

A Study On Impact Of Just-In-Time (J.I.T) In Supply Chain Management In Pakistan

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Abstract

The study on JIT supply chain management, implemented through manufacturing plan, logistics, and procurement and, sourcing, examines impact 3 factors of monitoring supply chain brains, as well as (CKM) Customer Knowledge Management skills, Knowledge Sharing and Cooperation. It also assesses impact the Just in Time Supply Chain Management on operational efficiency. Inside analyzing the pathway information together as of Production Firms, The focus is on theoretical and practical partnerships. JIT system, a mass of cards called “KANBAN” cards is exploited to give endorsement of manufacture. Cards used to control the production of products, and transfer of products between each supply chain step. Determining inventory levels through the supply chain in such a way as to achieve the desired objectives such as the effectiveness and responsiveness of the supply chain system. Organization Size and Age are incorporated into form manage the Company cognitive managing Capability. Imitation samples include two types of combustion, namely evacuation, and production to determine inventory levels, and batch sizes of delivery parts pro every period supply chain. Cover the supply chain concept in Just-In-Time. In the JIT supply chain, information is shared on the flow demand situation in the supply chain, which facilitates coordination.

Keywords: KANBAN , Just In Time , Integration of Supply Chain, Customer Knowledge Management skills, Knowledge Sharing, Cooperation

Introduction

Companies that effectively enforce Just in Time considerable ready for action reward in excess of competitor so as to be not. Uses of Just in Time Principles to the advantage of a particular industry, competition and situations of the business. The J.I.T. supply

chain seems difficult, and companies fail at it, but some rules can make it easier for J.I.T., and companies can certainly succeed. Including KANBAN. The production and the demanding planner seeks improve manufacturing leaning goal target and usage of equipment objectives, labor competence, uptime, and throughput. Improving Target frequently lead Planners of the Production to run the great lot sizes or group sizes depending accessibility size of raw material and identify the difference between company's Supply Chain work with J.I.T and without J.I.T.

Companies that effectively enforce Just in Time considerable ready for action reward in excess of competitor so as to be not. Uses of Just in Time Principles to the advantage of a particular industry, competition, and the situations of the business. Basic principle Just in Time has only the correct quantity of stock, raw material, and finished goods, in the manufacturing process, and available to meet want of consumers. JIT gets the real situation, the more accountable it will be to its customers

- the less capital invested in an inventory of R.M & FG. However, that translates into saving the company real money. The closer you get, the more profitable the business will be.

The J.I.T. supply chain seems difficult and companies fail at it, but some rules can make it easier for J.I.T., and companies can certainly succeed. Including KANBAN. The production and the demanding planner seeks to improve manufacturing learning goal target and usage of equipment objectives, labor competence, uptime, and throughput. Improving Target frequently lead Planners of the Production to run the great lot sizes or group sizes depending on the accessibility size of raw material. This has improved the use of equipment and labor and theoretically, but it does to eliminate the level of inventory of goods and if the consumer wants a different product. While running Small batch sizes that change frequently disrupt the production process, and JIT principles must be applied to benefit the business. In the JIT system, cards called "KANBAN are widely used to authorize production. In JIT system, a mass of cards called "KANBAN" cards is exploited to offer endorsement of manufacture. Cards used to control the production of products, and transfer of products between each supply chain step.

The sourcing/purchasing manager is attracted to the main beliefs so as to decrease firm costs. Manager stabilized spending going on product or material offerings at a low cost per unit cost to

strategic suppliers. In recent years, businesses have applied the JIT supply chain to reduce overall costs. J.I.T strategy improves the internal business and supply chain management. J.I.T is a supply chain strategy that reduces the expenses for a business and it should work in all areas of business. It is scientifically challenging to determine the type of material to be used throughout the S.C.M intended the operation response procurement achieved. There are two functions of KANBAN: control of production and increasing production.

Literature Review

"Just-in-Time" has been used for manufacturing processes for decades but globalization, increased competition, and the growth of e-commerce have forced JIT's

methods to be adapted to operation, production planning, sourcing, and logistics along the whole supply chain. During the 50s and most of the 60s and 70s, Japan developed and perfected production systems that allowed greater efficiency, faster market response, and less need to store large quantities of factory goods. Outstanding is a system promoted by Toyota car manufacturers known as TPS (Toyota Production System) or Just-in-Time. The thinking of JIT hold that equipment or machinery appear on correct moment plus correct position by means of correct amount (Heizer et al., 2016).

It was not until the 80s that the program spread to Western industries. At its root, it is common for factories to follow a push-up process where each stage of the production process collects its product to be removed by the next phase. The KANBAN program, which is card-based. This has necessitated the addition of all production stages and systematic operations with suppliers and customers. JIT is based on the goal of eliminating all waste. This makes it necessary to maintain a problem-solving position by identifying the real causes. Instead of increasing the security required to close the gap between customer needs and entry, real causes are evident in trying to eliminate these differences. The JIT method is actually one of the methods that contribute to reducing the effect of a bullwhip. Customer information enable firm to maintain competitive priority (Jahani et al., 2012). Have be recognized as the main issue in maximize a firm value (Croteau and Li, 2003). This has improved the use of equipment and personnel and theory, but what does it do to end the supply chain? The process of processing small size volumes often disrupt the production process, and JIT principles should be used to benefit the business. yet, many researches contain investigate the interaction among presentation plus value in previous 3 decade. Teoman and Ulengin (2018). Manufacture and sales customers only as necessary to produce goods, not prior.

JIT is also known as TPS (Toyota Production System). It is a concept of existing purchases increasing in recent years as more organizations look to their purchase chains to reduce costs. The change period, change shifts, other flexibility measures, and inventory goals that help consumers meet short-term demands and manage them. In process inventory overheads in industrialized system contain a massive concern for companies and managers. Just-in-time (JIT) process by kanban (card) controls was first introduce in Japan to lead the in procedure inventory outlay (Azadeh et al. 2005). The Operation of Jit, everyday actions be carried out through constantly meeting inventory targets of manufactured goods based on customer demand. Re arranging raw materials from production assets, labor and even warehouse / operations. Daily activities are run. Rearranging raw materials from production assets, labor and even warehouse. Short, just in time needs to link manufacture directly short-term consumer demand patterns. Shah and Ward (2007) calculated that pull system in the shape of JIT structure with Kanban Cards which serves as a mark to onset or suspend manufacture is one of the 10 most powerful matters of achievement a lean order. JIT manufacture system fulfills with two kinds of kanbans withdrawal and supplier) explored and discuss by Ohno et al. (1995). On the other hand, analyze the SCM field in the literature develop into more attracted, from supplier collection (sajedinejad et

al., 2018; Parsaeifar et al., 2019). First, it is important to manage and maintain a lot of resources. It can cost more than consumer goods and work. We can't get more out of weeks or months, leaving us with a lot of suspicious content. In JIT-based operations, the purchase is focused on the lowly cost. To price and advertising decisions and consumer segmentation and (Naimi Sadigh et al., 2011; 2016).

First, especially the days of bulk carrier and delivery use by smallest amount in number. Instead. Master the fact that less than truckload carriers are responsible for load-sharing and integration. (3PLs). Company with a wealthy information stand has additional capabilities of increasing fundamental improvement throughout purchasing information than the data of internal share (Zhou and Li, 2012). It is not easy to take a JIT company without going into JIT operation. Companies often JIT business models design and the implementation of external consultants that are specifically tailored to their industry, market, and operational capabilities.

The, customer knowledge, forceful issue, enable an organization to grow substantive competitive benefit through improved managerial innovation and learning (Paquette, 2011). Lean JIT From that things differently means of production planning in the environment since the error margin is, therefore, planning the change of times, the relative difficulty of switching to another shift samples (a specific product) And must be very familiar with the actual lead time of each product in terms of process capability. It is important to have a good handle on the actual product demand samples. Like an accomplishment the profit or outcome of Lean method, JIT perform an important model to concern the Lean completely (Chaharsooghi et al., 2010).

Hypotheses

H0: CM does not necessarily affect the manufacture scheduling, source competence and logistics operation inside a JIT Pro & SC.

H1: CKMC; The helpful outcome on top of effectual manufacturing scheduling, source Efficiency, Logistics, and Operations In A JIT Production and Supply Chain.

H2: Knowledge sharing; The Positive Effect on Effective Production Planning, Sourcing Efficiency, Logistics and Operations in a JIT Production and Supply Chain.

H3: Cooperation; the Positive Effect on Effective Production Planning, Sourcing Efficiency, Logistics and Operations in A JIT Production and Supply Chain.

H4: Operational performance; The Positive Effect on Effective Production Planning, Sourcing Efficiency, Logistics And Operations In A JIT Production and Supply Chain.

Significance level $p \leq 0.05$.

Methodology

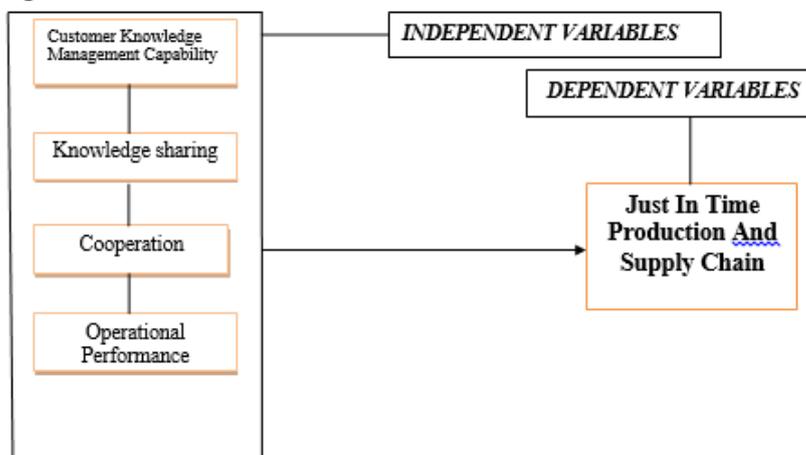
This study consists of a qualitative phenomenological research. Used ANOVAs in quantitative result. Inductive approach is a methodical process JIT PRO analyzing information in which investigation is likely to be the customer management effect on

Operations, Inventory, Production Planning, Logistics, and sourcing by J.I.T in Supply Chain. Focusing on waste elimination and improving performance at JIT's ethics, firms implement customer proximity strategies to grow product products by targeting market segments and positioning and segregation. ANOVA indicate that collection Significance level $p \leq 0.05$. Face-to-face verification be ensure through transfer scholar & manager field OM for the check in advance. We shaped a revise review tool online & sent a connection to the survey toward respondents, as well as director & associate president of purchase plus provide lists on advertising intellect platforms. Sent two round of sample invitation. In the primary surrounding, a sum of 866 sample emails be send and 118 emails be return in undelivered. In this case, see the email invitations to 740 informants. 153 replies in two weeks .Then, we sent their so-called reporters another round of survey invitations and only 48 responded.

Of the 181 responses, 11 were deleted due to missing data. After two attempts at data collection, 153 usable responses were received, reaching a rate of 20.67% (153/740).

This study includes the merger between JIT and other production methods, as well as the supplier and consumer organization, and the implementation of JIT. Just-In-Time (JIT) is a very simple but important concept in the management of modern Supply chain series. JIT plans to reduce costs by reducing the number of solid goods and materials in stock. JIT includes: producing and delivering finished goods in a timely manner for sale. JIT grasps the principles of limiting waste and stock. A JIT in the production network can be explained as the correct things showing up at each production network accomplice when required in the correct amount, at the opportune spot, plus by means of the correct value. Jit is process of SCM management a single procedure aimed at improving quality and ensuring timeliness. The acquisition of JIT has been demonstrated through the search for strategies. The management of JIT can be facilitated by the operation of the transport network and non-aggregated transport services such as third-party providers, distributors, and mergers.

Figure 2.1: Theoretical Framework.



Results and Findings
Statistics

		JITPRO	JITSC	CKMC	KS	CO	OP
N	Valid	153	153	152	153	152	153
	Missing	0	0	1	0	1	0

JITPRO

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	2	1.3	1.3	1.3
	2.00	3	2.0	2.0	3.3
	2.20	1	.7	.7	3.9
	2.40	3	2.0	2.0	5.9
	2.60	1	.7	.7	6.5
	2.80	1	.7	.7	7.2
	3.00	14	9.2	9.2	16.3
	3.20	4	2.6	2.6	19.0
	3.40	9	5.9	5.9	24.8
	3.60	10	6.5	6.5	31.4
	3.80	7	4.6	4.6	35.9
	4.00	81	52.9	52.9	88.9
	4.20	6	3.9	3.9	92.8
	4.40	1	.7	.7	93.5
	4.60	1	.7	.7	94.1
	4.80	4	2.6	2.6	96.7
	5.00	5	3.3	3.3	100.0
	Total	153	100.0	100.0	

JITSC

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	1.00	2	1.3	1.3	1.3
	1.60	1	.7	.7	2.0
	2.00	4	2.6	2.6	4.6
	2.20	2	1.3	1.3	5.9
	2.40	2	1.3	1.3	7.2
	2.60	2	1.3	1.3	8.5
	2.80	2	1.3	1.3	9.8
	3.00	6	3.9	3.9	13.7
	3.20	5	3.3	3.3	17.0
	3.40	6	3.9	3.9	20.9
	3.60	11	7.2	7.2	28.1
	3.80	7	4.6	4.6	32.7
	4.00	79	51.6	51.6	84.3
	4.20	3	2.0	2.0	86.3
	4.40	5	3.3	3.3	89.5
	4.60	7	4.6	4.6	94.1
	4.80	2	1.3	1.3	95.4
	5.00	7	4.6	4.6	100.0
Total		153	100.0	100.0	

CKMC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	2	1.3	1.3	1.3
	1.50	1	.7	.7	2.0
	1.75	1	.7	.7	2.6
	2.00	7	4.6	4.6	7.2
	2.50	1	.7	.7	7.9
	2.75	1	.7	.7	8.6
	3.00	10	6.5	6.6	15.1
	3.25	1	.7	.7	15.8

	3.50	4	2.6	2.6	18.4
	3.75	10	6.5	6.6	25.0
	4.00	91	59.5	59.9	84.9
	4.25	5	3.3	3.3	88.2
	4.50	7	4.6	4.6	92.8
	4.75	5	3.3	3.3	96.1
	5.00	6	3.9	3.9	100.0
	Total	152	99.3	100.0	
Missing	System	1	.7		
Total		153	100.0		

KS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	4	2.6	2.6	2.6
2.00	5	3.3	3.3	5.9
2.50	1	.7	.7	6.5
3.00	13	8.5	8.5	15.0
3.50	7	4.6	4.6	19.6
4.00	98	64.1	64.1	83.7
4.50	10	6.5	6.5	90.2
5.00	15	9.8	9.8	100.0
Total	153	100.0	100.0	

KS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	4	2.6	2.6	2.6
2.00	5	3.3	3.3	5.9
2.50	1	.7	.7	6.5
3.00	13	8.5	8.5	15.0
3.50	7	4.6	4.6	19.6
4.00	98	64.1	64.1	83.7
4.50	10	6.5	6.5	90.2

5.00	15	9.8	9.8	100.0
Total	153	100.0	100.0	

CO

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	3	2.0	2.0	2.0
2.00	6	3.9	3.9	5.9
2.50	1	.7	.7	6.6
3.00	14	9.2	9.2	15.8
3.50	8	5.2	5.3	21.1
4.00	97	63.4	63.8	84.9
4.50	11	7.2	7.2	92.1
5.00	12	7.8	7.9	100.0
Total	152	99.3	100.0	
Missing System	1	.7		
Total	153	100.0		

OP

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	3	2.0	2.0	2.0
1.50	1	.7	.7	2.6
1.75	1	.7	.7	3.3
2.00	5	3.3	3.3	6.5
2.25	2	1.3	1.3	7.8
2.50	3	2.0	2.0	9.8
2.75	1	.7	.7	10.5
3.00	9	5.9	5.9	16.3
3.25	6	3.9	3.9	20.3
3.50	5	3.3	3.3	23.5
3.75	9	5.9	5.9	29.4
4.00	77	50.3	50.3	79.7

4.25	12	7.8	7.8	87.6
4.50	3	2.0	2.0	89.5
4.75	6	3.9	3.9	93.5
5.00	10	6.5	6.5	100.0
Total	153	100.0	100.0	

Descriptive Statistics

D.S

	N	Minimum	Maximum	Mean	Std. Deviation
JITPRO	153	1.00	5.00	3.7464	.65132
JITSC	153	1.00	5.00	3.7882	.70905
CKMC	152	1.00	5.00	3.8141	.72302
KS	153	1.00	5.00	3.8693	.76039
CO	152	1.00	5.00	3.8487	.73024
OP	153	1.00	5.00	3.7892	.79063
Valid N (list wise)	151				

Validation of Model

Reliability S; A.V CPS

	N	%
Cases Valid	151	98.7
Excluded ^a	2	1.3
Total	153	100.0

a. List wise deletion based on all variables in the procedure.

RS

C. Alpha	No. of Items
.935	6

Regression JITPRO:

Variable E/R

M	V.E	V.R	M
1	OP, CKMC, CO, KS ^b	.	Enter

- a. DV: JITPRO
 b. All requested variables entered.

MS

M	r	R ²	A R ²	S. E E
1	.635 ^a	.403	.387	.51131

- a. P; Constant: OP, CKMC, CO, KS Adjusted R Square shows that 38.7% of variance of the Model is explained.

A

M		SS	D	MS	F	Sig.
1	Regression	25.814	4	6.453	24.684	.000 ^b
	Residual	38.170	146	.261		
	Total	63.984	150			

- a. DV: JITPRO
 b. P: Constant, OP, CKMC, CO, KS

ANOVA shows significant value as it is less than .05 so the model is significant and f-value is 24.6

C

M		U.C		SC		Sig.
		B	SE	B	t	
1	(Constant)	1.490	.237		6.295	.000
	CKMC	.430	.123	.478	3.497	.001
	KS	-.021	.133	-.025	-.159	.874
	CO	.014	.122	.015	.113	.911

OP	.169	.101	.205	1.676	.096
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Dependent Variable: JITPRO

T values are more than 2 it means all R significant. P values are less than .05 which shows significant impact of IV on DV.

1% increase in Customer Knowledge Management Capability will increase the Just In Time Production by 47.8%

1% increase in Knowledge Sharing will decrease the Just In Time Production by 25%

1% increase in Cooperation will increase the Just In Time Production by 15%

1% increase in Operational Performance will increase the Just In Time Production by 20.5%

JITSC

V-E/R

M	VE	VR	M
1	OP, CKMC, CO, KS ^b	.	Enter

a. DV: JITSC

MS

M	r	R ²	A R ²	S E.E
1	.805 ^a	.649	.639	.42874

a. Predictors: (Constant), OP, CKMC, CO, KS

Adjusted R Square shows that 63.9% of variance of the Model is explained.

A

M		SS	d	Mean ²	f	Significant
1	Regression	49.535	4	12.384	67.369	.000 ^b
	Residual	26.838	146	.184		
	Total	76.374	150			

a. DV JITSC

ANOVA shows significant value as it is less than .05 so the model is significant and f-value is 67

C

M	UC	Standardized Coefficients		t	Significant	
		B	SE			B
1	(Constant)	.822	.198		4.140	.000
	CKMC	.688	.103	.699	6.667	.000
	KS	.130	.111	.139	1.164	.246
	CO	-.217	.102	-.223	-2.124	.035
	OP	.178	.084	.199	2.113	.036

Dependent Variable: JITSC

T values are more than 2 it means all R significant. P values are less than .05 which shows significant impact of IV on DV.

1% increase in Customer Knowledge Management Capability will increase the Just In Time Supply Chain by 69.9%

1% increase in Knowledge Sharing will increase the Just In Time Supply Chain by 13.9% 1% increase in Cooperation will decrease the Just In Time Supply Chain by 22.3%

1% increase in Operational Performance will increase the Just In Time Supply Chain by 19.9%

Hypotheses Testing

JITPRO

Hypotheses	β	R ²	Sig.	t
H1: CKMC; The helpful outcome on top of effectual manufacture scheduling, source effectiveness, Logistics & operation in a JIT pro.	.478	0.403	.001	3.497
H2: Knowledge sharing; The Negative result happening effectual manufacture scheduling, source effectiveness, Logistics & operation in a jit pro.	-.025	0.403	.874	-.159
H3: Cooperation; The helpful outcome on top of effectual manufacture scheduling, source effectiveness, Logistics & operation in a jit pro.	.205	0.403	.911	.113

H4: operational performance; The helpful outcome on top of effectual manufacture scheduling, source effectiveness, Logistics & operation in a jit pro.	.169	0.403	.096	1.676
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JITSC

Hypotheses	β	R ²	Sig.	t
H1: CKMC; The helpful outcome on top of effectual manufacture scheduling, source effectiveness, Logistics & operation in a jit SC.	.699	.649	.000	6.667
H2: KS; The helpful outcome of effectual manufacture scheduling, source effectiveness, Logistics & operation in a jit SC.	.139	.649	.246	1.164
H3: Cooperation; The Negative outcome of effectual manufacture scheduling, source effectiveness, Logistics & operation in a jit SC.	-.223	.649	.035	- 2.124
H4: operational performance; The helpful outcome of effectual manufacture scheduling, source effectiveness, Logistics & operation in a jit SC.	.199	.649	.036	2.113

Discussion:

This study assess the connection between CKMC, KS, CO and Operational Performance with JIT Supply chain and Production. In exacting, CKMC entail performance consumer contact strategy for attractive manufactured goods variability for customers. This study shows to facilitate useful production planning is associated to CKMC and CO involving SC partners.

Conclusion:

Just in time is very successful and resourceful in eliminate waste. JIT multi-stage supply chain, which performs, base values jit production & SCM environment. The SCM in just in time environment with 2 kind of KANBANS Production ordering and supplier). Confirmation the truth of the information collectively and the demand timing for estimate the series parameters. JIT system, a mass of cards called “KANBAN” cards is exploited to give endorsement of manufacture. Cards used to control the production of products, and transfer of products between each supply chain step. By focus misuse elimination & civilizing efficiency in JIT's ethics, firms implement customer proximity strategies toward add to manufactured goods turnover.

At just in time, 4 powerful factor, as well as CKMC, KS, collaboration & operational performance are eliminated by eliminating redundant operations, reducing costs, and increasing efficiency. Customer Knowledge Management Capability, Knowledge sharing, corporation and operational performance are the cause of J.I.T Production and Supply Chain. Reduce the wastage and expenses, And an increase in revenue with customer satisfaction. The flexibility of the supply chain can lead to better mutual understanding in strategic partnerships established with suppliers and consumers, resulting in improved production planning, sourcing efficiency, logistics, and operations. Production planning, sourcing, logistics, and operations are the effect on the J.I.T Production and Supply Chain

Implications:

Demand driving in the Acquisition of JIT SC The essential position provide series intellect indicates the convenience JIT supply chain and consequent efficiency are facilitated by three driving factors. SC physicians focus promoting CKMC, KS, & CO among provide series associates.

Limitations & Recommendations:

The limitations of this study are that they restrict the interpretation of the study results and guarantee added study. Achievement jit depends efficient manufacture and supply chain schedules by means of input supplier & service provide through supplier. The study demanded an impact on the supply of JIT intelligence from the supply chain. 3-D is second-hand to compute efficiency the SCM. Upcoming investigate can go onward to review connection among demand-driven SCM intelligence and alignment quickness, & adaptation. It would be wise to consider these links in the investigation. Collaboration, are eliminated by eliminating redundant operations, reducing costs, and increasing efficiency. These are the effect on J.I.T production and Supply chain.

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