chain, however,

lies in the fact that best practice techniques are transferred very slowly to the tier-2 suppliers. TA/JV's have been the preferred routes of the Indian auto component suppliers for technology developments. Jain and Jain (2003) suggest that while forming collaborations, the needs of both local and foreign partners are required to be clearly understood. Collaborative strategies for innovation have proved to be beneficial and a framework has been suggested by

Momaya (2008) taking into consideration the organizational boundary and the geographic scope. The framework developed by Momaya can be generally applied to other industries as well including the automotive industry and is found to be very relevant for this purpose. Case studies of technology management in the automobile and auto component industry in India explain the technology management practices in select organizations. Select case studies have been carried out by Sushil and Husain (1999), Husain et al. (2002) and Sahoo (2000, 2004). It has been observed through the case studies that organizations have followed different approaches for technology capability building in India. Also, there is a linkage between OEM technology requirement and auto component manufacturer technology acquisition and development. Based on the requirement of automobile manufacturers, auto component manufacturers have acquired technology through international collaborations.

It envisages that the Indian automotive industry would grow 3.5-4 times in value from its current output and reach around USD 248.6 billion by 2026. Auto components industry to register 13-15 percent growth in FY18 (Research Agency ICRA). The Indian auto component industry is composed of organized and unorganized sector. The organized sector refers to original equipment manufacturers (OEMs) and is engaged in manufacture of high value precision instruments. Whereas, the unorganized sectors comprise of low-valued products catering to after-market services (Make in India). Continued investment and access to technology are key to meeting the AMP 2026 objectives. And investment and access to technology depend upon creating and adhering to a well-designed policy framework based on data and information, understanding of the role and limits of technology, and the cost-effectiveness of policy measures. (Financial Express Newspaper) In an ever-competitive environment where automobile companies are ramping up efforts to manufacture and market their products better, along with growing

competition, pressure on costs is also increasing as product life cycles are shrinking. (Automotive Forum in Pune's seminar on Industry-Academia Collaboration and India's Growth)The imperatives for technology under mass production, therefore, are that it be dedicated to a specific product, very efficient in its execution of a highly specialized task, and capable of operating for extremely long production runs. Once a new technology is installed, it should be modified as little as possible if it is to meet these conditions successfully. While this ideal of minimal modification is rarely achieved, it remains the primary orientation and goal of a mass production organization. (John Paul McDuffie and John F. Kraficik)

Firm innovativeness, and relatedly, organizational adoption of new technologies, are often ascribed central roles with respect to managerial efforts to successfully weather changes and uncertainties in the firm's competitive environment (Damanpour & Evan, 1984). Theoretical explanations for the expected positive relationship between technological innovativeness and performance typically rest on the notion that the introduction of innovations may lead a firm to enjoy a quasi-monopoly position and extract "above normal" rents (Schumpeter, 1942). While business scholars broadly agree on the importance of innovation to organizational survival and prosperity, empirical findings related to the performance implications of firm innovativeness have varied widely across studies (Walker, 2004), with researchers variously reporting positive (e.g., Srinivasan, Lillien, & Rangaswamy, 2002; Tellis, Prabhu, & Chany, 2009), nonsignificant, and even negative associations (e.g., Baum, Calabrese, & Silverman, 2000; Menguc & Auh, 2006). This divergence of results suggests the need for greater conceptual refinement (Sorescu & Spanjol, 2008) as well as the possibility of more nuanced, contextualized linkages between firm technology adoption and performance (Chae, Koh, & Prybutok, 2014).

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