



International Journal of Marketing and Technology

(ISSN: 2249-1058)

CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
<u>1</u>	Threshold effects in the relationship between oil revenues and growth in oil exporting countries. Mohsen Mehrara and Seyed Mohammad Hossein Sadr	<u>1-19</u>
<u>2</u>	Management of E-Waste- Black to Green. Dr. D. Sudharani Ravindran, Hari Sundar. G. Ram and M. Sathish	<u>20-33</u>
<u>3</u>	Customer Retention In Nationalised Banks In Erode of Tamilnadu. Dr. S. M. Venkatachalam and Ms. R. Anuradha	<u>34-67</u>
<u>4</u>	The Use of Visual Cues and Metaphors in Advertising. Vikram Kapoor	<u>68-84</u>
<u>5</u>	Library Administration Vs Management. J. B. Parmar and A. B. Parmar	<u>85-98</u>
<u>6</u>	Crisis Management. Dr. (Mrs.) A. Kumudha and Mr. K. Prabakar	<u>99-110</u>
<u>7</u>	Organizational Competency Management: A Competence Performance Approach. Dr. A. Kumudha, K. Prabakar and Benny J. Godwin	<u>111-121</u>
<u>8</u>	Impact of Just-In-Time Production Towards Global Competitiveness Through Competency Management. Dr. A. Kumudha, Benny J. Godwin and K. Prabakar	<u>122-133</u>
<u>9</u>	Data Mining Issues and Key to Success. Deep Mala Sihint	<u>134-149</u>
<u>10</u>	Synthesis of MCM-41 via different routes. Ranjyoti Das and Bharat Modhera	<u>150-171</u>
<u>11</u>	Green Marketing – A Bridge Between Consumerism And Conservation. Richa Arora and Nitin R. Mahankale	<u>172-184</u>
<u>12</u>	An Empirical Study On The Effect of Payment Mechanism For Purchasing Intention – The Moderating Effect of Consumer Involvement in Selected Product Categories in Vadodara. CS. Ashutosh A. Sandhe, Dr. Amit R. Pandya and DR. Abhijeet Chatterjee	<u>185-213</u>
<u>13</u>	A New approach to Sensor less vector control of induction motors. G. Srinivas and Dr. S. Tarakalyani	<u>214-228</u>
<u>14</u>	Eyes Bamboozling the Mind: Use of Optical Illusion in Advertising. Vikram Kapoor	<u>229-247</u>
<u>15</u>	Perception Of Employees Towards Performance Appraisal In Insurance Sector. Rita Goyal	<u>248-276</u>
<u>16</u>	Process Improvement of an Organization Enhancing Better Quality System – Applying TQM. Bhupender Singh, O. P. Mishra and Surender Singh	<u>277-289</u>

Chief Patron

Dr. JOSE G. VARGAS-HERNANDEZ

Member of the National System of Researchers, Mexico

Research professor at University Center of Economic and Managerial Sciences,

University of Guadalajara

Director of Mass Media at Ayuntamiento de Cd. Guzman

Ex. director of Centro de Capacitacion y Adiestramiento

Patron

Dr. Mohammad Reza Noruzi

PhD: Public Administration, Public Sector Policy Making Management,

Tarbiat Modarres University, Tehran, Iran

Faculty of Economics and Management, Tarbiat Modarres University, Tehran, Iran

Young Researchers' Club Member, Islamic Azad University, Bonab, Iran

Chief Advisors

Dr. NAGENDRA. S.

Senior Asst. Professor,

Department of MBA, Mangalore Institute of Technology and Engineering, Moodabidri

Dr. SUNIL KUMAR MISHRA

Associate Professor,

Dronacharya College of Engineering, Gurgaon, INDIA

Mr. GARRY TAN WEI HAN

Lecturer and Chairperson (Centre for Business and Management),

Department of Marketing, University Tunku Abdul Rahman, MALAYSIA

MS. R. KAVITHA

Assistant Professor,

Aloysius Institute of Management and Information, Mangalore, INDIA

Dr. A. JUSTIN DIRAVIAM

Assistant Professor,

Dept. of Computer Science and Engineering, Sardar Raja College of Engineering,

Alangulam Tirunelveli, TAMIL NADU, INDIA

Editorial Board

Dr. CRAIG E. REESE

Professor, School of Business, St. Thomas University, Miami Gardens

Dr. S. N. TAKALIKAR

Principal, St. Johns Institute of Engineering, PALGHAR (M.S.)

Dr. RAMPRATAP SINGH

Professor, Bangalore Institute of International Management, KARNATAKA

Dr. P. MALYADRI

Principal, Government Degree College, Osmania University, TANDUR

Dr. Y. LOKESWARA CHOUDARY

Asst. Professor Cum, SRM B-School, SRM University, CHENNAI

Prof. Dr. TEKI SURAYYA

Professor, Adikavi Nannaya University, ANDHRA PRADESH, INDIA

Dr. T. DULABABU

Principal, The Oxford College of Business Management, BANGALORE

Dr. A. ARUL LAWRENCE SELVAKUMAR

Professor, Adhiparasakthi Engineering College, MELMARAVATHUR, TN

Dr. S. D. SURYAWANSHI

Lecturer, College of Engineering Pune, SHIVAJINAGAR

Dr. S. KALIYAMOORTHY

Professor & Director, Alagappa Institute of Management, KARAIKUDI

Prof S. R. BADRINARAYAN

Sinhgad Institute for Management & Computer Applications, PUNE

Mr. GURSEL ILIPINAR

ESADE Business School, Department of Marketing, SPAIN

Mr. ZEESHAN AHMED

Software Research Eng, Department of Bioinformatics, GERMANY

Mr. SANJAY ASATI

Dept of ME, M. Patel Institute of Engg. & Tech., GONDIA(M.S.)

Mr. G. Y. KUDALE

N.M.D. College of Management and Research, GONDIA(M.S.)

Editorial Advisory Board

Dr. MANJIT DAS

Assistant Professor, Deptt. of Economics, M.C.College, ASSAM

Dr. ROLI PRADHAN

Maulana Azad National Institute of Technology, BHOPAL

Dr. N. KAVITHA

Assistant Professor, Department of Management, Mekelle University, ETHIOPIA

Prof C. M. MARAN

Assistant Professor (Senior), VIT Business School, TAMIL NADU

Dr. RAJIV KHOSLA

Associate Professor and Head, Chandigarh Business School, MOHALI

Dr. S. K. SINGH

Asst. Professor, R. D. Foundation Group of Institutions, MODINAGAR

Dr. (Mrs.) MANISHA N. PALIWAL

Associate Professor, Sinhgad Institute of Management, PUNE

Dr. (Mrs.) ARCHANA ARJUN GHATULE

Director, SPSPM, SKN Sinhgad Business School, MAHARASHTRA

Dr. NEELAM RANI DHANDA

Associate Professor, Department of Commerce, kuk, HARYANA

Dr. FARAH NAAZ GAURI

Associate Professor, Department of Commerce, Dr. Babasaheb Ambedkar Marathwada University, AURANGABAD

Prof. Dr. BADAR ALAM IQBAL

Associate Professor, Department of Commerce, Aligarh Muslim University, UP

Dr. CH. JAYASANKARAPRASAD

Assistant Professor, Dept. of Business Management, Krishna University, A. P., INDIA

Technical Advisors

Mr. Vishal Verma

Lecturer, Department of Computer Science, Ambala, INDIA

Mr. Ankit Jain

Department of Chemical Engineering, NIT Karnataka, Mangalore, INDIA

Associate Editors

Dr. SANJAY J. BHAYANI

Associate Professor, Department of Business Management, RAJKOT, INDIA

MOID UDDIN AHMAD

Assistant Professor, Jaipuria Institute of Management, NOIDA

Dr. SUNEEL ARORA

Assistant Professor, G D Goenka World Institute, Lancaster University, NEW DELHI

Mr. P. PRABHU

Assistant Professor, Alagappa University, KARAIKUDI

Mr. MANISH KUMAR

Assistant Professor, DBIT, Deptt. Of MBA, DEHRADUN

Mrs. BABITA VERMA

Assistant Professor, Bhilai Institute Of Technology, DURG

Ms. MONIKA BHATNAGAR

Assistant Professor, Technocrat Institute of Technology, BHOPAL

Ms. SUPRIYA RAHEJA

Assistant Professor, CSE Department of ITM University, GURGAON

Title

**IMPACT OF JUST-IN-TIME PRODUCTION TOWARDS GLOBAL
COMPETTIVENESS THROUGH COMPETENCY MANAGEMENT**

Author(s)

Dr. A. Kumuudha

Reader in B.B.M,

PSG.R.Krishannammal
College for Women

Benny J. Godwin

Research Scholar,

Dr. G.R.D College of
Science, Coimbatore

K. Prabakar

Research Scholar,

PSG.R.Krishannammal
College for Women

Abstract:

Beginning in the early 1980's, a number of firms followed the pioneering efforts of Shigeo Shingo and Taichi Ohno and adopted Just-In-Time (JIT) manufacturing in an attempt to reshape their manufacturing environments (see Bragg, Duplaga, and Penlesky, 2005). JIT requires that a company has a few reliable suppliers and is believed to enhance productivity and build a leaner manufacturing system which minimizes inventories (Helo, 2004) and reduces which reduces risk and helps minimize the cost of manufacturing (Curry and Kennedy, 1999). The present work will analyze what have been the results throughout the supply chain, in terms of inventory management that utilize JIT systems. The results of this study should enable managers that have or are considering implementing or participating in a JIT inventory management system to become more effective.

Key words: Quality Management, Just-in-Time, lean manufacturing

INTRODUCTION:

In a traditional manufacturing environment, quality control was chiefly the responsibility of a separate department that was usually located (both physically and mentally) at the end of the production process, supplemented by roving inspectors. In addition, the initial output was checked after machine changeovers. Completed products were inspected and any rejects were reworked, sold as seconds or scrapped. Usually, little effort was made to investigate and correct the root cause of quality problems. Because work-in-progress (WIP) cycles tended to be measured in weeks rather than days or even hours, it was difficult to identify exactly when, where and why the original defect had occurred. Although some companies also inspected incoming goods rigorously, less attention was paid to what happened in the middle. Monitoring the quality of production in too much detail was seen by workers as intrusive surveillance--a reaction to the scientific school of management.

DYNAMICS INVOLVED:

Today, monitoring quality at every stage of production is something of a mantra in most manufacturing firms. In its widest sense, quality is taken to embrace the monitoring and improvement of every aspect of every activity. More narrowly, it means ensuring conformance to whatever specification has been agreed, the objective being zero tolerance. Leading firms now measure defect rates in parts per million. In the past, reject rates of five to ten per cent were not only common but accepted as inevitable.

QUALITY MANAGEMENT:

Quality management is a broad term that includes a range of approaches such as kaizen (continuous improvement), quality circles, Six Sigma and standards such as ISO9000. Each of these has distinct features, although there are also many similarities. To appreciate the concept behind the quality revolution, it's useful to know the work of William Edwards Deming, one of the Americans who went to Japan after 1945 to help the country rebuild its industrial base. Deming developed an approach to quality management based on statistical analysis that sought to reduce variation from agreed specifications by tackling the root causes of quality problems. Building good quality in rather than inspecting bad quality out improves processes and ultimately reduces costs. Strangely, US and other western manufacturers saw little value in Deming's approach until it was too late for many of them.

Today, organizations that don't take quality seriously simply won't survive. But the implementation and maintenance of a sound quality system is not straightforward. It is time-consuming, expensive and requires serious commitment from everyone involved in the manufacturing process. This can be hard to achieve when there are other strategic imperatives. Students should be careful not to give the impression that they think a quality programmed comes out of a box and instantly sorts out years of poor design and sloppy practices. It doesn't.

JUST – IN – TIME CONCEPT:

Just-in-time manufacturing (JIT) is a modern approach to production management that differs fundamentally from traditional practices, although the underlying idea is not new. As long ago as

In 1922, Henry Ford wrote; "We buy only enough to fit into the plan of production, taking into consideration the state of transportation at the time. If transportation were perfect and an even flow of materials could be assured, it would not be necessary to carry any stock whatsoever. That would save a great deal of money, for it would give a very rapid turnover and thus decrease the amount of money tied up in materials." Both JIT and the associated lean enterprise models are often attributed to Ford, although Toyota is widely known as the first high-profile user of JIT practices. In traditional manufacturing, production is organized according to a series of risk/reward trade-offs concerning stock holding levels and production batch sizes. The idea is that a series of economic optimality's can be identified using mathematical models.

Just-in-time production (JIT) seeks to reduce the stock at each part of the production cycle to nil. Production starts only when an order is placed by a customer. The idea is the same throughout the rest of the production chain, creating a "demand pull" system. Each activity starts only when the activity in front has zero stock. This not only reduces stocks of WIP, but also--perhaps more important when there is no slack in the system--brings any production problems into immediate focus. Corrective action must be taken before any further work starts. Consequently, JIT is often seen as enforced problem-solving.

Another benefit of JIT is a reduction in the lead time of the overall manufacturing cycle--ie, between a customer's order and delivery--thereby increasing responsiveness to changes in consumer needs. Furthermore, improvements in quality management are usually required to guarantee consistency from the production process. Because it is only the customer's order that triggers the manufacturing process, no production is made for general stock on a "just in case" basis. This avoids the traditional problem of producing stock in anticipation of demand that does not materialize.

One well-known JIT practice is single minute exchange of die (SMED), which was developed at Toyota in the Eighties when engineers found that the process of changing dies in metal presses was a crucial production bottleneck, this was a hard and lengthy task requiring many skilled workers to use heavy equipment. It gave rise to high fixed batch costs that resulted in a high economic batch size and hence high levels of finished goods inventory. Toyota focused its efforts on the die-changing process, which led to SMED. Harmonization of design across the product range reduced the need to change dies. Equipment was adopted that allowed them to be adjusted in situ or changed faster when that was unavoidable. Dies were changed in a regular,

scheduled wave that passed through the plant as each new batch moved through it. Shigeo Shingo, the engineer who pioneered SMED1 claimed that the average batch set-up time in 1985 had been cut to 2.5 per cent of what it had been a decade earlier. SMED also made it economic to produce in smaller, more frequent batches. This resulted in lower inventory levels of parts and finished goods.

The Dell computer company has adopted JIT as one of its core values. Customers specify the PC they want from a list of options on the firm's web site, which is then produced and delivered. This reduces stock levels, the risk of obsolescence in a fast-moving sector and the need for market research. It means much less guesswork--and risk--for Dell.

JIT appears wonderfully simple and can deliver huge gains in efficiency and effectiveness, but it's not that straightforward. If it were, everyone would be doing it, but real life isn't like that. Let's get rid of the hyperbole so that you can demonstrate the balanced view that the examiners expect when they require you to "discuss" a topic.

First, bottlenecks can arise in most systems. If suppliers and trade unions know that you are only one widget away from total shutdown, they might be tempted to seek better terms. As manufacturing equipment is getting more sophisticated and expensive, keeping it running productively 24/7 needs sufficient WIP in front of the bottleneck machines to ride out any problems that might occur in earlier processes. The cost of stockholding is a trade-off against idle time (overhead under-absorption). Some of the large companies that boast of implementing JIT have been able to do so only because of their sheer size and bargaining power over smaller suppliers. This has allowed them to dictate that the suppliers must hold significant stocks, which can be called on as required.

Second, stocks are good for customers. Although having a product prepared to your exact specification in days is impressive, you probably don't want to wait even that long; you want it now. You will probably be happy as long as there's a reasonable range to choose from. You want someone to design it for you, not to have to do their job for them. You're impatient and are in a hurry. In other words, you want one from stock.

Third, the biggest myth of JIT is that it's new. Yes, the name and its application in large-scale manufacturing is relatively new, but think back to the village blacksmith: he's been working on a JIT basis for centuries--it's just that he didn't know it. Also, think of those cases that have signs

up saying: "Food cooked to order. It may take a little longer, but it'll taste better." A JIT system that prevents the chef from having to throw uneaten food away is simple and brilliant--food is one thing we don't want from a stockpile.

COMPARATIVE ANALYSIS:

Quality management and JIT clearly have their pros and cons. What differentiates good managers--and good exam answers--from bad ones is the ability to distinguish which features are relevant to the scenario at hand. Let's look at some of the implications for a management accountant advising the board. First, before a decision to try a new approach is considered, you should analyze both the present situation and the potential scenario. What does bad quality cost? How far is the company away from benchmark standards in its industry? How much can it expect to save? Over what period? What other benefits might arise--for example, better customer relations through better quality--and how might a value be placed on these? But what are the costs of change? What are the risks? "What if" analysis might be helpful here? The payback from such initiatives can be protracted and capital appraisal techniques such as the discounted cash flow method may be appropriate.

Next, an implementation plan will be required, along with a detailed budget for the project itself. Adjustments to existing budgets may be needed. Under a JIT regime cash will be freed up as existing stocks are reduced, but the costs of transport and handling might rise as the economies of batching production disappear. This may have implications for the cost structure. As the implementation proceeds, the planned costs and savings will need to be monitored month by month. The last step, after the project has had time to settle down, is to conduct a more reflective review of the whole process--ie, a post-implementation audit. Was it really as good an idea as we thought? What lessons can we learn for the future?

A further aspect to consider is that quality management and JIT are as much a philosophy of working life as stand-alone techniques. With them comes an expectation that all parts of the organization review how they do things and strive to improve. You will be expected to practice what you preach. That might entail producing your monthly reports a couple of days after the period end rather than a couple of weeks. Quality improvements in accounting might involve reducing errors in transaction processing or reporting. Perhaps you should even treat the users of

your accounting information as internal customers and survey them periodically to ensure that they are happy with the service you're providing.

CONCLUSION:

The researcher hope that the points discussed in this article will be of some use to the readers. The two approaches do differ significantly at a conceptual level, though. Traditional practice involves considering the separate elements in the production process and determining how stock and production levels can best link those elements. JIT involves considering the production process as a whole without the significant use of stock to link the separate elements.

References:

- J Evans and W Lindsay, The Management and Control of Quality (sixth edition) South-Western College Publishing, 2005.
- Balakrishnan, R., Linsmeier, T.J. and Venkatachalam, M. (1996), "Financial benefits from JIT adoption: effects of customer concentration and cost structure", The Accounting Review, Vol. 71 No.2, pp. 183-205
- Cook, R.L. and Rogowski, R.A. (1996), "Applying JIT principles to continuous process manufacturing supply chains", Production and Inventory Management Journal, Vol. 37 No. 1, pp. 12-17.
- Handfield, R. (1993), "Distinguishing features of just-in-time systems in the make-to-order/assemble-to-order environment", Decision Sciences, Vol. 24 No. 3, pp. 581-602.
- Papadakis, I. S. (2003), "On the sensitivity of configure-to-order supply chains for personal computers after component market disruptions", International Journal of Physical Distribution & Logistics Management, Vol. 33 No. 10, pp. 934-950.
- White, R.E., Pearson, J.N. and Wilson, J.R. (1999), "JIT manufacturing: a survey of implementations in small and large US manufacturers", Management Science, Vol. 45 No. 1
- Yasin, M.M., Small, M. and Wafa, M.A. (1997), "An empirical investigation of JIT effectiveness: an organizational perspective", OMEGA, Vol. 25 No. 4, pp. 461-471.
- Yeh, C-H. (2000), "A customer-focused planning approach to make-to-order production", Industrial Management & Data Systems, Vol. 100 No. 4, pp. 180-187.