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From the Chief Author's Desk

We see a drastic momentum everywhere in all fields now a day. Which in turns, say a lot to everyone to excel with all possible way. The need of the hour is to pick the right key at the right time with all extras. Citing the computer versions, any automobile models, infrastructures, etc. It is not the result of any preplanning but the implementations of planning.

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This Global Journal is like a banyan tree whose branches are many and each branch acts like a strong root itself.

Intentions are very clear to do best in all possible way with all care.

Dr. R. K. Dixit

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Commercial Society

Iraj Rezakhani

GJMBR Classification (FOR)
150501,150503,150506 and M132.

Abstract-For organizing the whole world trade, institutions, fares, companies and etc., those should be controlled by organizing a world wide trade organization chart with defining the commercial society and providing the required lows and rules and establishing the world wide commercial government to collect, sort, program and manage them under commercial government rules by considering each organization with dark shell as the unit cell of commercial society.

I. INTRODUCTION

Some of the important features of modern life are production, trade and economics that have a serious role on living conditions and destination of people, while the companies and organizations and legal people are the main elements of economical activities and their success and failure in their activities is determinant for the people. Material, financial sources, technology and human sources management are the main bases in management strategies and success or failure of management strategies have direct and fundamental influence in saving the existing limit sources and stability of the economical and social state. This paper aim is suggesting a new total management method for universal and integrated organizing of trade with a new view of what exists and what should exist. With this aim, we proceed to identify a new concept say, Legal Society (Leso) or Commercial Society(Coso), and suggesting a new organization for this society with the name of Legal Government(Lego) or Commercial Government (Cogo) and a managerial theory in the scope of commercial sociology under the name of Legal Society Management Theory(Leso Math) or Commercial Society Management Theory(Coso Math).

II. DESCRIPTION

In creation and conduction path of commercial organizations and institutions, the existing methods are bases on distinguishing the necessity and afterwards aim is determined and defined on the basis of distinguished necessities. After aim determination step, the organism will be designed on the necessity and aim basis, and as the second step, the required organization will be established and equipped and activated. It's notable that in all steps the organization and/or institution is considered as an integrity of individual staff and equipments (or an integrity of soft wares and hard wares /specialties and information and tools and equipments)which should connect to the other existing individual persons out of the institution, and indeed, while looking at a company or an institution, the staff and equipment (or the internal company components) are viewed not the company itself (as a whole).Such situation is similar to when studying a man in the view of anatomy and

psychology, we just look at the cells and try to understand whether this person is an intelligent and active and moral one or not.So suggesting the company as a whole surrounded in a dark shell(opaque shell)we establish a new society which is composed of previously defined cells (legal persons)calling Leso or Coso. In this society we can see only the individuals and persons who are legal not real and real persons are not visible and don't exist. With this view and noting the special relations between the legal persons a new law should be provided and a new social system should be organized for the relations, characters, individuals and social relations and rights and etc .By this new sight of view their performances and characters can be studied and improved.

Few special specifications can be defined in Coso:

- 1- Individual; which is referred to "legal person"(and means "institution/company/commercial unit).individual (Legal person) is the unit cell of society and forms the lowest level of society.
- 2- Government; which is referred to "legal government" or "commercial government" and is the tip of the society pyramid.
- 3-The other society levels are consisting of federations, consortiums, international organizations and etc. which form the intermediate society levels.

By this view a new world is recognized and so we see that the government, country, city and town gets a new form differing from what exist for the time being and all new rules which are needed for management of this society should be reviewed and improved or newly written and as it's clear economy and trade and production finds new concepts and new organizing centers are needed to be established for new managing method of Coso.Coso is formed with small commercial units (shops, stores, offices, clinics, etc.) companies, fares, consortium, leagues, unions, commercial organizations (industrial, fare, etc.), ministries and government, but all are legal and commercial.Now, it's necessary to determine and define a performance frame work for each individual behavior and social relations between individuals and under this sight of view individuals and social rules and laws should be written to determine limitations, duties, restrictions and freedom rights. With this rules similar to real social rules the individuals will be punished and penalized in case of misdeed.Activity methods in the Coso are similar to real society. The Cogo does the main planning and programming of the Coso and gives the work orders to the lower related person (similar to ordinary contracts). In this orders the payments, business subject, time and etc. are notified. Ordered person will do the business in accordance with order spec. and with the equipment in hand and will deliver or report the result to the orderer (upper level individual) and will be paid for it in his

credit account and he can pay the other persons accompanied while doing for the order. In addition, a part of this credit will be paid to the real persons inside the legal person or spent for providing their needs. By this mean physical currency can be omitted in all interactions and all credits will be done in credit accounts that is completely controllable. This method won't cause any impediment for individual's growth and rivalry development. Commercial fail will lose its meaning and if a person performance looks weak this will act as an illness and the relevant persons will check him and remedy him. All the orders are in accordance with the individual abilities and in relation with his specialty and are programmed under the total commercial social strategy by the Cogo. In this society many advantages are recognized such as:

- Buying and sailing finds a new meaning
- Paper work will reduce notably
- Productions will be made under control and organized and whatsoever ineffectual activities will never be done and material, energy, fund and other sources will be used quit optimistically
- Universal standards could be governed as a worldwide rule on the trade and production and all other activities in all over the world, and the standards will be considers as a social law.
- Bust and Inflation has no meaning in the Cogo
- Many inspecting individuals take the Cogo individuals under control for any illness and defects and remedy if need arises.
- In the Cogo all real persons are educated under certain circumstances and for future activity requirements for the specified legal persons and by these mean human societies no far touch the unemployment, hunger, lack of food, illiteracy and laying behind.
- It's completely possible to exert the required managing strategies of trade, industry, society, economy and finance.

III. CONCLUSION

By exerting a new filter to view the existing arrangement of the world in the light of distinct human activities, the unarranged and undirected commercial activities can be properly organized, directed and taken under control and eliminate most of the commercial mistakes and losses due to mismanagement and lack of experience. This method eliminates many existing difficulties of trade, economy, society and human.

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Iraj Rezakhani, the author, was born in April 5th, 1962 in Tehran, Iran and studied Mechanical engineering BSc in and Nuclear engineering MSc Sharif University of technology of Tehran. He has been working in many companies and industrial projects since 1987 as inspector, engineering department manager, project manager engineering consultant and directing manager. He established a private company in 1996 and has been in direct connection with the commercial and industrial existing difficulties.

Un Nuevo Hecho Estilizado Del Crecimiento: La Relacion Marginal Capital Producto Es Muy Volatil Y Determina La Volatilidad De La Tasa De Crecimiento De La Economia.

José Reyes Bernal Bellón.

GJMBR Classification (FOR)
150507,150504, M21 & 140202

Abstract-One of the stylized facts of Kaldor (1961) talks about to the stability of the capital relation product. Some authors also have verified this relative certainty of the capital relation product as it is the case of Maddinson (1982) that verifies this fact for 16 countries of the OECD. The objective of this article is to show that the capital relation product substantially defers from the marginal relation capital product. Also, the theorem of Harrod is used to show that the volatileness of the marginal relation capital product determines the volatileness of the rate of economic growth.

Keys words-Economics growth, capital output marginal ratio, marginal propensity to save.

I. INTRODUCCION

Uno de los hechos estilizados de Kaldor (1961) se refiere a la estabilidad de la relación capital producto. Algunos autores también han verificado esta relativa constancia de la relación capital producto como es el caso de Maddinson (1982) quien comprueba este hecho para 16 países de la OCDE. Easterly (1999) también supone una relación capital producto constante en las estimaciones que realiza con base en el modelo Harrod-Domar para 88 países, con el objetivo de verificar si los incrementos en la inversión y la ayuda externa generan crecimiento o no. La literatura sobre crecimiento y la misma academia reconocen y aceptan este hecho como una regularidad internacional. De igual manera, parece existir un consenso general en suponer que la relación capital producto es igual a la relación incremental capital producto y que por lo tanto esta última también es constante (i, e Jones (1988), grabowski R. y Shields M. (2000), Lorente (2004), Melhum H. (2004)). La relación capital producto es fija o constante si se interpreta como un coeficiente de tecnología, mientras que la relación marginal capital producto se supone constante porque la tasa de interés tiende a ser constante como lo evidencia otro de los hechos estilizados de Kaldor. El objetivo de este artículo es mostrar que la relación capital producto difiere sustancialmente de la relación marginal capital producto.

Adicionalmente, se pretende mostrar a través del teorema fundamental de Harrod que la volatilidad de la relación marginal capital producto determina la volatilidad de la tasa de crecimiento económico. Este trabajo se desarrolla con

base en las ecuaciones fundamentales de Harrod y contiene en primer lugar esta breve introducción. En segundo lugar se plantea el modelo de Harrod y se verifica empíricamente la estabilidad de la relación capital producto frente a la gran volatilidad de la relación marginal capital producto. En tercer lugar, se analiza la relación marginal capital producto y su incidencia sobre la tasa de crecimiento de la economía. En la cuarta sección se plantea una hipótesis para establecer los determinantes de la relación marginal capital producto. En la quinta y última sección se presentan las conclusiones del trabajo.

II. LA ECUACION FUNDAMENTAL DE HARROD.

La ecuación fundamental Harrod parte de la igualdad entre la inversión (I) o las variaciones en el capital y el ahorro, es decir, $I = \Delta K = S = Y$. Así mismo, establece la relación marginal capital producto como $C = \Delta K / \Delta Y$, es decir, establece que la inversión depende de cambios en las variaciones en el producto. Con base en estas ecuaciones deriva su ecuación que representa una senda de crecimiento, así:

$$G_y = \frac{s}{C} \quad [1]$$

De donde es la tasa de crecimiento observada, “ G_y ” es la tasa de ahorro y “ C ” es la relación marginal capital producto. El interés fundamental de este trabajo consiste en analizar el comportamiento de la relación marginal capital producto y su relación con la tasa de crecimiento de la economía. y GsCHarrod (1979, Pág. 175) argumenta que sus ecuaciones fundamentales son “axiomas que serían la base de una teoría general del crecimiento económico”. Bajo esta consideración, una alta tasa de crecimiento estará asociada a una alta tasa de ahorro o a una baja relación marginal capital producto. Así mismo, cuando hay una alta tasa de crecimiento pero existe un bajo ahorro, el resultado será una menor relación marginal capital producto. De igual manera puede coexistir una baja tasa de crecimiento del producto con una alta tasa de ahorro, en ese caso la ecuación mostrará que la relación marginal capital producto se ha incrementado considerablemente. Estas variaciones notables de la razón marginal capital producto tienden a explicar las variaciones en la tasa de crecimiento de la economía, mientras que la tasa de ahorro juega un papel residual en la

determinación de dicha tasa. Bernal (2008) muestra que pueden coexistir altas tasas de ahorro con bajas tasas de crecimiento o bajas tasas de ahorro con altas tasas de crecimiento económico. Por lo tanto, y de acuerdo con la ecuación fundamental de Harrod, la volatilidad del crecimiento económico estaría explicada por la volatilidad de la relación incremental capital producto. La robustez de la ecuación de Harrod para definir el crecimiento se sustenta en su sencillez y en su alto grado de predictibilidad. Si bien la tasa de ahorro juega un papel residual o acomodaticio en la ecuación, la relación marginal capital producto es la que determina el crecimiento. En primer lugar, una alta o baja relación marginal capital producto está asociada con una baja o alta tasa de crecimiento económico respectivamente. En segundo lugar, la relación marginal capital producto determina el signo positivo o negativo de la tasa de crecimiento de la economía; así por ejemplo, cuando un país presenta una tasa de crecimiento negativa (-2,5%) el signo lo establece la relación marginal capital producto y mas explícitamente el cambio en el producto interno bruto (PIB). En otras palabras, el signo negativo de esta relación muestra que los cambios en el capital fueron mayores que el cambio en el ingreso, siendo el cambio en el ingreso negativo, y, con una tasa de ahorro positiva la ecuación de Harrod define una tasa de crecimiento negativa. Es de anotar, que si se define una tasa de crecimiento como la tasa de ahorro dividida por la relación capital producto, esta tasa de crecimiento será siempre positiva, no habrá posibilidad de que se genere una tasa de crecimiento económico negativa porque la relación capital producto siempre será positiva, mientras que si se define la tasa de crecimiento con base en la relación marginal capital producto se tendrá, o bien tasas de crecimiento positivas o negativas según sea el signo de la relación incremental capital producto. Así mismo, una tasa de crecimiento definida con la relación capital producto que

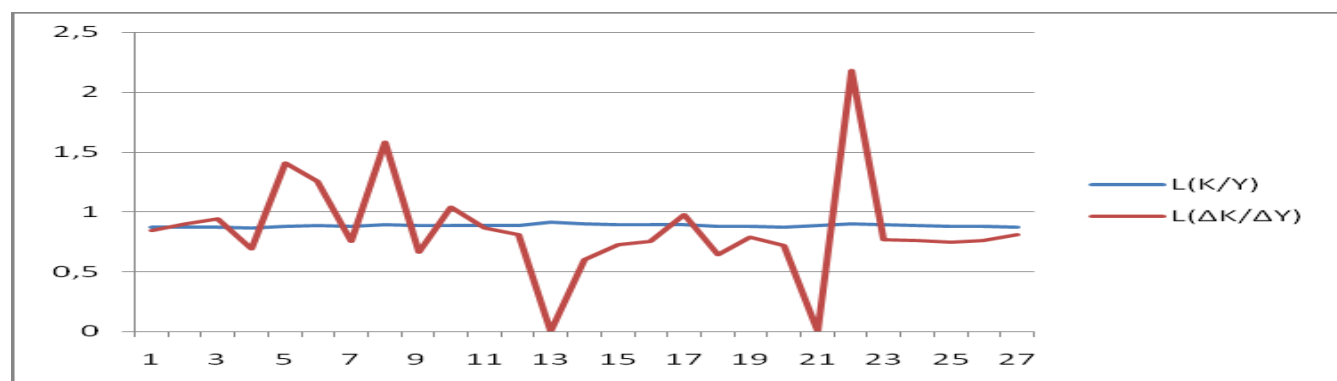
tiende a ser constante y con unas tasas de ahorro que no varían mucho, darían como resultado una tasa de crecimiento relativamente constante y por lo tanto la volatilidad del crecimiento estaría en entre dicho pues es, justamente esta volatilidad la que impera en todas las economías del mundo.

1) *Comparación entre la Relación Capital Producto y la Relación Marginal Capital Producto.*

A continuación se presentarán los gráficos de la relación capital producto y de la relación marginal capital producto para algunos países de la OCDE, Sur América, Asia y África. Este ejercicio se realiza con base en la información de la Penn World Table de Summers, Heston y Aten de 2002 para 88 países con información comprendida entre 1970 y 1996.

Los datos de la relación capital producto (K/Y) y de la relación marginal capital producto $\Delta K/\Delta Y$ están expresados en logaritmos para eliminar el problema de los datos extremos que no permiten mirar con claridad la diferencia entre la estabilidad de la relación capital producto y la volatilidad de la relación marginal capital producto. En otras palabras se verificará el hecho estilizado de Kaldor conocido como la estabilidad de la relación capital producto versus un nuevo hecho estilizado que será conocido como la volatilidad de la relación marginal capital producto. En consecuencia los resultados mostrarán que ambas relaciones no tienden a ser iguales como se plantea en los libros de texto donde siempre se asume que $K/Y = \Delta K/\Delta Y$. Curiosamente, este supuesto también lo han utilizado las instituciones financieras internacionales para fijar metas de crecimiento o establecer brechas de financiación. A continuación se presentan las gráficas de cada una de las relaciones en mención, se observará que las gráficas hablan por si solas.

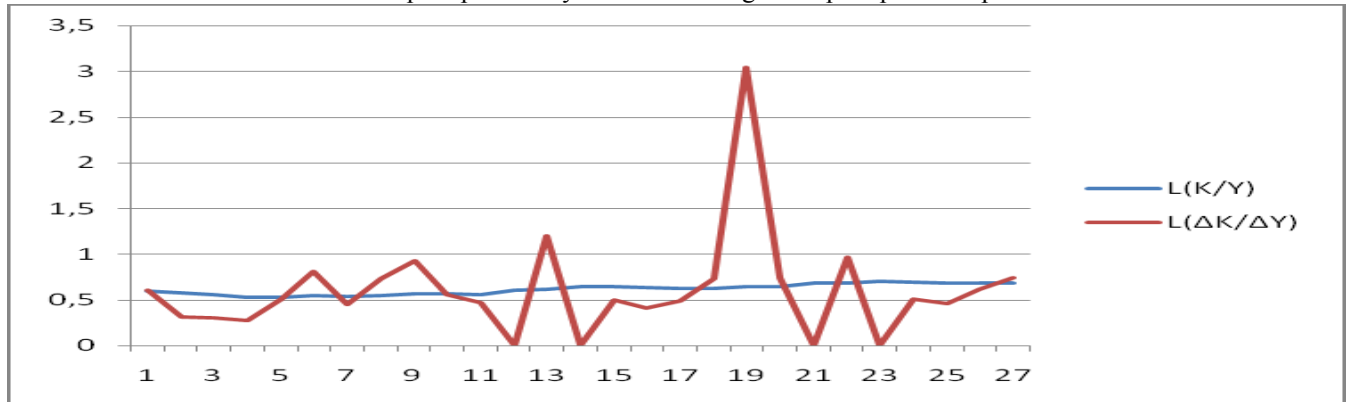
Gráfica 1
La relación capital producto y la relación marginal capital producto para Australia



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

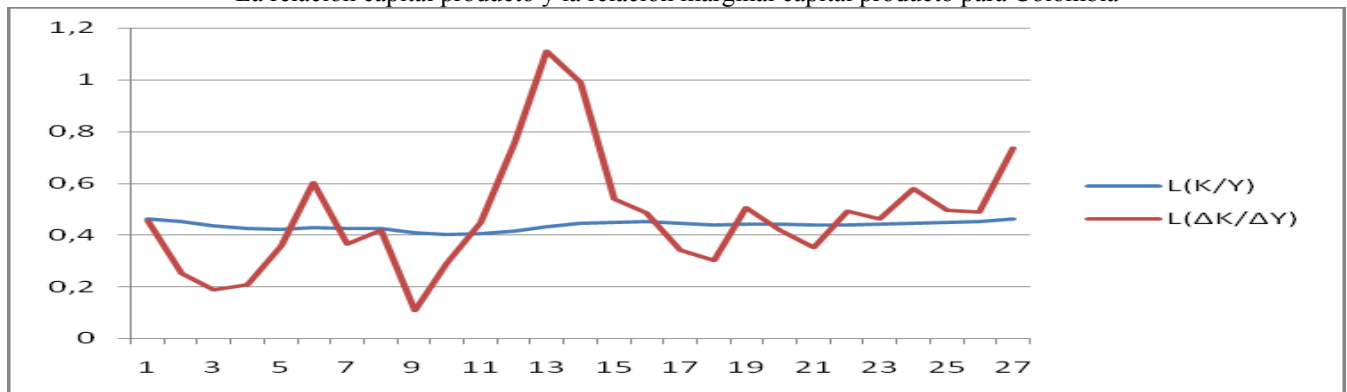
Gráfica 2
La relación capital producto y la relación marginal capital producto para Brasil



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten

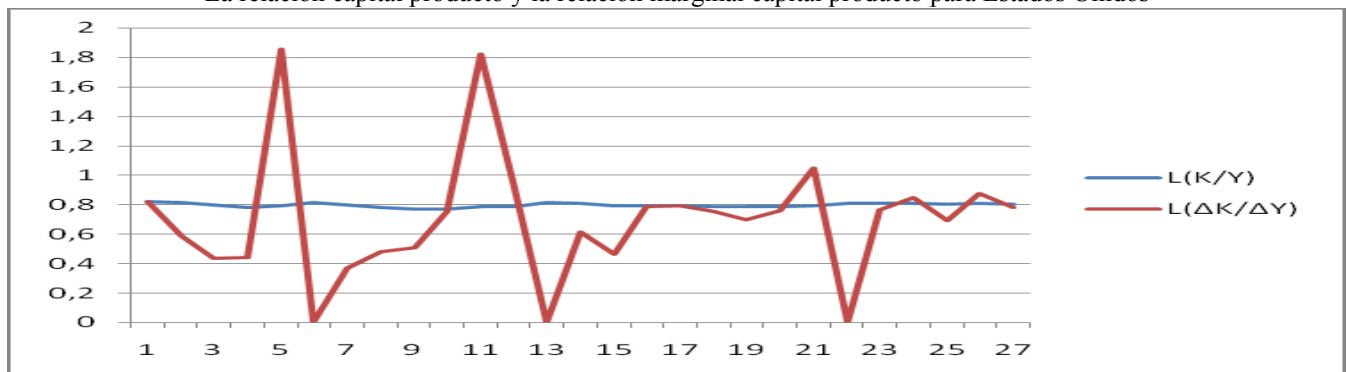
Gráfica 3
La relación capital producto y la relación marginal capital producto para Colombia



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

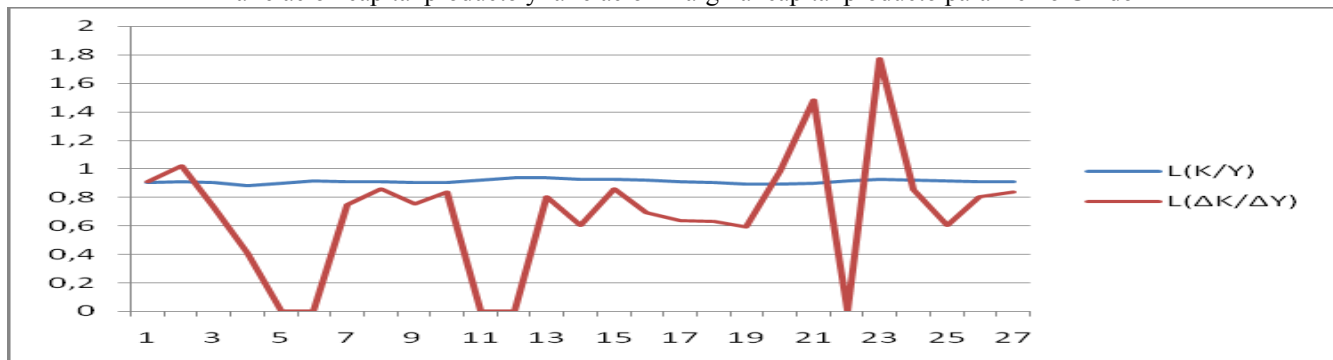
Gráfica 4
La relación capital producto y la relación marginal capital producto para Estados Unidos



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

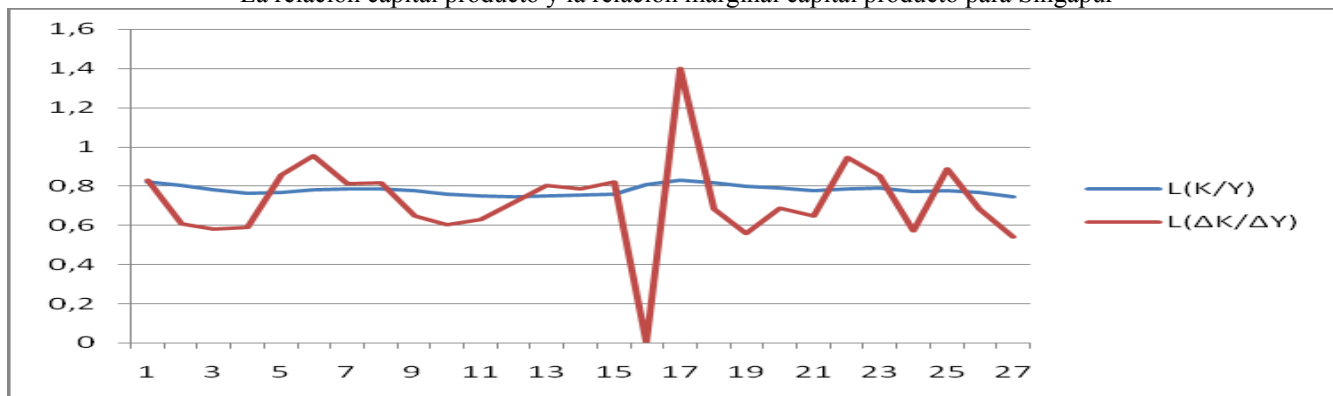
Gráfica 5
La relación capital producto y la relación marginal capital producto para Reino Unido



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

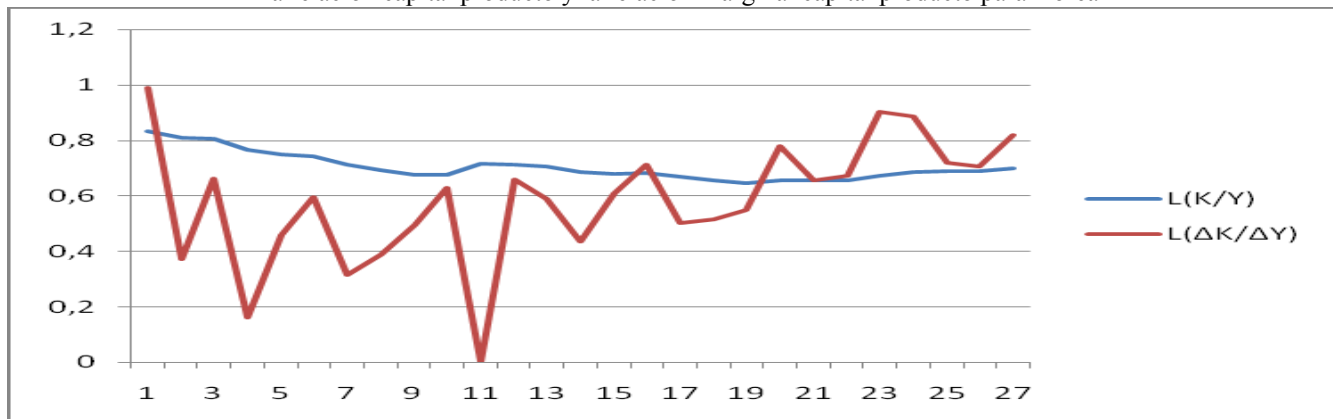
Gráfica 6
La relación capital producto y la relación marginal capital producto para Singapur



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

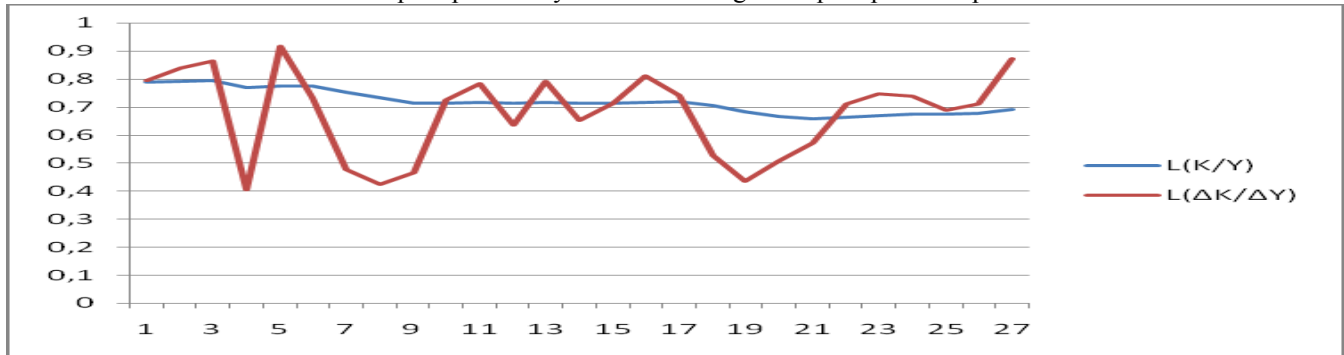
Gráfica 7
La relación capital producto y la relación marginal capital producto para Korea



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

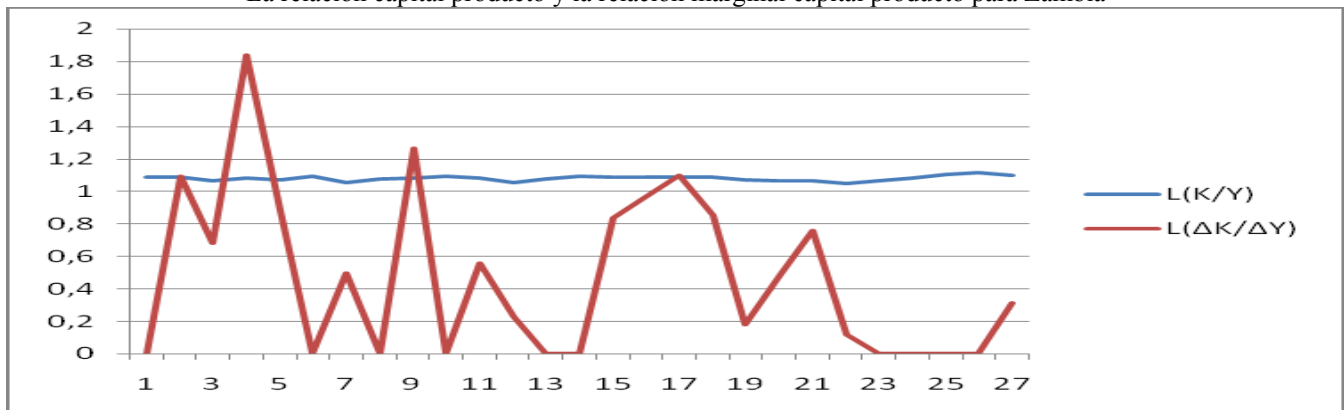
Gráfica 8
La relación capital producto y la relación marginal capital producto para Taiwan



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

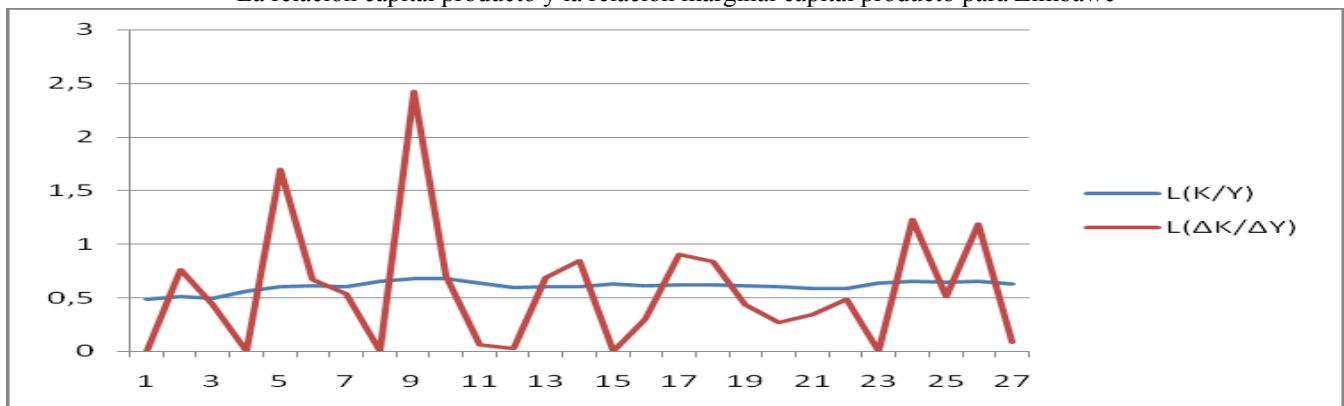
Gráfica 9
La relación capital producto y la relación marginal capital producto para Zambia



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

Gráfica 10
La relación capital producto y la relación marginal capital producto para Zimbabwe



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

Al observar las gráficas de la 1 a la 10 se concluye que la relación capital producto para esta muestra de países es constante o relativamente constante, mientras que la relación marginal capital producto es extremadamente volátil. Este mismo resultado se verifica para todos los países del mundo y se invita al lector a que lo compruebe. En general, se presentan dos regularidades en todos los países del mundo, una, la relación capital producto tiende a ser constante y dos, la relación marginal capital producto es muy volátil. En algunas gráficas pareciera que la relación marginal capital producto se hace estable pero es producto de la falta de prolongación de la curva porque para esos años la relación

marginal capital producto fue negativa y como la serie está expresada en logaritmos entonces, en esos años se conecta con una línea horizontal. Por ejemplo, en el Reino Unido para los años 1975, 1976, 1977 y el periodo entre 1982 y 1985 se hace evidente el planteamiento anterior; o para el caso de Zambia en el periodo comprendido entre 1992 y 1996. La volatilidad de la relación marginal capital producto también puede comprobarse utilizando la desviación estándar y comparándola con la de la relación capital producto. Se observará que las dos desviaciones difieren significativamente para todos los países de la muestra. El cuadro 1 presenta estos resultados.

Cuadro No. 1

Desviación estándar de la relación capital producto (K/Y) y de la relación marginal capital producto (($\Delta K/\Delta Y$))

País	Desv E.	Desv E.	País	Desv E.	Desv E.	País	Desv E.	Desv E.	País	Desv E.	Desv E.
(K/Y)		($\Delta K/\Delta Y$)	(K/Y)		($\Delta K/\Delta Y$)	(K/Y)		($\Delta K/\Delta Y$)	(K/Y)		($\Delta K/\Delta Y$)
ARG	1,0	8,0	DZA	0,4	5,3	JAM	0,9	26,3	PNG	0,4	9,5
AUS	0,2	31,3	ECU	0,6	9,2	JPN	0,3	26,5	PRT	0,3	61,6
AUT	0,3	29,0	ESP	0,4	38,7	KEN	0,1	81,2	PRY	0,2	9,2
BEN	0,1	8,5	ETH	0,1	3,3	KOR	0,6	3,7	ROM	1,5	13,2
BOL	0,3	5,5	FIN	0,6	46,1	LKA	0,1	11,4	SGP	0,3	5,5
BRA	0,6	214,5	FJI	0,5	8,2	LUX	0,5	8,5	SLV	0,5	6,0
BRB	0,4	12,7	FRA	0,3	55,4	MAR	0,1	12,8	SWE	0,3	14,2
BWA	0,6	8,7	GAB	0,6	6,6	MEX	0,4	5,3	TGO	0,5	4,3
CAF	0,4	12,0	GBR	0,2	14,6	MUS	0,1	2,8	THA	0,5	1,6
CAN	0,4	13,6	GHA	0,3	5,7	MYS	0,3	18,2	TTO	0,4	3,5
CHE	0,8	43,0	GIN	0,3	5,0	NAM	1,0	14,5	TUN	0,2	21,7
CHL	0,3	5,1	GRC	0,7	74,2	NER	0,6	12,1	TUR	0,2	19,5
CHN	0,3	14,0	GTM	0,2	60,9	NGA	0,3	19,0	TWN	0,2	3,6
								7962,			
CIV	0,3	17,1	GUY	1,5	10,0	NIC	17,0	0	TZA	1,2	61,6
CMR	0,4	6,5	HKG	0,3	13,6	NLD	0,3	21,9	URY	0,6	56,7
COG	0,3	10,5	HND	0,2	10,0	NOR	0,3	41,0	USA	0,2	18,7
COL	0,1	2,5	IDN	0,3	1,7	NPL	0,1	4,9	VEN	0,6	38,9
CPV	0,6	18,1	IND	0,1	34,7	NZL	0,6	682,9	ZAF	0,2	44,9
CRI	0,3	7,7	IRL	0,2	14,0	PAK	0,2	11,8	ZAR	0,5	5,0
CYP	0,7	9,8	IRN	1,0	171,8	PAN	0,3	6,9	ZMB	0,4	15,8

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

En el cuadro No. 1 se observa que la desviación respecto a la media de la relación capital producto es mínima, es decir tiende a cero en todos los países analizados, mientras que la desviación estándar de la relación marginal capital producto es alta, es decir muy volátil o la dispersión es grande respecto a su media. Se ha mostrado que la relación marginal capital producto de Harrod es muy volátil y que no es igual a la relación capital producto. A continuación se analizara cual de las dos relaciones determina el crecimiento aún cuando ya se ha mostrado que la ecuación de Harrod, es decir la tasa de ahorro dividida sobre la relación marginal capital producto tiende a ser una ley del crecimiento (Bernal, 2008).

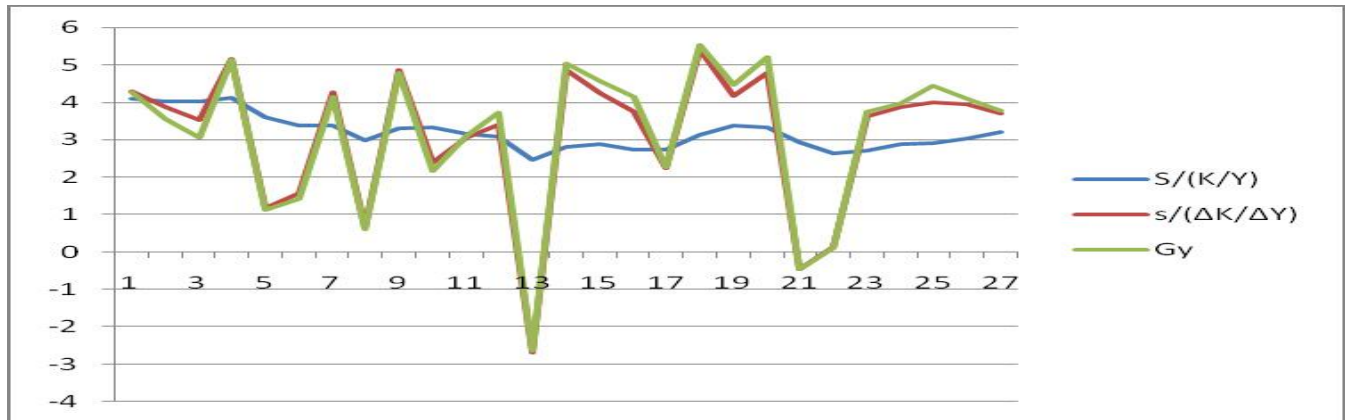
III. LA RELACIÓN MARGINAL CAPITAL PRODUCTO ($\Delta K/\Delta Y$) DETERMINA LA TASA DE CRECIMIENTO DE LA ECONOMÍA.

Bernal (2008) mostró que el teorema de Harrod tiende a ser una ley del crecimiento, por lo tanto, la tasa de ahorro dividida por la relación marginal capital producto sigue el mismo comportamiento que la tasa de crecimiento real de la economía. En este trabajo se muestra la diferencia de dividir la tasa de ahorro entre la relación capital producto versus dividir la tasa de ahorro entre la relación marginal capital producto. Cada uno de estos resultados será comparado con la tasa de crecimiento real de la economía. Para mostrar este ejercicio se seguirá con los mismos países con los cuales se demostró el hecho estilizado de Kaldor sobre la relación capital producto (K/Y) frente a la volatilidad de la relación marginal capital producto ($\Delta K/\Delta Y$). No obstante, se puede elegir cualquier país y también se verificarán los mismos resultados. En las gráficas Gy es la tasa de crecimiento real

de la economía y las otras dos curvas son el teorema de Harrod con la relación capital producto ($s/(K/Y)$) y con la relación marginal capital producto ($s/(\Delta K/\Delta Y)$).

Gráfica 11

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación **marginal** capital producto para Australia



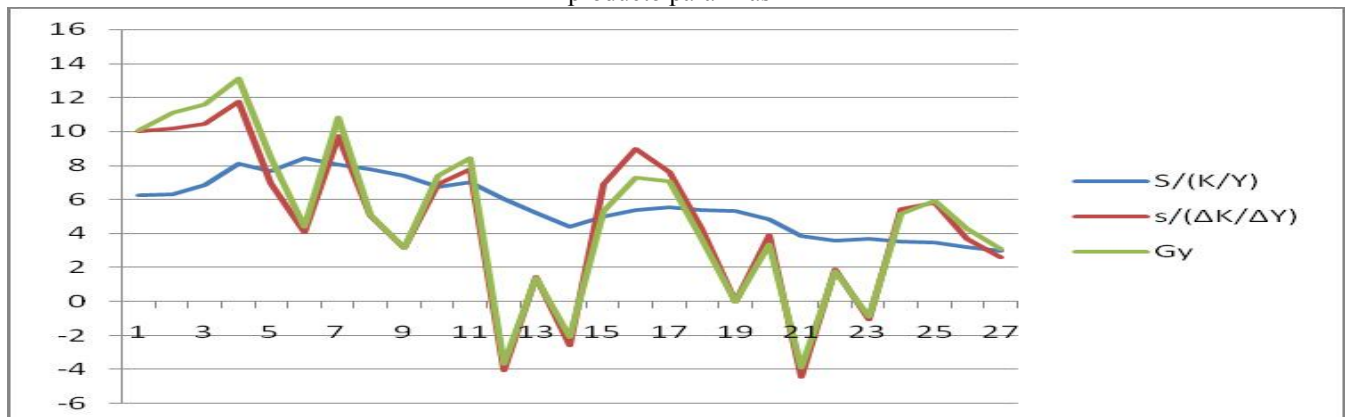
Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

En la gráfica 11 se observa que la tasa de crecimiento real (G_y) tiende a ser igual al teorema de Harrod cuando se utiliza la relación marginal capital producto, mientras que cuando se usa la relación capital producto la curva tiende a ser horizontal mostrando tanto la estabilidad de esta relación como la poca variación de la tasa de ahorro para este país. De igual manera al explorar los datos puntualmente se observará que los años en los cuales la tasa de crecimiento fue alta, también corresponde una relación marginal capital

producto baja y viceversa tal como se muestra en Bernal (2008). Por ejemplo, en 1977 se dio una de las tasas de crecimiento más bajas en Australia (0,6%) y esa tasa de crecimiento es compatible con una relación marginal capital producto alta (38), mientras que por ejemplo, en 1983 la tasa de crecimiento de la economía fue del 5% y con una relación marginal capital producto de 3,9, mucho mas baja que en 1977.

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación **marginal** capital producto para Brasil



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

En la gráfica 12 también se observa el mismo comportamiento de las tres curvas pero la relación capital producto para Brasil presenta una leve tendencia descendente aún cuando su comportamiento es estable. De igual manera el teorema de Harrod se cumple para Brasil y es la volatilidad de la relación marginal capital producto la

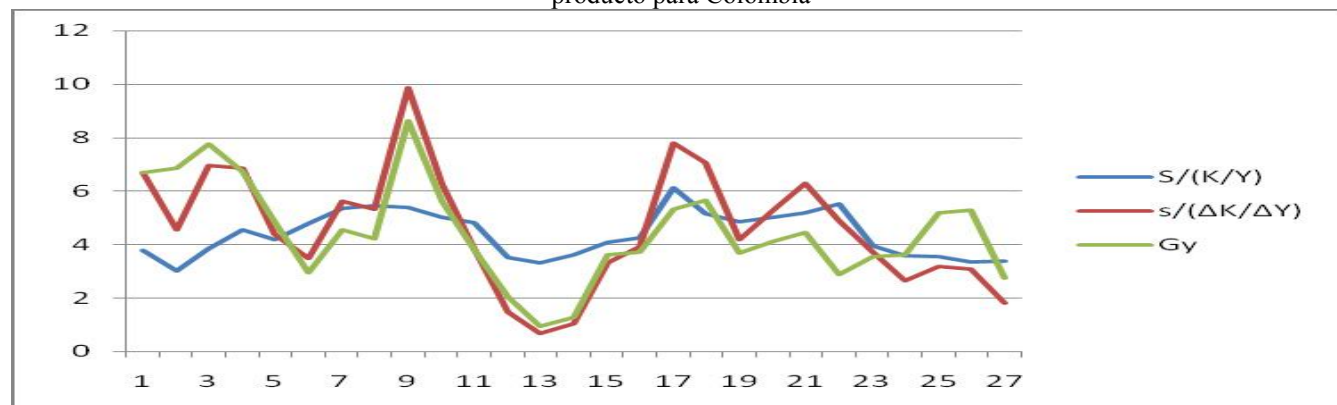
que determina la volatilidad de la tasa de crecimiento. En Brasil, la tasa de crecimiento real mas alta (13,1%) se dio en 1973. En ese año, la tasa de ahorro era del 27% y la relación capital producto fue de 2,3. Así mismo, en 1975 con una tasa de ahorro del 29,7% la economía brasileña alcanzó una tasa de crecimiento de apenas el 4,4% y con una relación

marginal capital producto del orden de 7.2. más alta que en 1973. Por lo tanto, se puede concluir que periodos de alto

crecimiento son consistentes con alta productividad marginal de capital y no así con altas tasas de ahorro.

Gráfica 13

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación **marginal** capital producto para Colombia



Nota: año 1 = 1970, año 27 = 1996.

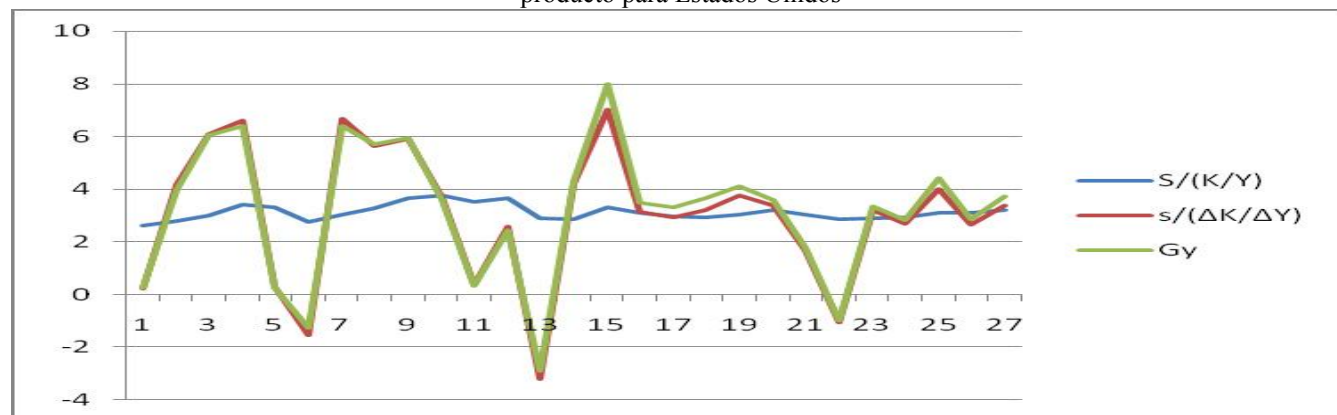
Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

En Colombia, de acuerdo con la gráfica 13, también se evidencia que el teorema de Harrod determina una tasa de crecimiento de la economía y que tiende a ser igual a la tasa real de crecimiento cuando se utiliza la relación marginal capital producto, mientras que si el teorema utiliza la relación capital producto la curva que se genera es relativamente estable. Bajo estas consideraciones, la volatilidad de la relación marginal capital producto determina la volatilidad de la tasa de crecimiento real porque, como lo muestran los datos, periodos de alto crecimiento son compatibles con una relación marginal capital producto baja y viceversa. Por ejemplo, —la ~~tasa~~ de

crecimiento mas alta de la economía Colombiana se dio en 1978, 8,6% con una tasa de ahorro del 13, 5% y una relación marginal capital producto de 1,3. Por el contrario, en 1991 la tasa de ahorro de la economía ascendió al 15% pero la relación marginal capital producto se incrementó hasta alcanzar el 3,1 generando de esta manera una tasa de crecimiento real apenas del 2,8%. De igual manera, la tasa de crecimiento de la economía para el año 1982 fue de 0,9% con una tasa de ahorro del 8,9% pero con una relación marginal capital producto de 13,3. Se comprueba una vez más, que existe una relación directa entre la productividad marginal del capital y la tasa de crecimiento de la economía” Bernal (2008).

Gráfica 14

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación **marginal** capital producto para Estados Unidos



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

Para Estados Unidos y de acuerdo a la gráfica 14, también se evidencia que el teorema de Harrod determina una tasa de

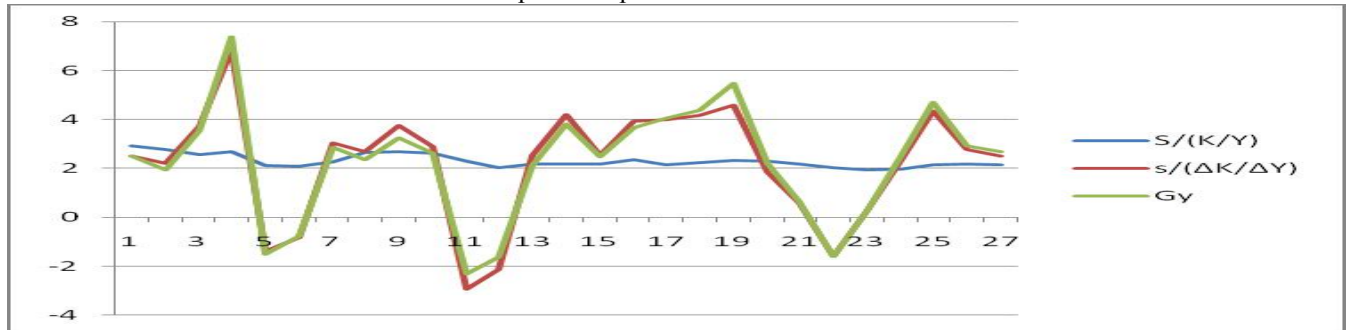
crecimiento de la economía y que tiende a ser igual a la tasa real de crecimiento cuando se utiliza la relación marginal capital producto, mientras que si el teorema utiliza la

relación capital producto la curva que se genera es muy estable poniendo en entre dicho la volatilidad de la tasa de crecimiento. —En Estados Unidos, se evidencia el mismo comportamiento de la relación capital producto frente a la tasa de crecimiento. En 1984 la tasa de crecimiento de los Estados Unidos fue una de las más altas durante el periodo de análisis, 7,98%. Si bien la tasa de ahorro fue del 20%,

una de las más altas del periodo, la relación marginal capital producto fue de 2,9, la más baja en todo el periodo. Con una tasa de ahorro similar, es decir del 20,5% para 1974, la tasa de crecimiento apenas alcanzó el 0,26%. La explicación de esta caída está en la relación marginal capital producto que fue la mas altas durante este periodo, 71,3”

Gráfica 15

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación **marginal** capital producto para el Reino Unido



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

La gráfica 15 es la perfecta para demostrar que una la relación capital producto estable junto con una tasa de ahorro que se modifica levemente da como resultado una curva casi perfectamente horizontal. Por el contrario, el teorema de Harrod en el que se involucra la relación

marginal capital producto tiende a ser igual a la tasa de crecimiento de la economía la cual es muy volátil. En este caso se comprueba que dada una tasa de ahorro, la variable que determina la volatilidad de la tasa de crecimiento de la economía es la relación marginal capital producto.

Gráfica 16

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación marginal capital producto para Singapur

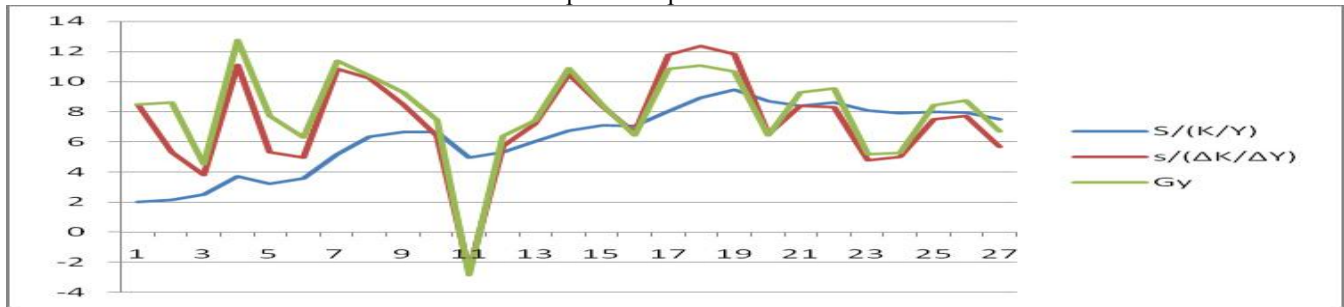


Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

Gráfica 17

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación **marginal** capital producto para Korea



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

Gráfica 18

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación **marginal** capital producto para Taiwan

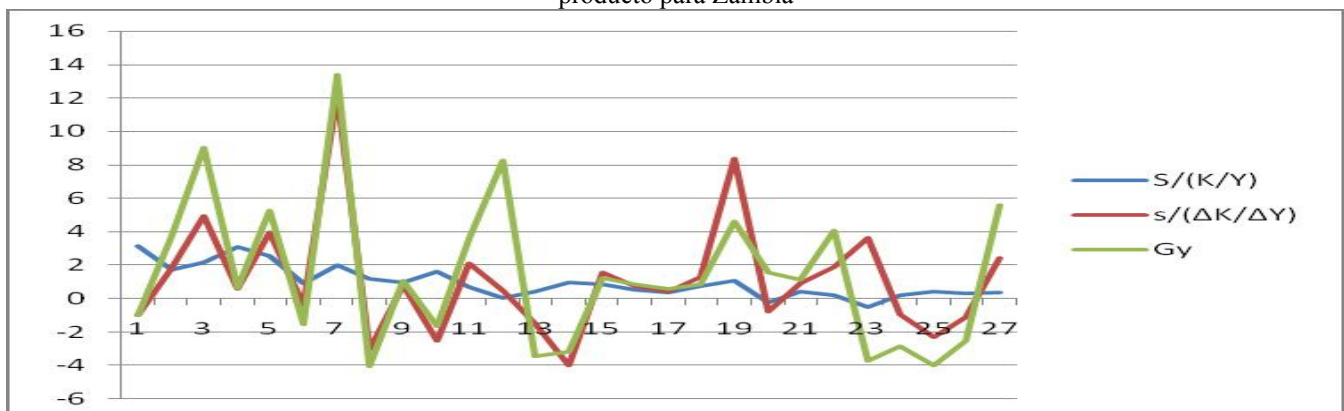


Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

Gráfica 19

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación **marginal** capital producto para Zambia

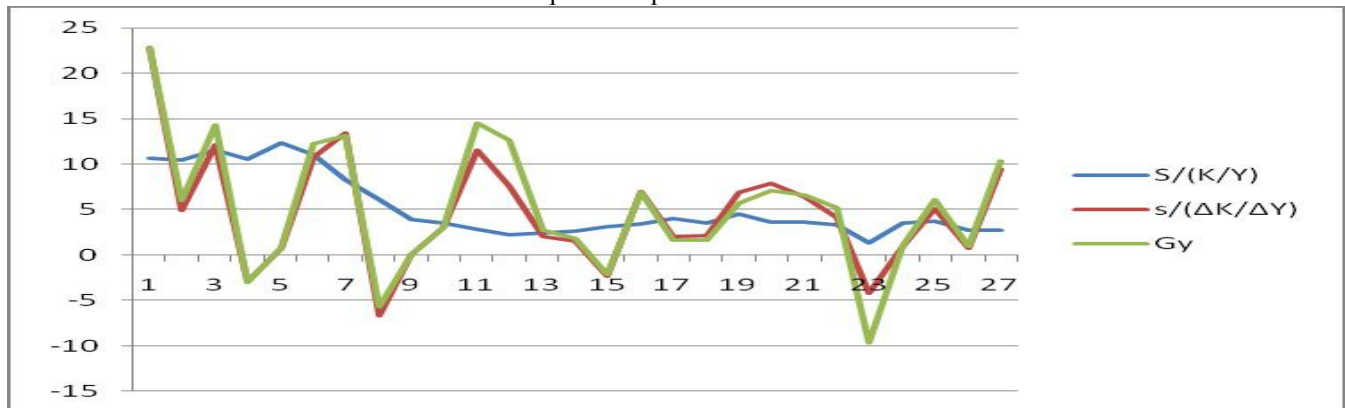


Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

Gráfica 20

La tasa de crecimiento real y el teorema de Harrod con la relación capital producto y con la relación **marginal** capital producto para Zimbabwe



Nota: año 1 = 1970, año 27 = 1996.

Fuente: cálculos propios con base en WPT 6.1, Heston, Summers y Aten.

Las gráficas de la 11 a la 20 muestran que el teorema de Harrod, es decir la tasa de ahorro dividida por la relación marginal capital producto tiende a ser igual a la tasa de crecimiento real de la economía y no así la tasa de ahorro dividida por la relación capital producto. En todos los países de estudio se demuestra que la tasa de ahorro no guarda una relación lineal con la tasa de crecimiento económico. Por lo tanto, el ahorro apenas es una variable acomodaticia en la ecuación de Harrod y la relación marginal capital producto se convierte en la que determina la tasa de crecimiento económico y así mismo, la volatilidad de esta relación, también determina la volatilidad de la tasa de crecimiento como se observa en todos los países seleccionados.

IV. UNA HIPOTESIS PARA EXPLICAR LOS CAMBIOS EN LA RELACION MARGINAL CAPITAL PRODUCTO

$$\left(\frac{\Delta Y}{\Delta K}\right).$$

La siguiente hipótesis que puede explicar el comportamiento volátil de la relación marginal capital producto está sustentada en la rentabilidad de los empresarios que también es volátil. Es de anotar, que si bien la relación capital producto tiende a ser constante como lo dice el hecho estilizado de Kaldor, no sucede lo mismo con la relación marginal capital producto. Harrod suponía que esta relación era relativamente constante si existía una tasa de interés constante y determinada por la autoridad monetaria. La tasa de interés puede ser igual a la tasa de beneficio en ausencia de riesgo y bajo condiciones competitivas. De igual forma, la teoría de la productividad marginal dice que la tasa de beneficio es igual a la productividad marginal del capital, es decir:

$$r = \frac{dY}{dK} \cong \frac{\Delta Y}{\Delta K} \quad [2]$$

De donde r es la tasa de interés y $\frac{dY}{dK} \cong \frac{\Delta Y}{\Delta K}$ representa los incrementos en la

producción derivados de incrementos en el capital. De estas relaciones se puede enfatizar que el inverso de la productividad marginal del capital es la relación marginal capital producto y que por lo tanto esta relación marginal capital producto está relacionada inversamente con la tasa de interés. Bajo estas consideraciones la relación marginal capital producto (C) del teorema fundamental es constante si la tasa de interés es constante (Harrod, 1966). La evidencia empírica para todos los países del mundo muestra que la relación marginal capital producto es muy volátil. Si esta relación refleja el cambio en la rentabilidad de las

inversiones, entonces su gran volatilidad es derivada del hecho de que los empresarios modifican sus decisiones de inversión. Así, si los empresarios invierten y su rentabilidad es alta, entonces esta mayor rentabilidad se reflejara en una disminución de la relación marginal capital producto porque los cambios en el capital serán menores que los cambios en el producto. Adicionalmente, si la rentabilidad de las inversiones es baja entonces la relación marginal capital producto aumentará porque los cambios en el capital son mayores que los cambios en el producto. Las anteriores consideraciones parten del supuesto de que los empresarios

invierten si la tasa de ganancia es mayor que la tasa de interés como lo plantean Kaldor y Pasinetti. En consecuencia, las variaciones en la tasa de ganancia o rentabilidad del capital dependerán del mismo comportamiento de la economía. De esta manera, los empresarios observarán el comportamiento de la economía en el periodo inmediatamente anterior y lo que esta sucediendo en el momento.

Dicho de otra forma, los empresarios mirarán el comportamiento de su tasa de ganancia en el periodo anterior u observarán la relación marginal capital producto del periodo anterior. Si esa relación fue alta tenderán a disminuir su inversión en este periodo y en consecuencia la tasa de crecimiento de la economía disminuirá. Pero no solamente mirarán el pasado reciente sino que también estarán observando el comportamiento de la economía en el periodo corriente. Si las variaciones en la tasa de crecimiento de la economía en el periodo corriente está creciendo, entonces los empresarios percibirán que su rentabilidad está creciendo y que por lo tanto la relación marginal capital producto tenderá a disminuir. En la práctica, la publicación trimestral sobre el desempeño de la economía marca una pauta fundamental en la toma de decisiones de inversión de los empresarios que se verá reflejada al final del periodo. Por esta razón es que los empresarios tenderán a observar el cambio en la tasa de crecimiento y decidirán invertir o no, y por ende, la relación marginal capital producto aumentará si dejan de invertir o disminuirá si invierten más. Desde luego eso se verá reflejado en mayor o menor rentabilidad de sus inversiones.

Blanchard (2006) presenta gráficamente la relación entre la tasa de ganancia y la variación del coeficiente entre la producción y el capital. En este gráfico se observa una estrecha relación entre las variaciones de los beneficios por unidad de capital y las variaciones del cociente entre la producción y el capital. El autor concluye que los beneficios por unidad de capital, o lo que es lo mismo, la tasa de ganancia depende del nivel de ventas y del stock de capital existente. En consecuencia, si las ventas (producción) son bajas en relación con el stock de capital, también lo serán los beneficios por unidad de capital, es decir, la tasa de ganancia será baja. Blanchard argumenta que es importante la relación entre la producción y los beneficios porque ello implica una relación entre la producción actual y la producción futura esperada, por un lado, y la inversión por el otro. Por lo tanto, "la producción actual afecta a los beneficios actuales, la futura producción esperada afecta a los futuros beneficios esperados y los beneficios actuales y futuros esperados afectan a la inversión" (Blanchard, 2006, pag 387). Dicho de otra forma, la tasa de ganancia actual y

futura esperada es afectada por los cambios en la producción actual y esperada y por los cambios en el capital que son iguales a la inversión. En consecuencia, si cambia la relación marginal capital producto, entonces estará cambiando la tasa de ganancia y con ello la tasa de crecimiento de la economía y así mismo, si la tasa de ganancia cambia se afecta la relación marginal capital producto y con ello la tasa de crecimiento de la economía.

En síntesis, la relación marginal capital producto guarda una estrecha relación con la tasa de ganancia. Si la tasa de ganancia es alta, la relación marginal capital producto será baja y la economía estará experimentando una alta tasa de crecimiento. Por el contrario si la tasa de ganancia es baja, la relación marginal capital producto será alta y la tasa de crecimiento de la economía estará experimentando un descenso, o lo que es lo mismo, las ventas por unidad de capital estarán disminuyendo. En términos mas sencillos, los empresarios mirarán que pasó con su tasa de ganancia del periodo anterior, y lo que haya pasado, determinará la relación marginal capital producto de este periodo. Adicionalmente, los empresarios estarán observando el presente, es decir, estarán mirando el cambio en la tasa de crecimiento de la economía y con base en esta dinámica tomarán decisiones sobre su inversión. Si la economía está creciendo invertirán más, pero si crece la economía es por que la relación ventas por unidad de capital es más alta, lo que se traduce en una relación marginal capital producto mas baja. Bajo las consideraciones anteriores se puede concluir que los cambios en la relación marginal capital producto guarda una estrecha relación con los cambios en el nivel de actividad económica en el periodo corriente. Formalmente podemos escribir esta relación de la siguiente manera:

$$\Delta Cr = F(\Delta Gy) \quad [3]$$

De donde Δ es el cambio en la relación marginal capital producto, y es el cambio en la tasa de crecimiento de la economía la cual tendería a guardar una relación inversa con la relación marginal capital producto. Si los cambios en la tasa de crecimiento son positivos entonces implica que la relación ventas por unidad de capital están aumentando, o lo que es lo mismo la tasa de beneficio estará creciendo o la relación marginal capital producto estará descendiendo. $CrGy\Delta$ En el cuadro 2. Se presentan los resultados de estimar la relación marginal capital producto en función de los cambios en el nivel de actividad económica representados en los cambios en la tasa de crecimiento de la economía.

Cuadro 2
El Determinante De La Relacion Marginal Capital Producto
Datos Anuales 1970-1996 Variables en Logaritmos.

Regiones	EC. No.	VAR	INDEP
DEP	C	dLGy	R2
88 Países	No. 1	dLCr	0,003
			-0,974
			0,98
			2,04
Est T.		0,9	-275,7
OCDE	No. 3	dLCr	0,013
27 países		Est T.	3,38
Sur A.	No.5	dLCr	0,021
11 países		Est T.	2,13
Asia	No.7	dLCr	0,01
10 países		Est T.	-2,12
Africa	No.9	dLCr	-0,02
24 Países		Est T.	-2,3

NOTA:

Est T= Estadístico T

Todas las variables son Significativa al 99%.

Los resultados del cuadro 2 son concluyentes. Tanto en toda la muestra de los 88 países como regionalmente se observa que la relación marginal capital producto expresada en logaritmos está determinada en mas del 98% por los cambios en la tasa de crecimiento de la economía. Esta variable es significativas al 99,9% para explicar la relación marginal capital producto. En esencia, se observa que los cambios en la demanda expresados en los cambios en la tasa de crecimiento de la economía afectan inversamente la relación marginal capital producto. Es de esperarse en estos casos, que la relación ventas (producto) por unidad de capital este aumentando y que por consiguiente la rentabilidad de los empresarios también. Si aumenta la relación de ventas por unidad de capital entonces la relación marginal capital producto decrecerá y por consiguiente se obtendrán mayores tasas de crecimiento en ese periodo.

V. CONCLUSIONES

El trabajo muestra que la relación capital producto es constante y difiere sustancialmente de la relación marginal capital producto para todos los países analizados. Se demuestra que la relación marginal capital producto es muy volátil y determina la volatilidad de la tasa de crecimiento de la economía. Este hecho se comprueba para los 88 países seleccionados, y a nivel regional para Asia, Africa, los países de la OCDE, Centro América y Sur América. Se plantea preliminarmente que el crecimiento de la demanda determina la relación marginal capital producto. En este sentido, unas ventas elevadas por unidad de capital se asocian con una alta rentabilidad de los empresarios, esto se

traduce en una alta productividad marginal del capital que conlleva a una disminución de la relación marginal capital producto y con ello a una tasa de crecimiento económico más alta. Si la relación marginal capital Producto está determinad a por la demanda, habría que investigar cuales son los canales a través de los cuales se modifica esta relación cuando se implementa la política económica.

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Motivational Incentives And Staff Turnover In The Hospitality Industry In Cross River State, Nigeria

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M12,M52,M54 & 150305

Abstract-This study examined the relationship between motivational incentives and staff turnover in the hospitality industry in Cross River State, Nigeria. Purposive and stratified random sampling techniques were adopted in selecting 690 respondents from 9 hotels and 9 guest houses across the three senatorial districts of the State. Data was elicited from respondents using a four point Likert scale questionnaire. Five hypotheses were tested using Pearson Product Moment Correlation (r). Findings revealed that, promotion, salary/wages, payment of leave benefits, career development/in-service training and work-hours impact significantly on labour turnover. The study recommended among others that comprehensive monetary and non-monetary incentives should be put in place by management to reduce labour turnover and ensure workers retention in the hospitality industry in Cross River State, in particular and Nigeria in general.

I. INTRODUCTION

In contemporary work environment, it is imperative for organization to retain staff and ensure their effectiveness. This is because corporate entities including those in the hospitality industry are established to achieve specific goals (Katz & Kahn, 1978) and these goals are tied to various degrees on staff motivation, retention and productivity (Etuk, 1990; Onyene, 2001). Despite the centrality of motivation as vital tool in workers turnover or employee's retention and productivity, it is often under-utilized by most managers in the workplace (Bassel, Dicks, Wysocki & Kepner, 2009). Staff retention here entails taking necessary measures to encourage workers to remain in the organization for the maximum period of time. Corporate bodies especially in the hospitality industry are facing a lot of problems in workers turnover and effectiveness. Employing experienced staff is important for any organization, but their retention and productivity is even more essential; because there is no dearth of opportunities for a knowledgeable worker, a lot of organization would be looking for him; and no corporation can achieve its goal under frequent or unusual workers turnover (Becton, Wysocki & Kepner, 2009). In Nigeria rather than provide means by which workers are motivated and retend for effective job performance, employees are continuously deprived of their physiological need through salary insecurity, delay in the payment of salaries, fringe benefits and this have behavioural consequences on their efficiency

in the workplace (Ushie, 2002; Agba, 2007). This situation is also responsible for low morale among workers and adoption of supplementary livelihood even if it entails running down their organizations (Ushie, Agba, Agba & Best, 2010). This phenomenon according to Ushie (2002), threatened the effectiveness, growth and survival of most organisations in Nigeria. As the number of hotels, restaurants and other hospitality outfits increases in Cross River State, because of the tourism drive of the state government, there is also high rate of workers turnover and service inefficiency in the industry. Again, while much scholarly works abound on staff retention, motivation and productivity in other sectors of the Nigerian society, little concern is given to this fast emerging sector (the hospitality industry). And since factors of staff retention, motivation and productivity varies from one organization to the other, there is therefore need to examine motivational factors that would ensure workers efficiency and retention as well as service effectiveness in the hospitality industry, in Cross River State, Nigeria.

II. BACKGROUND OF THE STUDY AREA

The study area is Cross River State, Nigeria. The state lies between latitude 5°32 and 4°27 North and Longitude 7°5 and 2°20 East. The state is bordered on the North by Benue State, on the East by Cameroon Republic, on the West by Ebonyi and Abia States, on the South-west by Akwa Ibom State and on the South by Calabar Sea (Agba, 2007; Agba, Ikoh, Ikoh, Ushie & Odu, 2010). For administrative convenience, Cross River State is divided into three Senatorial Districts, viz: the Northern, Central and Southern Senatorial Districts. The state is further divided into eighteen local government areas, namely – Abi, Akamkpa, Akpabuyo, Bakassi, Bekwarra, Biase, Boki, Calabar Municipal, Calabar South, Etung, Ikom, Obanliku, Obubra, Obudu, Odukpani, Ogoja, Yala and Yakurr Local Government Areas. Calabar Municipal and Calabar South formed the political and economic headquarters of the state (Agba, Ikoh, Ushie & Odu, 2010). Occupying an area of 23, 74.425 square kilometers Cross River State is one of the largest states in the Niger Delta Region of Nigeria. The people are predominantly farmers. Other occupation includes hunting, fishing, arts, crafts, and trading. Cross River State is endowed with rich cultural festivals that boost its tourism drive and the hospitality industry. These festivals include: the Ekpe festival in Calabar, Leboku new yam festival, in Ugep; Enok wrestling festival, Edi-Edok yam festival in Biase Local Government, Calabar, Calabar Carnival, Bekwarra Carnival, Calabar Boat Regatta, etc. Ecotourists attractions in the state include – Agbokim Waterfalls in Etung Local Government Area, kwaWaterfalls

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near Oban, Obudu Cattle Ranch in Obanliku Local Government Area. Equally, the abundant forest reserves offer a great deal of tourist attractions. The Cross River State Government decision in 2001 to make the state tourists delight and destination in the world attracted a lot of investors in the hospitality industry and this led to the emergence of big hotels like Mirage, Channel View, Balant, Metropolitan, Nobel Hotel, Pyramid, etc. Being a tourist destination, the state attracts a lot of visitors yearly, the influx of people to the state poses great deal of challenges to the hospitality industry especially the hotels and guest houses in terms of service delivery and labour turn over. This study is necessitated by these challenges in the industry.

III. LITERATURE REVIEW

1) *Labour Turnover*

Staff turnover refers to the number of persons leaving and the ones retend within the organization. In most formal organizations, labour turnover is inevitable. Analysis of associate leaving the organization provides data for staff supply forecasting, so as to calculate the number of workers lost who need to be replaced. More significantly however, the analysis of the number of associates who left the organization and the reasons why provides a guide to job retention policy/decision (Armstrong, 2004). Labour turnover could be a function of negative job attitudes, poor motivation in workplace, low job satisfaction, job insecurity and the general condition of the labour market (Armstrong, 2004). According to Kohn (1993) and Logan (2008), most workers leave their work place for another in search for more pay in form of salary/wages and other fringe benefits. They also leave in search for better condition of service, and career prospects. Others leave because of poor relationship with management and fellow colleagues and harassment by managers. Excessive labour turnover is dysfunctional to the organization, since it may lead to increase in recruitment, induction and training costs. More explicitly, the cost implications of labour turnover are-leaving costs, which include payroll cost and personnel administration of lost associates. Direct cost of recruiting new employees to replace the lost employees, it includes cost of induction and training of new staff, opportunity cost of time spent by management trying to replace lost staff. High workers turnover also affects the general output of the organization (Armstrong, 2004).

IV. MOTIVATION AND WORKERS TURNOVER

The term motivation is derived from a Latin word *movere* which means *to move* (Dhameja & Dhameja, 2009). It is the process of influencing workers behaviour towards the attainment of organizational goal. Motivation determines whether an employee will do his/her work properly. Motivation increases workers performance (Aamodt, 2007). Pay, punishment or praise are external incentives or motivational factors that need to be internalized in order to become effective. Internal incentives on the other hand, are *—ego needs* of the employee. It includes job satisfaction, job

accomplishment and prestige (Dhameja & Dhameja, 2009). Incentive here entails spurning force that is introduced as a means of achieving organizational objective; incentive guide activity in the direction of the goal (Blum & Naylor, 2004:344). Monetary incentives entail rewarding workers for excellent job performance through money; it includes better pay, profit sharing, fringes benefits, project bonuses, scheduled bonuses, etc while non-monetary incentives is the reward to a worker for excellent job performance through opportunities such as flexible work hours, training, favourable work environment, sabbaticals among others. Managers today are using work environment as means of effectively improving workers performance (Robertson & Huany, 2006). They are also using other monetary and non-monetary incentives to foster staff retention and effectiveness (Kei, 2009; Kepner, 2001). Monetary and non-monetary incentives are both critical in staff turnover and productivity (Nelson, 1999; Kepner, 2001). Emphasizing on one of the incentives at the expense of the other is risky to any organization (Hodson & Sullivan, 2002). Survey in the United Kingdom shows that, fifty seven percent of the hotel and restaurant businesses held that training (a non-monetary incentive) had beneficiary effect on workers retention. The survey further revealed that, employers in the hospitality industry experienced 6 percent increase in staff productivity and service quality as a result of staff training (Logan, 2008). Monetary incentives are equally important because most employees leave the job to another for better pay/greener pastures. Workers may also stay or leave because they just cannot find another job. Some stay because the organization satisfies their needs. Some may stay if their skills are fully utilized and are contributing to the achievement of the overall goal of the organization. The employee here is given chance to express his/her importance in the achievement of success in his/her piece of work (Kei, 2009). If employees' retention and productivity is base fundamentally on monetary incentives small business in the hospitality industry would eventually lose their staff (Kohn, 1993). A survey of American Association of Retire Persons shows that the efficacy of monetary incentives played significant role in staff retention and motivation for high productivity differs with career stages and generation. The study also revealed that those flexible schedules, part time hours among other non-monetary incentives are equally important in employees' retention and productivity (Nelson, 1999). Limited workforce in some specialized areas like health, information technology, engineering, accounting and auditing may contribute to workers turnover. This is because there is high demand in the public and private sectors for workers in these areas. And since the supply is insufficient, the best bidder takes the day; and when another high pay employer comes up, the former employers lose their staff. This means that, for any organization to survive under such environment, aggressive recruitment and retention strategies are imperative. These strategies have to eliminate unwanted turnover (Griffin & Hom, 2001; Sinnott, Madison & Pataki, 2002). Job retention and productivity can also be achieved through adequate flow of information from management to workers and from workers to management

(Kei, 2009). Career development is also a motivational incentive that promotes workers retention and productivity. Career development involves concerted efforts directed towards assessing a workers' potentials identifying likely career paths for that employee and designing and implementing various types of in-service training and experience to prepare that person for more advanced responsibilities. In most firms, it is becoming increasingly evident that career management programmes are cost justified in the same terms as staffing programmes; that is each approval contributes to improved utilization of workers overall organizational effectiveness and growth (Leach, 1980). The purpose of career development therefore is to match an employee's career aspirations with opportunities and challenges available within the organization. The interest of career development also entails a successful placement of employees in positions that meet their needs as well as the organization's needs. Thus, employee career development must be of great concern to management in formal organizations (Aplin & Gerster, 1978; Gambill, 1979; Flippo, 1980). Employee career development is directly related to organizational effectiveness. Career planning activities can lead to a more committed work force and labour retention (Hall, 1976). Similarly Stevens *et al* (1978), opined that too much time in one position may be perceived as career stagnation and have an adverse effect on commitment and staff retention. According to Kanter (1980), workers in formal organizations can be group into the "moving" versus the "stuck". These two groups of people behave differently and have many different attitudes towards their jobs. Being "stuck" (that is lacking opportunity) has a number of adverse effects, it could lead to low aspirations; since the "stuck" cannot realistically expect to advance very far, they trim their aspirations to suit the reality. It could also lead to disengagement from work and labour turnover. It is therefore pertinent that organizations adopt and legitimize the workers needs for career growth (Leach, 1977; 1980). According to Hrebiniak and Alutto (1972), there is a positive relationship between job satisfaction, advancement and propensity to turnover. There is also a negative relationship between perceptions of upward mobility or promotion and the propensity to leave by worker to other organizations that offers better opportunities. Again survey shows that professional commitment has significant relation with turnover in a sample of bank workers (Blau 1985, 1986; Blau & Boal 1987).

V. MOTIVATIONAL INCENTIVES AND STAFF EFFECTIVENESS

Managers the world over are constantly searching for motivational variables that would enable workers to perform at optimal levels to accomplish organizational goals. They are using monetary and non-monetary incentives to ensure associates (employees) effectiveness at workplace (Blunt & Jones, 1992). Staff effectiveness here refers to the overall performance of employees. It entails the degree to which a worker accomplishes his/her assignment in the organization (Ushie, Agba, Agba & Best, 2010). Staff effectiveness includes goal attainment, willingness to carryout assigned

duties, contentment with the job, creativity and discovery, increase in productivity and selflessness (Onyene, 2000). There is a functional relationship between motivation (monetary and non-monetary incentives) and workers effectiveness (Agba, 2004; Armstrong, 2004). There is a significant relationship between workers effectiveness and salary/money (Holley, Jennings & Wolters 2005). Salary serves as a vital system of reward or recompense in an organization and a source of staff motivation (Inyang & Akpama, 2002; Imafidon, 2003). Money is a form of pay or remuneration, and obvious extrinsic reward as well as carrot that most workers want (Armstrong, 2004). The efficacy of salary as motivational factor was doubted, while the lack of it causes dissatisfaction and staff ineffectiveness, the provision does not result in lasting motivation and satisfaction (Herzberg, Mausner & Synderman, 1957). According to Strivastava (1994), salary, fringe benefits etc, (Monetary incentives) are secondary motivators for job effectiveness while job interest, chance for advancement, human relations, prestige, recognition and achievement are primary motivators for workers efficiency. On the contrary, Ubeku (1975) asserted that, while several findings in Europe and America played down the importance of wages and salaries as motivating factors, in Nigeria it has a large motivational element and a potent source of associates' (employees') effectiveness. According to Alabi (2001), the early attempts of the Western and Eastern Governments of Nigeria to introduce functional Universal Basic Education (UBE) in 1955 and 1957 respectively failed because of low job morale and effectiveness of teachers necessitated by poor remuneration and condition of service. Staff effectiveness can also be enhanced through management policies that ensure proper promotion of associates. Promotion (a non-monetary incentive) refers to advancement of a worker to a high job, which is better in terms of responsibilities, status, prestige and salary than the former. It is the up-grading of an associate. Promotion is a way of recognizing and developing abilities of associates for effective job performance. To enhance the performance of workers, the income, promotion and other benefits enjoyed by their colleagues in other profession must be assured. Except this is done, the morale of such workers will fall, and this could lead to high job turnover (Inyang & Akpama, 2000. Onyene, 2000). The work environment plays significant role in workers effectiveness (Robertson & Huang, 2006). The availability and prudent management of the work environment determine the product and services of an organization as well as its staff performance or effectiveness (Mbipom, 2001; Akpan, 2001). Healthy work environment couple with the right and efficient work tools that would enable a skillful worker to achieve a level of job effectiveness that far exceeds what is possible when these facilities are not readily available (Ogbodo, 1995; Castaldi, 1997). Staff training constitutes yet another non-monetary motivator. Training refers to a set of activities that enables an associate to acquire more needed skills, knowledge and attitude for effective job performance (Alo, 1999). Staff training stimulates and enhances the performance of existing worker.

It enables the employee to develop capabilities and promote the overall performance of the organization (Armstrong, 1988, 2004). Staff training/career development affects workers commitment which in turn influences workers effectiveness and turnover. This is because a worker who is motivated through career development or training would take his/her work very serious (Mowday, Richard, Steer & Porter, 1979). Staff training assist newly appointed associates to make adequate and timely adjustment to their new job environment. It is a way of appealing to, mobilizing and motivating employees to be more effective in their duties (Agba, 2004). Workers participation in decision making is a non-monetary incentive that plays dominant role in associates motivation, commitment, turnover and effectiveness (Ezenibe, 1992). Management policies that do not support workers participation in decision making could lead to employee's disappointment (Holdway, 1978). Workers who participate in decision making have more feeling of prestige, satisfaction, enthusiasm, sense of importance and positive attitude to work (Handy, 1967; Griffin, 1987). There is also a positive relationship between communication flow between management and employees and job effectiveness. Information dissemination enhances integration among units and people in the work place or environment. It facilitates goal attainment in formal organization. Communication is the bedrock of workers and organizational effectiveness. It is the foundation upon which other activities laid. It promotes workers participation in decision making and enhances efficiency (Hodgetts, 1981). Communication is also a potent tool for management effectiveness. It is inevitable tool for cooperative activity, motivation and coordinating units within an organization (Kepner, 2001). Furthermore there is a positive relationship between associate/employee recognition (non-monetary incentive) and staff effectiveness (Saxby, 2002). Motivating workers for effective job performance through adequate recognition include among others, recognizing and praising employees as soon as an assigned task is completed, recognizing associates small improvement at work place and recognition of other emotional needs of employees in and outside the workplace (Blunt & Jones 1992; Becton, Wysocki & Kepner, 2009).

VI. THEORETICAL CONSIDERATION

This study adopted three theories to explain factors that affect worker effectiveness, job satisfaction, commitment and turnover. These theories are – Frederick Herzberg – Hygiene Theory, Abraham Maslow's hierarchy of needs theory and Rensis Likert theory. The hygiene theory is based on the analysis of the interviews of 200 engineers and accountant in Pittsburgh, United States of America. According to the theory associates needs are of two types – the animal needs (hygiene factors) and the human needs (motivators). The animal needs (hygiene factors) include – supervision, interpersonal relations, working conditions and salary. The animal needs can act as de-motivators, but if satisfactory, their motivational effect is limited (Cole, 1990). The human needs (motivators) are recognition, work, responsibility, and advancement (Etuk, 1991). The major

difference between the two is that motivators bring positive satisfaction while hygiene factors prevent dissatisfaction. When hygiene factors are taken care of, it leads to job satisfaction and effective performance of associates. However, hygiene factors do not positively promote good health, but can act to prevent ill-health in the work place (Cole, 1990). Hygiene factors impede dissatisfaction but they do not lead to satisfaction; they bring motivation up to a "theoretical zero level", thus a necessary "floor" to prevent dissatisfaction and take off point for motivation (Armstrong, 2004). The major conclusion of Herzberg was that money was not a motivator. This theory enable the study to look at factors such as achievement, advancement, recognition and responsibility and their impact on workers commitment & effectiveness and associates turnover. The major setback of the hygiene theory is that it fails to recognize money/salary as a motivator. Thus Maslow Theory was adopted to complement the former. Maslow's theory proposed that there are five human needs that are arranged in hierarchy of prepotency as follows (1) physiological needs – basic need for food, air, water, rest, etc (2) safety needs – need for safety and security (3) social needs – needs for attention, belongingness and membership (4) Esteem needs – needs for achievement, autonomy and status (5) self actualization needs – the need to realize one's potential and self fulfillment. Hierarchy of need theory emphasized that as one level of needs are satisfied, the need at the higher level becomes predominant and serve as a motivator and once a need is satisfied, it cease to be a motivator. Another central point is that, people tend to satisfy their needs systematically, from physiological and then move up the hierarchy (Cole, 1990; Etuk, 1991). Physiological needs are satisfied through money/salary. It could be noted that while Herzberg play down the importance of money as motivator, Maslow recognized money as the factor of motivation, and the starting point for other needs to be met. However, once money/salary meets the physiological needs and to some extent the safety needs it cease to be a motivator. Maslow theory however did not emphasize on the importance of leadership or management style as a motivating factor. Hence the study adopts Rensis Likert Theory as a complementary theory. Likert Theory identified four major management style that influence workers effectiveness and turnover in formal organizations. These include (1) exploitative – authoritative, (2) benevolent – authoritative (3) consultative and (4) participative. Participative management style is found to be more important in meeting human needs of motivation. It encourages workers to be part of decision making process in the organization; and since associates are part of the whole process, it leads to high target and excellent productivity in the workplace. The theory enables the study to critically analyze the impact of workers participation in decision making and their effectiveness and turnover in the hospitality industry.

VII. METHODOLOGY

Survey design was adopted in this study. It was used because it allows the study to objectively sample opinions from employees in the hospitality industry in Cross River State on factors that affects their retention turn over. According to Cohen and Manion (1980), Babbie (1986), survey design uncovered data, interprets, synthesizes and establishes the relationship among variables. It is also used to study people's attitudes, feelings and opinions. This enables the study to get the true feeling of workers on motivation incentives that affects their turnover. The study also opted for the design because it involves the collection of data and accurate description of existing phenomena. The

research area consists of selected hotels and guest houses in Cross River State, Nigeria. Purposive and stratified random sampling technique was adopted in selecting 690 respondents from 9 hotels and 9 guest houses. Three hotels and 3 guest houses were selected from each senatorial district. A total of 230 respondents were selected from each senatorial district to ensure equitable distribution of participants. Data was elicited from respondents using a four point Likert scale questionnaire. The questions were divided into two major sections. Section A, was the bio-data of respondents. Section B accorded the study the needed topical data on the impact of motivation incentives on workers turnover in the hospitality industry in Cross River State, Nigeria.

Table 1: Coding of Variables

Response Option	Positive	Negative
SA	4	1
A	3	2
D	2	3
SD	1	4

Where

SA = Strongly Agree

A = Agree

D = Disagree

SD = Strongly Disagree

Depicted on Table 1, items in the four point Likert scale with positive response were ranked 4, 3, 2, 1, with 4 standing for strongly agree (SA), 3 for agree (A), 2 for disagree (D), 1 for strongly disagree (SD). On the other hand, items that shows dislike were ranked from 1 to 4, with 4 standing for strongly disagree (SD), 3 for disagree (D) 2 for agree (A) and 1 for strongly agree (SA). Pearson Product Moment Correlation Coefficient (r) was used to analyze elicited data.

VIII. RESULTS

Table 2 presents the socio-demographic information on the sex, age, educational qualification, rank, years of service and frequency of labour turnover of respondents. Thirty four percent (N=237) of the respondents were males. Sixty six percent were females. Respondents below 40 years were 63 percent. Those in the age brackets of 41-50 and 50 and above accounted for 29 percent and 8 percent respectively. More respondents (N=29, 42%) were OND/HND holders. Thirty four percent and 24 (N=168) were BSc/HND and post graduate degree holders respectively. Majority of the respondents (N=448, 65%) were junior staff. Supervisors were (N=140, 20%) while management staff were (N=102, 15%). Only 9 percent of the workers had served 16 years and above. Majority (N=464, 67%) had served their organization between 0-5 years. Only 4 percent of the respondents have never changed work place or job. Twenty nine percent changed their work place once, while 63 percent changed their jobs more than once.

Table 2: Socio – demographic data of respondents

Variables	Frequency	Percentage (%)
<u>Sex</u>		
Male	237	34
Female	453	66
Total	690	100
<u>Age</u>		
Below 40	431	63
41-50	203	29
51 and above	56	8
Total	690	100
<u>Educational Qualification</u>		
OND/NCE	291	42
BSC/HND	231	34
Post Graduate Degree	168	24
Total	690	100
<u>Rank</u>		
Management	102	15
Supervisor	140	20
Junior	448	65
Total	690	100
<u>Years of Service</u>		
0-5	464	67
6-10	165	24
16 and above	61	9
Total	690	100
<u>Frequency in Changing Jobs</u>		
Never change job	30	4
Once	202	29
More than once	433	63
Frequent	20	3
Very frequent	5	1
Total	690	100

Source: field work 2010

1) Hypothesis One

Salary/wage has no significant relationship with labour turnover in hospitality industry. Pearson Product Moment Correlation was used to test this hypothesis. The result is

presented in Table 3. It revealed that salary/wage paid to employees' in the hospitality industry in Cross River State, Nigeria has significant positive relationship with labour turnover ($r\text{-cal} = 0.902$; $df = 688$, $P < .05$).

Table 3: Pearson product moment correlation between salary/wage and labour turnover

Variables	$\sum x$ $\sum y$	$\sum x^2$ $\sum y^2$	$\sum xy$	n	Df	r-cal
Salary/wage(x)	929	3423				
			1833	690	688	0.893*
Labour turnover (y)	563	1127				

* $P < 0.05$, critical $r = 0.088$, $df = 688$

Since the calculated $r = 0.893$ is greater than the table value of 0.088, $P < 0.05$, the relationship is positive at .05. The finding suggests that high labour turnover in the hospitality industry in Cross River State is associated with poor remuneration of workers.

2) Hypothesis Two

Payment of Leave benefits is not significantly related to workers turnover in the hospitality industry in Cross River State. This hypothesis was tested with Pearson product moment correlation techniques. The result as presented in Table 4 reveals a significant relationship between leave benefits paid to workers and labour turnover ($r\text{-cal} = .925$; $df = 688$, $P < .05$). Since 0.925 is greater than the table value of 0.088, the relation is positive at .05 level of significance.

Table 4: Pearson product moment correlation between leave benefits and workers turnover

Variables	$\sum x$ $\sum y$	$\sum x^2$ $\sum y^2$	$\sum xy$	n	df	r-cal
Payment of Leave benefits(x)	376	1823				
			1573	690	688	0.925*
Workers turnover (y)	345	1557				

* $P < 0.05$, critical $r = 0.088$, $df = 688$

3) Hypothesis Three

There is no significant relationship between promotion and workers turnover. This hypothesis was tested using Pearson product moment correlation. Table 5 examines the relationship between promotion and staff turnover. Statistical analysis shows that the calculated that the $r = 0.891$ is greater than the critical $r = 0.088$ at 0.05 level of

significant with 688 degree of freedom. This revealed that, the correlation between promotion and labour turnover was not only large but reflected a very strong positive association; meaning workers that are not promoted as and when due are likely to experience high frequency of turnover.

Table 5: Pearson product moment correlation between promotion and staff turnover

Variables	$\sum x$ $\sum y$	$\sum x^2$ $\sum y^2$	$\sum xy$	n	df	r-cal
Promotion (x)	933	3434				
			1832	690	688	0.891*
Staff turnover (y)	542	1126				

* $P < 0.05$, critical $r = 0.088$, $df = 688$

4) Hypothesis Four

Career development of staff does not significantly relate to labour turnover. Pearson product moment correlation was employed to test this hypothesis. The result is presented in Table 5. With the Pearson r^* as test of significant, the

correlation coefficient was positively significant at 0.05 alpha level, and 688 degree of freedom. The statistical analysis was highly significant (critical $r = 0.088$, $r\text{-cal} = 0.923$). This implies that career development of staff significantly influences workers retention/turnover.

Table 6: Pearson product moment correlation between career development and labour turnover

Variables	$\sum x$ $\sum y$	$\sum x^2$ $\sum y^2$	$\sum xy$	n	Df	r-cal
Career development(x)	321	1566				
			1232	690	688	0.923
Labour turnover (y)	356	1126				

* $P < 0.05$, critical $r = 0.088$, $df = 688$

5) Hypothesis Five

Work hours do not significantly associated with labour turnover. This hypothesis was tested with Pearson Product Moment Correlation techniques. The analysis is presented in Table 7. As depicted in Table 7, a positive significant

relationship between workhours and staff turnover existed ($r\text{-cal} = 0.939$, $df = 688$, $P < .05$). Since 0.865 is greater than the table value of 0.088 the relationship is positive at .05 level of significance.

Table 7: Pearson Product Moment Correlation between Workhours and Staff Turnover

Variables	$\sum x$ $\sum y$	$\sum x^2$ $\sum y^2$	$\sum xy$	n	Df	r-cal
Work hours(x)	331	1410				
			1553	690	688	0.939*
Labour Turnover (y)	372	1914				

* $P < 0.05$, critical $r = 0.088$, $df = 688$

IX. DISCUSSION

The impact of monetary and non-monetary incentives on labour turnover is obvious. This finding demonstrated that salary/wage, payment of leave benefits, promotion, career development and work hours significantly affects workers turnover. This finding corroborates Kohn (1993), Armstrong (2004), Logan (2008), Becton, Wysocki and Kepner (2009); they observed that, motivational incentives affects workers retention in formal organizations. Respondents acknowledged the influence of salary/wage on staff retention or labour turnover. This suggest that hotels or guest houses in Cross River State with poor remuneration for staff would lose their workers to well paid organizations. It is obvious that the high frequency of labour turnover in the hospitality industry in Cross River State is a function/consequence of poor salary/wages paid to workers. According to Armstrong (2004) poor salary/wage affects workers attitude to work and labour turnover. Similarly, Kohn (1993) and Logan (2008) argued that most workers leave their work place for another in search for greener pasture in form of better salary/wages. Becton, Wysocki and Kepner (2009) observed that, workers retention and productivity is important to any organization, because no establishment can achieve its goal under frequent staff turnover. Armstrong (2004) posits that retention policies of organizations should take into consideration fringe benefits. This is because, there is no dearth of opportunities for

experienced workers, and they are always looked for by other organizations and can easily move to another establishment if they are not well paid. Respondents also acknowledged that payment of leave benefits and other fringe benefits affects their retention. This finding corroborate Nelson (1999), Kepner (2001), Rollinson and Dundon (2007) and Kei (2009); they observed that leave and other fringe benefits are critical in staff turnover, commitment and effectiveness in formal organisations. They are always moving to establishments where these benefits are paid. The finding also revealed that, some hotels or guest houses do not allow their staff to go on leave, consequently, only unmarried persons are employed to avoid giving leave to pregnant women. According to Kohn (1993), although employees' retention is base on monetary incentives such as salary/wage, fringe and leave benefits etc, ignoring non-monetary incentives is even more dangerous. Kohn (1993) argued that if staff retention is base fundamentally on monetary incentives small business in the hospitality industry that could not compete shoulder-to-shoulder with their bigger counterparts would eventually lose their experienced staff. Griffin and Hom (2001), Sinnott, Madison and Pataki (2002) observed that limited workforce in some specialized professions and their high demand in both the private and public sectors may contribute to high labour turnover; because such workers are always looking

for highest bidder. The study also revealed that promotion impact significantly on workers turnover in the hospitality industry in Cross River State. Most respondents acknowledged that, they are hardly promoted in their work place and may leave if a better opportunity offers itself. Some had move from their former workplace to a new one with higher position and prospects of frequent promotion. The fact that promotion goes with higher salary/wage justify our earlier findings in this study, that labour turnover is affected by remuneration of workers. Although workers may leave their workplace for lack of promotion and poor salary, some may stay because they just cannot find another job. In Cross River State in particular and Nigeria in general were unemployment is high, some workers in the hospitality industry who are poorly paid and hardly promoted may decide to stay in their work place because no job is available. Participants acknowledged that career development or training (non-monetary incentive) significantly affect labour turnover in the hospitality industry in Cross River State. Some workers leave their workplace to another where such opportunities are available. Some could not leave because hotels or guest houses with favourable career development policies for staff are very few. This finding corroborate Nelson (1999) and Kepner (2001), who observed that non-monetary incentive such as career development/in-service training significantly affect workers commitment and labour turnover. According to Strivastava (1994), promotion or chance for advancement, training/career development, recognition and achievement are primary motivators that could ginger job effectiveness and workers retention in formal organizations. On the Contrary, Ubeku (1975) argue that while several researches in Europe and America played down the importance of salaries and wages as motivating factors, in Nigeria, it has large motivational force. Similarly Alabi (2001) argued that, between 1955 and 1957, poor remuneration and poor condition of service in the teaching profession led to the exodus of teachers to other juicy professions. This suggests that promotion and training could not be the only factors that affects labour turnover in the hospitality industry in Cross River State, Nigeria. Participants also observed that work hours affect labour turnover. There was high frequency of workers turnover among hotels and guesthouses with rigid/inflexible work-hours. However hotels and guest houses that operate shift duties recorded low labour turnover. This finding corroborates Nelson (1999) who observed that flexible schedules and part time hours affect employees' retention and effectiveness in formal organisations.

X. CONCLUSIONS

The frequency of labour turnover in the hospitality industry in Cross Rvier State is quite revealing. It is obvious from this study, that there exists a linear relationship between salary/wage, payment of leave benefits, promotion, career development/in-service training, work-hours and labour turnover in the hospitality industry in Cross River State, Nigeria. It shows that the high frequency of labour turnover is affecting goal attainment in the industry. The tourism

drive of the state could be impeded if nothing is done to salvage the precarious situation in the hotels and guest houses sector of the hospitality industry. In the strength of the above, we recommend that monetary and non-monetary incentives should be put in place in the hospitality industry to reduce the high rate of labour turnover; this could also enhance workers commitment, retention and service delivery in the industry.

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E-Government Challenges in Public Sector: A case study of Pakistan

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150301,140209,M48 & 1605

Abstract-A longitudinal study has been conducted to explore challenges confronting E-Government implementation in public sector organizations of Pakistan. The tremendous breakthrough of Information and Communication Technologies (ICT) strongly influenced the work process and the working scenario that brought change into the administrative setup of government / bureaucracy. The basic information about government organizations, but not all its relevant business / processes are made available online to the stakeholders concerned. However implementation of E-Government is a big challenge as it needs tremendous change in the existing work processes. Case study encompasses the challenges in area such as technological infrastructure, organizational aspect, and collaboration with other organizations. The study was conducted in one of public sector organization in Pakistan during the implementation of E-Government and second study of the same organization focused on how the challenges were overcome by introducing various strategies and to what extent such strategies found to be fruitful. The finding of the study shows that the implementation of E-Government is quite difficult where as basic ICT infrastructure and financial resources are not available in organizations. It has been recommended E-government could not be managed properly until the challenges should be addressed and managed well.

Keywords- E-Government, ICT and government, E-Government challenges

I. INTRODUCTION

E-Government has emerged as a revolutionary mechanism of the management of public sector organizations on global basis. It incorporates high level services; accelerated processing, increased transparency and low cost output are the mega products of E-Government. These objectives can be achieved through the adoption of Information and Communication Technologies in various functional units. (Wimmer, Codagnone, & Ma, 2007) pointed out that Despite the many potential benefits of using modern ICT, governments still struggle with the problems of rigid, ineffective business processes, and the business processes are not properly designed for effective implementation through modern ICT. E-Government implementation should not be achieved without vision of using modern technologies. E-Government has been opted by developed as well as developing countries for providing better services to their citizens. It could bring forward the new concept to citizenship by enabling and empowering to interact directly

Government to Employee (G2E) and Government to Citizen (G2C) (Ndou, 2004).

The rapid growth in Internet usage and development of Information and Communication Technologies and e-commerce/e-business in the private sector put pressure on public sector organizations serve citizens electronically (Ho, 2002). Public sector organizations are under pressure of use ICT in their processes. N.B. The name of the understudy organization has not been disclosed due to professional obligations.

1) Research Objectives

This objective of research is to explore various challenges that public sector organizations may face to implement E-Government. This consideration may lead to the following research questions.

- How does ICT infrastructure prove a barrier in the way of E-Government targets?
- Does Low ICT literacy impede E-Government implementation?
- Does collaboration between public sector organizations exist?
- Does professional workforce role exist?

II. LITERATURE REVIEW

The term E-Government refers to the use of information and communication technology (ICT) to enhance the range and quality of public services to citizens and business while making government more efficient, accountable, and transparent (Schware, 2005). E-government means the services available to the citizens electronically. It may provide opportunity to citizen to interact with the government for the services that they required from government. ICT plays an important role to providing the easy services by the government to the citizens. The government should treat their citizen as customers and provide services through internet and networks. E-Government is concerned with not only providing public services but also value added information to the citizens. It also enables government organizations to work together efficiently. Internet use and benefits gained by advance countries pressurizing the government of developing countries to bring their information online. This may require the government to transform themselves and start using the modern practices opted by the developed countries (Tapsocott, 1996). one author describe the challenges as —Many governments faced the challenge of transformation and the need to modernize administrative practices and management systems” cited in (Ndou, 2004)

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1) Defining E-Government

(Moor & Norris, 2005) define E-Government as means of delivering government information and services". Another author defines as E-Government is the use of ICT to promote more efficient and effective government that facilitates more accessible government services, allow greater public access to information, and make government more accountable to citizens" (Baoling, 2005). Another definition of E-Government is emphasizes coordinated network building, external collaboration and customer services" (Ho, 2002). E-Government is the electronic

provision of information and services by government 24 hours per day, seven day per week" (Holden, Norris, & Fletcher, 2003). According to (Yildiz, 2007) E-Government is the use of ICTs by public administration to create a networked for; interconnectivity, service delivery, effectiveness, transparency and accountability". The scope of E-Government by Federal Government of Pakistan may be considered as a combination of internal e-enablement and the external provision of e-services to stakeholders of the Federal Government. The figure 1 illustrates the defined scope:

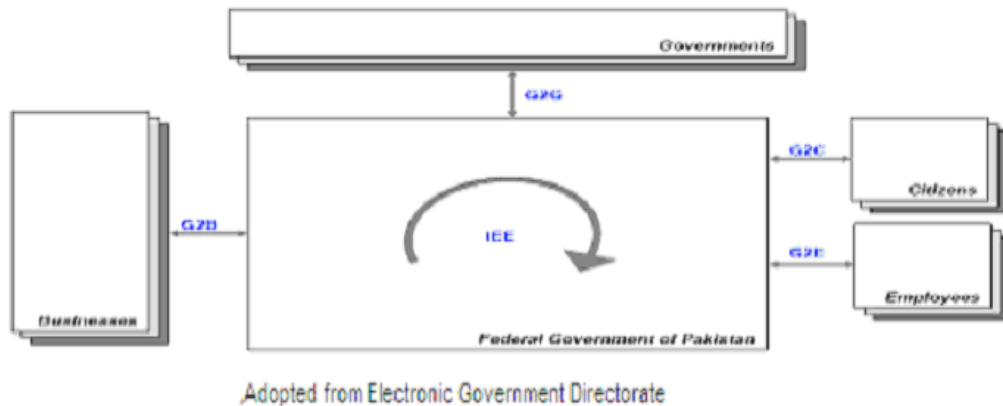


Figure 1 (E-Government Strategy and five year plan for the Federal Government, 2005)

2) Developmental stages of E-Government

(Layne & Lee, 2001) proposed a framework for the implementation of E-Government. It includes four stages such as cataloguing, transaction, vertical integration and horizontal integration.

Cataloguing: create of static website to show online presence

Transaction: in second stage websites provide the facility of online transaction, accepting online payments, process e filling and interaction with customers.

Vertical integration: It requires integration required seamless linkages within the domain, a sharing of data vertically within the industry.

Horizontal integration: It requires integration across different levels of government and also across different function of government.

Some argue that an effective E-Government program requires seamless integration of an appropriate, quality information engaged public employee good administrative process, and government leadership (Lee, Tan, & Trimi, 2005). (Layne & Lee, 2001) argue that all the benefits of E-Government may be realized when full service integration in stage four.

UN & ASPA¹ report published in 2001 categorized the progress made by developed and developing countries in developing an online presence on five stages scale such as

Emerging stage; Enhanced stage; Interactive stage; Transactional stage and seamless stage. Brief description of five stages is as under:

Emerging: An official government online presence is established.

Enhanced: Government sites increase, information become more dynamic

Interactive: Users can download forms, email officials and interact through the web

Transactional: Users can actually pay for services and other transactions online.

Seamless: Full integration of e-services across administrative boundaries.

(Adapted from UN & ASPN's study, pp. 2)

(Baoling, 2005) stated that E-Government aims at utilizing ICT to provide better quality services to the citizens through electronic means. The cost of technology is decreasing day by day through this developing countries can effectively utilized the benefits of technology. (Allen, Juillet, Paquet, & Roy, 2001) The E-Government may improve the quality of life of citizens through better service delivery at low cost. It may eventually transform the processes and structure of the government, empower civil servant to serve citizen better (Satuanarayan, 2004).

To take the initiative of E-Government projects depends on the internal and external factors. External includes the image of the organization, become a leader in information society and internal factors are efficiency, transparency and cost reduction (Scharf, Fallahi, 2007) discussed in his thesis about the infrastructural obstacles he pointed out the

¹ UN & ASPA's report Benchmarking E Government: A Global Prospective" Available: <http://unpan1.un.org/intradoc/groups/public/documents/UN/UNPAN021547.pdf>

accessibility of internet connection, less no of computers in organization, unavailability of web sites, low internet speed, lack of efficient banking system for e-payment etc. The literature review leads to the explanation that the organization facing various challenges during the development stages of E-Government.

III. RESEARCH METHODOLOGY

To conduct this research, Case Study method has been employed to explore challenges confronting E-Government implementations in public sector of Pakistan. Time span of this longitudinal study is three years 2007-2010. During the period it is studied that how organizations overcome these challenges. The relevant authorities were contacted and gathered the information on challenges faced by organizations.

1) Case Study

A case study has been defined as an empirical inquiry that investigates a contemporary phenomenon within its real-life context (Yin, 1984). The Case study method has its own limitations. It may be used for exploration of a study (Yin, 1993). The purpose of using this method is to draw a close scenario of real work situation. This study has been conducted in natural setting. Data may be collected by multiple means and one or few entities (person, group or organization) may be examined (Christenson, 1976) cited in (Benbasat, Goldstein, & Mead, 1987). The study carried out with the purpose to examine the environment of the organization towards e-services (E-Government) implementation challenges faced by the organizations.

2) Data Collection Method

(Yin, 1984) suggested that multiple data collection methods may be used in case study research; these are interviews, observations, archival data and documentations. The data was gathered through semi-structured face to face interviews with top level management of the organization. Information was also obtained through archival documents and official website. Interviews lasted for half to an hour. Interviews were transcribed. Data triangulation technique was applied to ensure the data validity.

IV. FIRST STUDY DURING E-GOVERNMENT IMPLEMENTATION

E-Government implementation is a challenging task; in this section the results of first study has been presented.

1) ICT Infrastructure

Information and Communication Technology infrastructure is driving force for organizations to implement e-services. Within and outside the organizations communication is required to perform official tasks. As public sector organizations also seek services from different organizations, so the basic ICT infrastructure is essential for implementing E-Government.

We are lacking basic ICT infrastructure. People are unaware of use of technology. Many companies are lacking basic technology. Inter organization communication is yet in discussion phase. No concept of online culture.
(Senior Manager)

People are facing problems in accessing e-services due to lack of basic ICT infrastructure. To ensure successful implementation of the e-services, government needs to develop the allied departments, for example in one of the department in organization, online registration fee facility is not available, because the banks have no facility to transfer funds from one bank account to other bank account.

2) Low ICT Literacy

ICT infrastructure cannot be productive until IT literacy exists in society. ICT literacy is mandatory to empower in using online services provided by government.

IT literacy is very poor. People do not believe in technology. Many companies have computer and they claim that they are using information technology. They don't have the concept, what technology is?

(Manager Applications)

Countries like Pakistan have low literacy rate in general and information technology in particular. Citizens are shy of using computers for available online services. Some times, they don't rely on online information.

3) Professional workforce

A professional workforce is enabler to implement E-Government. Public sector organizations are lacking qualified IT professionals due to many reasons; one of them is low salary structure. The availability of ICT skills is important for successful E-Government implementation. E-Government requires mixed workforce i.e. ICT based professional management.

We have outclass and strong business and legal professionals, we lack mix of technology based business and legal professional. Old guys hesitate to get training in ICT. It's a big challenge for us

(Senior Manager)

Organization is going to launch e-services in near future, but there is shortage of experienced man-power in different fields of E-Government. Organization's existing man-power has strong knowledge of business but lacks in ICT knowledge. Organization has started in-house training programs, but these are not sufficient to meet the current needs. IS&T Department structure of organization



Figure 2: Adopted From organization website

4) Resistance Handling

Technology fever exists in public sector organizations. This fever encourages non technology people to start resisting in Implementation of E-Government. People have less exposure of using modern technologies, employee feels that they are losing their powers, and they are being replaced with technology.

Hierarchical structure is disturbed while using e-services. Every one is depending on IS department. Sometime, they are targeting IS people. (Manager Systems)

5) Collaboration

Inter organizations collaboration is important element in the E-Government to set full scale services.

Collaboration is necessary in our business. We need information from different departments.

We are efficient on our side, we are lacking cooperation. (Manager Application)

The organization needs to collaborate among different organizations.

6) Top Leadership Commitment

E-Government cannot be implemented without the commitment of top leadership (Financial Commitment). It needs high capital investment and operational cost. Public sector organizations are generally reluctant to manage huge investment on E-Government project. Top management role is necessary in all stages of E-Government implementation.

E- services initiative is taken by organization themselves, government supports this project in financial terms. Some time we are lacking finance (Senior Advisor)

Only financial barrier can stop the leadership commitment. Finance is provided by government, remaining funds are managed by organization itself. The leadership is committed towards e-services due to external investment available.

V. SECOND STUDY AFTER IMPLEMENTATION OF E-GOVERNMENT 2010

E-Government implementation is a challenging task. In this section second study has been presented.

1) ICT Infrastructure

Pakistan is lacking ICT infrastructure. It takes long time to develop infrastructure in country.

"We have developed a comprehensive system to meet the requirements of the customers but due to lack of ICT facilities in country, people show hesitation to use computers to perform their functions. Organizations are good on their part of using systems but lacking inter organization communication" (Senior manager).

The organization has developed their system to provide full length services to their citizens but citizens lacking ICT facilities on their part. Organizations are still lacking seamless integration with other organizations due to lack of ICT infrastructure.

2) Low ICT Literacy

"IT literacy is still poor. People are not willing to use online systems; they are lacking trained people to handle E-services. People are unable to handle online account to manage their company profile, even their password for online services. 80 to 90 % of our activities are performed offline" (Manager Application).

Organizations are lacking computer literate staff to handle online services; they prefer to use existing manual procedures. People are comfortable with lengthy process and they are not willing to accept the ease of use.

Professional workforce

"We have trained all of our staff managing e-services through different trainings. Luckily in our department employee turnover is low. Now we have expended and added all categories of skilled people. We have one of the best team in country, managing e-services. We have sufficient manpower to meet current needs" (Senior manager).

Professional workforce is available in organization to meet all challenges in implementing E-Government. They have extended their span of control. IS&T Department Structure.

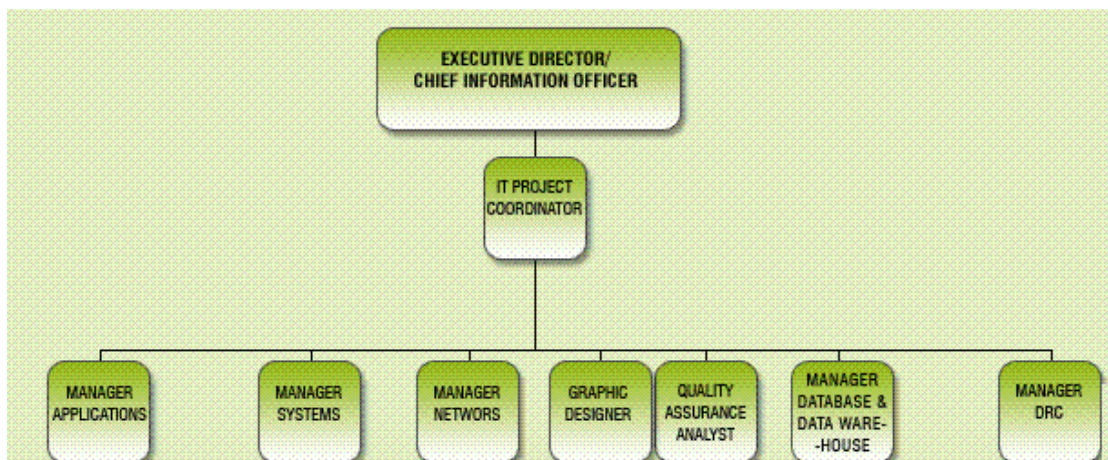


Figure 3 : Adopted form organization website

3) *Resistance Handling*

"Initially we faced problems to manage change in organization, but with the help of training, discussions and interest groups, resistant to change is minimized. Now people feel comfortable of using online systems, organizational information is available on a click. (Manager System.)"

With the help of training people realized that they are not being replaced with machines (system), ~~man~~ "man behind the machine" man is needed to operate machine.

4) *Collaboration*

"Collaboration is necessary for government to achieve full integration of e-services across administrative boundaries, we are lacking in collaboration with other organizations to share information with each other, we have discussed the matter with other organizations but they are not taking interest. I think collaboration is possible if government took initiative to establish collaborating governing body. (Manager Application)"

Collaboration helps the organizations to share infrastructure, manpower, resources, and knowledge with each other

5) *Top Leadership Commitment*

"When we started project, top leadership was committed to implement e-services, capital cost is provided by the government to implement project. At the moment top leadership is reluctant to provide finance to expand the e-services to other department; one of the projects is delayed due to bureaucratic procedures. Some time we faced problem to get finance to pay licence fee to different software's" (Senior advisor).

Leadership commitment is directly linked with the availability of financial resources. Availability of external fund worked as catalyst to take initiative to implement E-Government.

VI. RESULTS AND INTERPRETATIONS

1) *ICT infrastructure*

Presence of ICT infrastructure is an inevitable requirement to progress aggressively in the global economy to facilitate their customers through the implementation of e-services. Across the organization communication is required to perform duties effectively. It is decade long and expensive process to implement E-Government in developing countries, government has taken initiative to provide capital finance to public sector organizations to establish their infrastructure and internal organization communication. The current Infrastructure has shown tremendous growth as compare to what was available in previous study. Study reveals that still it has to go a long way to make everyone consume the benefits of e-services. It has been observed that a central hub for the provision and monitoring of e-services is missing. Within the organizations the infrastructure is good but the inter-organizational connectivity is still required upgradation. Lack of central coordination office among the organizations is proven a barrier. (Layne & Lee, 2001) says that all the benefits of E-Government may be realized when full service integration.

2) *Low ICT Literacy*

ICT literacy is mandatory to enable the people to use online services; a society without IT literacy couldn't go to its higher level. ICT literacy could increase the trust and confidence of the public on online information. Pakistan is still suffering from low literacy rate in general and IT in particular. The study shows People are shows resistance of using computers for available online services, people are relaying on offline services because some time they don't trust on the accuracy of e-services. The organization used One strategy to encourage citizen by providing discount in fee for those they are using online services. One author wrote in his study that white collar worker group and college students showed more awareness than the blue collar workers (Lee & Cho, 2007). Majority of the literate people still could not manage their online profile. Most oftenly they forgot their password for online services, up to 80-90% of the activities are performed off line. (Kunstelj, Jukic, & Vintar, 2007) discussed in his survey findings that there are many reasons people are not using online services. Few of them are —No need yet, preferring to use traditional means, lack of awareness, no interest and no internet use". To explore important influencing factors, it is necessary to address the challenges confronting E-Government.

3) *Professional workforce*

The backbone of the implementation of the ICT infrastructure is the availability of the professional workforce, which is a challenge for organization to implement E-Government. Public sector organizations are lacking qualified IT professionals due to poor compensation and reward systems. In addition training and development aspect is also missing for the upgradation of organizational staff members. (Kifle & Cheng, 2009) Poor IT capabilities and experiences exists in public sector organizations due to

which E-Government projects suffered just lack of IT knowledge and resources. He also quoted Non-IT officers were asked to participate in the E-Government projects in many ministries and were even nominated as the CIO's. The presence of ICT skills pool is inevitable for the successful E-Government implementation and E-Government requires a combined workforce i.e. ICT based professional management. In this study, the turnover of ICT employees in organization is low, which is healthy indicator for the development of E-Government. On the basis of this low turnover and continuous growth of ICT staff now organization has all categories of specialization which include hardware, software, database and communication. (O'Brien & Marakas, 2006) mentioned the four technology areas in his book which are essential for the development of e business and e-services. If compare figure 2 with figure 3, the organization has tremendous growth in professional workforce, this leads towards the successful implementation of E-Government.

4) *Resistance handling*

Unfortunately technology fever exist and prevail in public sector organizations which encouraged and contributed into the resistance. People with poor exposure of the usage of modern technologies are suffering from the apprehension of performing their e service based duties; this makes them feel the apprehension of losing their powers and fear of loss of job with technology. Study findings suggest that ICT is breaking the boundaries of hierarchical structure of the organization but at the same time all other functional areas have become depend upon ICT department. The resistance is managed through different strategies which include trainings, mutual interest, and with the involvement of pressure groups. Now gradually people are feeling comfortable in using online systems and they are getting optimal utility of the information available to everyone.

5) *Collaboration*

Integration is the basis of the creation of the world which is the necessity for the implementations of E-Government. Collaboration among different organizations is compulsory for government to share resources with each other. The findings of first study shows that there is not collaboration exist among the organizations. The organization overcomes this challenge through the discussion with other organizations to share knowledge, resources and infrastructure. To consume fruitful results of E-Government it is recommended that a collaborating agency may be formed to bring the organization closer.

6) *Top Leadership Commitment*

Implementation of E-Government is not only requires the deep commitment of top management but also requires huge capital investment and operational expenditures. Public sectors organizations generally show resistance in the huge financial investment to initiate E-Government projects. In first study the top leadership shows enthusiasm and initiatives in the implementation of E-Government due to external availability of funds but gradually they loose their

interest due to lack of available financial resources. Organization delayed project due to financial limitation and bureaucratic procedures. The involvement of top leadership in the implementation of all stages of E-Government is necessary. The active role of top leaders is crucial especially at the earliest stages to raise awareness, make ICT development a national priority" (Ndou, 2004). Finding suggests that external funding is mandatory for successful implementation of E-Government.

VII. CONCLUSION

Organizations are facing pressure to improve the quality of services to citizens. Quality of services can be improved through the successful implementation of E-Government. This implementations is a challenge for organizations and could be solved through external fundings in all stages of the project i.e. before, during and after implementation of the project. This conclusion could be given in following judgemental points.

- Organizations are facing pressure to improve the quality of services to citizens.
- Error free services may increase the confident of citizens.
- The level of services could be enhanced through external funding.
- Financial and Technical backup would always be required in all stages of project implementaion.
- Information and resources sharing is mandatory to get seamless integration.

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Strategic Reasons, Factors and Advantages Leading Companies To Reverse Logistics: A Case Study

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GJMBR Classification (FOR)
150309.150312.M10 & M11

Abstract-This paper has identified the reasons, factors and advantages in adopting reverse logistics by using a comparative analysis between a company that adopts this procedure and those without this practice. An exploratory study was conducted and a semi-structured questionnaire was applied in companies of the metal-mechanic sector based in Serra Gaúcha (Northeast part of Rio Grande do Sul State). The questionnaire highlighted the reasons leading companies to practise aftermarket reverse logistics. The results demonstrated that the main strategic reasons indicated by respondents were increase in competitiveness and asset recovery, quality of recycled products, post-consumption reverse distribution channel and logistical factors in distribution of assets..

Keywords-Reverse Logistics, Production Cycle, Recycling.

I. INTRODUCTION

In the current economic system, where companies compete with organizations all over the world, actions are necessary to make products cheaper, less competitive and especially less impacting to natural resources. In order to minimize these impacts, we highlight reverse logistics as an opportunity to do so. According to Leite (2003), this is an area of logistics that plans, operates and controls the flow of information, the return of aftermarket goods and after-consumption goods to the business cycle, or to the production cycle through reverse distribution channels.

The logistics of return flows, also known as reverse, is aimed at the effective implementation of product recovery. Its purpose is the reduction, provision and management of toxic and non-toxic waste (GOMES RIBEIRO, 2004, p.140). Terms such as reverse channels or reverse flows have been used since the 1970s. These terms have, in principle, been commonly used in operations related to material recycling and environmental management, and less associated with the goals of cost reduction and increased economic value (BRITO; Dekker, 2003). From this background, the study has investigated the reasons, factors, advantages and benefits for the manufacturer of friction materials, which performs reverse logistics, and also the perceptions of employees from other organizations of Caxias do Sul, Brazil. An explanatory piece of research has been carried out (case study) with application of a semi-structured questionnaire using the Likert scale. The questionnaire has been applied to employees of the friction material company and to other companies in the city. For the preparation of the questionnaire, the reasons or factors that lead companies to implement the aftermarket reverse

logistics were used. Such reasons and practices are detailed in the literature on the subject. The article was divided into the following topics: review of the subject reverse logistics; factors the influence the organization of reverse logistics channels; support for the life-cycle in the product development stage, and recovery of reverse products, in addition to the methodology used, the results achieved, and closing remarks.

II. REVERSE LOGISTICS AS A COMPETITIVE EDGE

1) The reverse logistics

With the increase in costs due to practices that seek to minimize the impacts to natural resources, reverse logistics can become a production procedure that will minimize environmental impacts at lower costs. According to Gökçen and Demirel (2008), reverse logistics has emerged due to the growing concern for the environment, depletion of natural resources, especially problems of inadequate waste deposited in landfill areas, thus leading many local governments to establish rules on the destination of the products. To these authors, reverse logistics is, therefore, a set of activities that start from the point of consumption to transform used products into re-usable products in the market. This allows companies to improve their effectiveness, the level of customer service and reduce production costs. To Saen (2009), reverse logistics is to send products after consumer use to the source of origin. In other words, the manufacturer collects used products from customers and then sells to customers as brand-new products following their re-manufacturing. Reverse logistics focuses on how to take back used products and recover them both efficiently and economically. Pires (2004) and Saen (2009) point out that many companies have already realized that the residue of their products can be converted from a big problem to a source of competitive advantage, especially in terms of institutional image. Reverse logistics is typically used by beverage companies that have to manage all the return of packages (bottles) from the points of sale to its distribution centers through cargo collecting centers. The industry of aluminum cans is remarkable in using recycled raw material and has developed innovative ways to collect discarded cans (FIGUEIREDO et al., 2003, p. 475). According to Leite (2003), when implementing reverse logistics companies add value of different kinds: economic, ecological, legal, logistic, corporate branding, and others. When adding ecological value, companies become part of the theory of natural capitalism proposed by Hawken, Lovins and Lovins (2002), who see the possibility of a new industrial system founded on a new mindset and scale of values.

2) *Influential reasons and factors in the organization of reverse logistics channels.*

The return to the production cycle, according to Leite (2003), depends on economic, technological and logistical factors, on ecologic needs, and on legislative requirements. The model shown in FIGURE 1 is the result of research in several industrial sectors in Brazil, summarizes the interdependence between the factors and levels of organization, and the dynamism of reverse distribution channels. Second to Figueiredo et al. (2003), the critical reasons that influence the efficiency of reverse logistics are

good input controls, standardized and mapped processes, reduction in cycle response time, accurate information systems, measurement of supplier performance, planned logistics network, and collaborative relationships between customers and suppliers. The Table 1 represents, second to Leite (2003), the factors that influence the implementation of post consumption reverse logistics, as it represents the definitions of the necessary essential models and modifiers. The author makes a relationship between the following factors: remuneration, quality, economy, market, technology, logistics, environment and legislation.

TABLE 1 - Factors influencing the implementation of post consumption reverse logistics

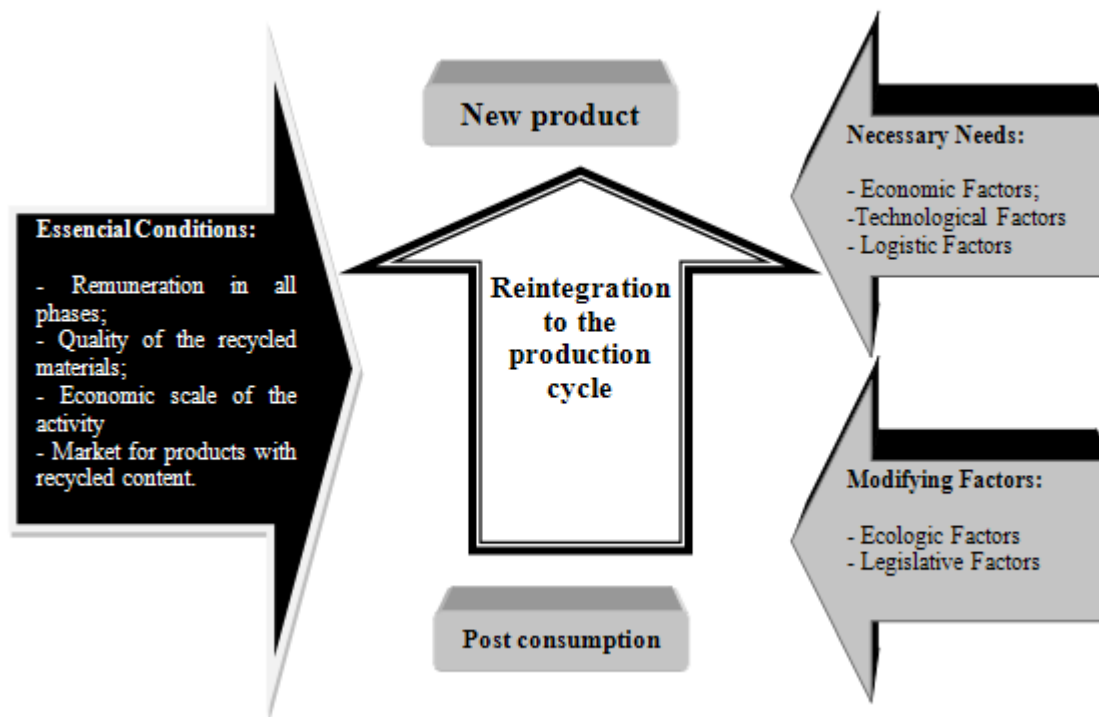
	Factors	Definition
Conditions that are essential to organization and implementation	Remuneration of reverse phases	The profitability achieved throughout each reverse phase must meet the economic interests of various players, with aggregate costs enabling lower selling prices or prices that are compatible with the materials used.
	Quality of the Recycled Material	The return to the production cycle should allow products with economically-acceptable recycled content and compatible industrial yield in the process.
	Economic Scale of the Activity	The quantities of recycled material should be sufficient and provide constancy over time in order to ensure activities on an economic and business scale.
	Recycled Products Market	A market is needed for products manufactured from recycled material, as this will favor demands for recycled products.
Factors that are necessary to the organization of a post consumption reverse channel	Economic factors	Economic factors are understood as the condition for the achievement of the economies necessary for the reintegration of secondary raw materials to the production cycle.
	Technological Factors	It is necessary that the technology is available for cost-effective treatment of waste in its disposal, collection in the post consumption phase, dismantling and separation of the various integrating materials, recycling itself, and in others.
Factors for the post consumption organization	Logistic Factors	They relate to the conditions of organization, location and transport systems in the various links of the reverse supply chain.
Modifying factors in the organization of a reverse distribution channel.	Ecological	Ecological factors of the <i>reverse supply chain</i> conditions are those motivated by ecological sensitivity from any agent: government, company or companies.
	Legislative	These are the modifiers through governmental intervention aimed at the regulation, promotion, education and incentives to the improvement in the return of products to the production cycle and others.

Source: Adapted from Leite (2003)

With regard to legal factors, Bowersox and Closs (2001) state that reverse logistics needs emerge from a growing

number of laws. These laws prohibit, for example, discriminated discard and encourage the recycling of beverage containers and packaging materials

Figure 1 - Relational Models among Factors



Source: Adapted from Leite (1999)

3) *Reverse products recovery and aftermarket reverse logistics*

Product management after the end of their useful life has been a relatively complex issue, as in the case of batteries, tires, automobiles, electronics and others (Pires, 2004).

Repair, reuse, upgrading, remanufacturing and recycling are the top five ways to make the qualities of good material and good work pass on to other users and uses. Repair, which works better when the product is designed to facilitate it, enables the return of faulty goods to the same owner at a satisfactory level. Reuse transfers them to a new user or serves new purposes (HAWKEN, LOVINS and LOVINS, 2002, p.72). According to Gomes and Ribeiro (2004), the processes involving the recovery of materials and products include cleaning and repair, remanufacturing and rework of products, among others. However, according to Figueiredo et al. (2003), the activities to be carried out with reverse material depend on the type of material and on the reason why they enter the system. The materials can be divided into two large groups: products and packaging. In the case of products, the flows of reverse logistics will take place according to the need of repair and recycling, or simply because the customers return them. Leite (2003) notes that in a take back system the goals in product returns are related to the validity/expiry date of the product, excess inventory of products in the distribution channels, and products that need to be returned (recall) for reasons of safety and health. The aftermarket reverse logistics is related to the marketing and return addressed by Cooper and Lambert (2000). According to Stock and Lambert (2001), however, reverse logistics is

one of the most important areas of material management that a company often ignores or overlooks.

III. METHODOLOGY

- a) This paper can be classified as a piece of exploratory research (case study) of the quantitative type, conducted by means of semi-structured interviews. According to Gil (2002), exploratory research aims to provide greater familiarity with the problem in order to make it more explicit or to build assumptions. According to Yin (2008), the case study is an empirical inquiry that investigates a contemporary phenomenon in its real context, especially when the boundaries between phenomenon and context are not clearly defined. Questions were prepared in order to evaluate the reverse logistics company environment. The Likert scale was used with the following score: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, (5) strongly agree and (6) does not apply, considering the following questions:
 - b) if the company became socially responsible under the practice of reverse logistics;
 - c) if the company has achieved a competitive advantage by developing the recycling process of used products;

- d) if the level of customer satisfaction towards the company increased due to the practice of collecting used products;
- e) if the reverse logistics has significantly affected the work of those involved;
- f) how the practice of collecting used products in the market affected the work process of employees;
- g) if the company's image was enhanced in the market because of this practice;
- h) if the company stood out in its segment for carrying out reverse logistics.

The second block of questions was based on the reasons and factors that lead firms to practise the aftermarket reverse logistics discussed by Leite (2003) and Figueiredo et al. (2003). In these questions, the Likert scale was used with 3 choices:

- a) strategic reasons that lead companies to operate with reverse logistics (increased competitiveness, compliance with the law, economic revaluation and asset recovery);
- b) essential conditions for the reverse flow to take place (remuneration and quality, scale of economic activity, and market for products with recycled content);
- c) factors required for the organization of a distribution channel (economic, technological and logistical);
- d) modifying factors that may influence companies to practice reverse logistics (ecological and legal).

Open-ended questions were also developed with the aim of assessing the advantages for the company and the benefits for customers and the society through the practice of aftermarket reverse logistics. For the analysis of such information, the content analysis was chosen, which, according to Marconi and Lakatos (1996), aims at systematically describing the content of communications.

The research was applied to employees of specific areas of the company Alfa and others in the region of Caxias do Sul, from August to October 2009. Prior to the interviews, the procedure went through a pre-test. Marconi and Lakatos (2001, p.165) report that the most appropriate procedure to validate the research instrument is the preliminary test or pre-test, which —consists of testing the research instruments on a small portion of the —universe” population or of the sample, before being finally applied. This aims to prevent the research from coming to a false result”.

1) *Characterization of companies*

The Alfa company is a national-capital company established more than 20 years ago. It is a medium-sized company that operates within the friction material segment in the domestic market, in addition to exporting to the five continents. The company has more than 200 employees and its annual sales are around 50 million Reais. In 2008, the company exported more than 30% of its products. According to its managers, the company implements a policy of reverse logistics in compliance with the current legislation, thus contributing to the preservation of the environment. Its product development policy is aimed at responsibly using products after use through technologies developed by the company itself. According to respondents, this strategy has enabled the company to increase competitiveness, follow the law and reduce the cost of raw materials. The other companies responding the questionnaire are located in the same region as Alfa and operate within the segment of services and industry.

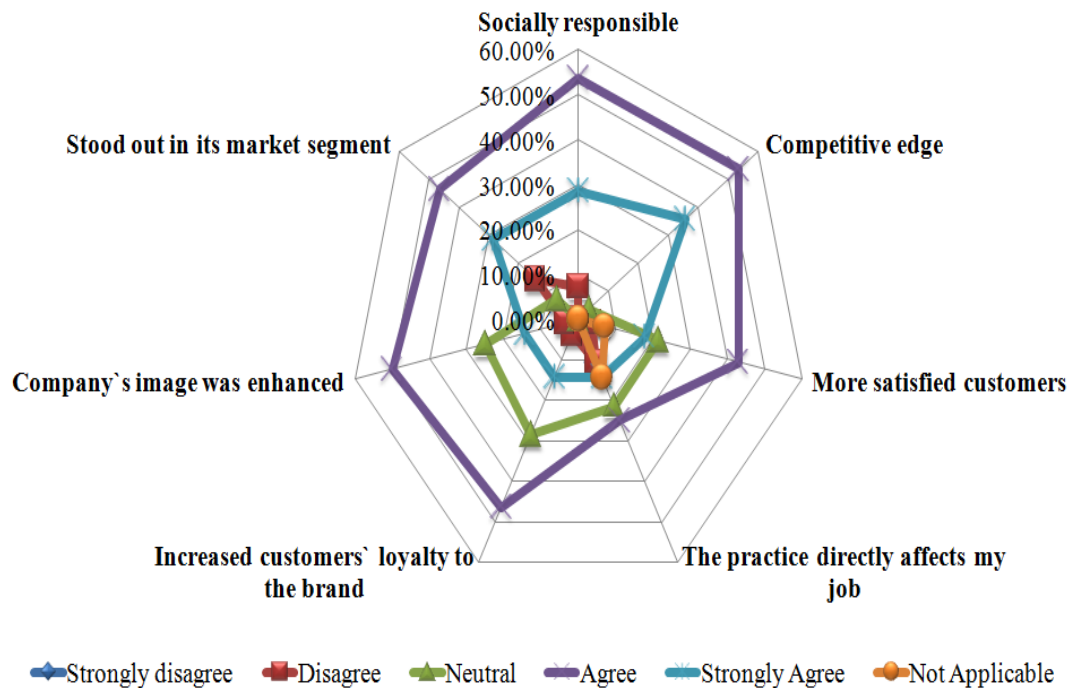
IV. RESEARCH RESULTS

This research has sought to understand the strategic reasons behind reserve logistics, the factors needed for reverse logistics to take place, the advantages for the company, and the benefits for customers and the society.

1) *Strategic reasons and factors necessary for the occurrence of reverse logistics.*

The questions in this section are intended to identify what the most relevant dimensions are for respondents (Alfa and other companies in different segments). The results may indicate the attributes that society perceives as significant. Employees were asked whether they knew the term "reverse logistics". In Alfa company, 21% of the respondents did not know the term, while 79% were aware of it. In the remaining companies, 59% of respondents were unaware of the term "reverse logistics" and 41% were familiar with. Ignorance about the term "reverse logistics" can be justified through the open questions, since respondents indicated that they knew the term as "recycling of packaging." To Bishop (2004), recycling or reprocessing can be considered as the recovery or reuse of material, provided that such reuse does not cause pollution. According to Dias and Theodosius (2006), there are four reverse logistic processes involving recycling: the collection, the combined process of inspection, selection and sorting, reprocessing, and redistribution.

Figure 2 –Analysis of the Reverse Logistics Environment in Alta company



Source: the authors (2009)

In Figure 2, we tried to explore what were the perceptions of Alfa's employees, concerning the practice of reverse logistics:

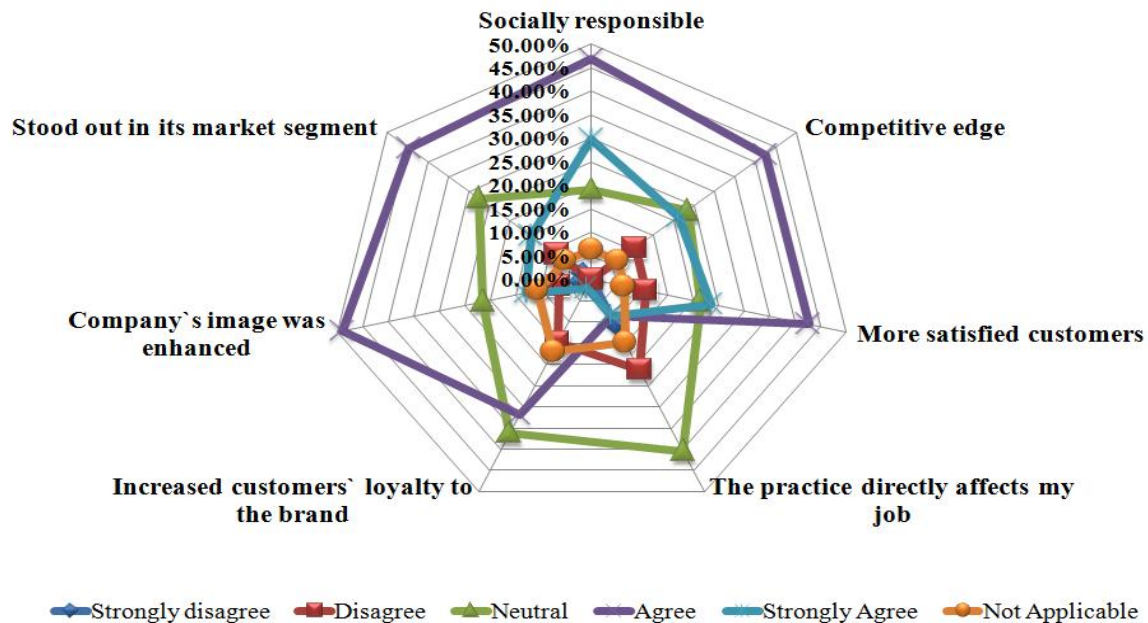
- 53.57% of respondents agreed that the company became "socially responsible" by collecting used products. This employees' point-of-view (in agreeing that the company becomes socially responsible) is also explained by Dias and Theodosius (2006), who consider that despite little action towards selective collection, recycling has a strong appeal in the ecological and economic dimensions, in addition to its social role;
- 53.57% agreed that companies were getting a "competitive edge" or advantage over their market segment by developing the practice of recycling used products. According to Leite (2003), actions related to environmental preservation with a contributory vision to social and environmental marketing will certainly be rewarded with healthy

returns in terms of distinctive image as a competitive advantage;

- 42.86% agreed that customers would likely be more pleased with the company due to its practice of collecting used products. For Vieira et al. (2005), adding value to the customer may take place via protection of the environment, which demonstrates the environmental awareness of the company, since its base consists of marketing activities designed to meet the desires of customers in terms of protection to the natural environment.

Alfa's questions were also applied to employees of other companies. In Figure 3, it is noticed that the majority of respondents agreed that the practice of reverse logistics enhanced the company's image in addition to making the company socially responsible.

Figure 3 - Analysis of the Reverse Logistics Environment according to other companies' view



Source: the authors (2009).

The employees of both companies were asked about the strategic reasons that lead companies to adopt the practice of reverse logistics, as per Table 2. Approximately 53.6% of Alfa's employees consider as very important the increase in competitiveness. The main strategic reason for Alfa is related to "increased productivity", while other companies consider "rising in economic value" very important. According to Porter (1998) the essence of strategic formulation is related to the competition. Moreover, the struggle for market share demonstrates that competition does not show through competitive companies, but has its roots in the economy. There are competitive forces that go well beyond what is represented by competitors alone. The rising in economic value highlighted by other companies is indicated by Leite (2003), by which the quantities of recycled products should be sufficient and provide regularity

over time in order to ensure activities on an economic and entrepreneurial scale. Alfa's employees were asked what were the essential conditions for the flow of reverse logistics to take place. Quality (with 64.3%) showed to be a very important factor, while "the market for products with recycled content" was considered important with 75% of the answers. It was noticed that Alfa considered the "quality" dimension as very important. This is very significant as recycled products cause a great impact on the quality of the final product, since it is responsible for helping the mechanical strength of the friction material. The "economic scale of the activity" was also considered as very important, since the use of recycled material is responsible for decreasing product cost. As for the other companies, they gave a greater relevance to the "market" dimension as opposed to Alfa, which regarded this item as important.

TABLE 2 – Rate of strategic reasons for companies operating in reverse logistics

Reasons	Company	No so Important (%)	Important (%)	Very Important (%)
Increased competitiveness	Alfa	0	35,71	53,57
	Others	21,3	66	14,9
Compliance with legislation	Alfa	7,14	42,86	46,43
	Others	8,5	57,4	36,2
Rising in economic value	Alfa	3,57	46,43	46,43
	Others	12,8	70,2	19,1
Asset recovery	Alfa	14,29	50,0	28,57
	Others	2,1	53,2	46,8

Source: the authors (2009).

"The organization needs to demonstrate the quality of the product and show that the use of recycled raw material is a way to avoid the extraction of new natural resources, encourage the collection and recycling of discarded materials, prolong the life of landfills and, mainly, provide work opportunities for poor people with little ability to enter the formal labor market (NASCIMENTO et al., 2008, p. 100)". The same questions were applied to the other companies surveyed and the results showed that respondents consider the economic scale (70.21%) and salary (65.96%) as the most important factors. Alfa's employees were asked about the factors needed to set up a post-consumption reverse distribution channel. The factors highlighted as very important were: the logistical (57.1%), followed by economic and technological developments, both with 42.9%. The other Alfa's employees surveyed considered as important technological factors (50%), economic (46.4%) and logistic (35.7%) respectively. The employees of other companies highlighted as very important economic factors (63.83%), technological (61.70%) and logistic (57.45%). Logistical factors (36.71%), technological (31.91%) and economic (23.40%) were considered important. Respondents from Alfa highlighted the "logistics" factor as very important since the company considers these raw materials as essential. Their lack can lead to loss of productivity and late delivery of some products to

customers. The technology used for recycled material is a competitive advantage, as it includes a specific process called "wave process". This process provides quality to the customer and contributes to the preservation of the environment. The company decided to use recycled raw material for three reasons: the environmental issue, since the customer usually discards friction material after use; the quality used in processing the "wave process" material which allows to provide the end user with additional strength mechanical and durability; and reduced costs for raw materials. Calomarde (2000) points out that repair, reconditioning and reuse are strategies based on the idea of recovering the product in the final stage of its life cycle. The recycled product will be viable if there is demand to justify its implementation. According to Ballou (1993), it is generally cheaper to use virgin material than recycled material due to the little development of return channels, which are still less efficient than the distribution channels for products. This must change since (1) the public in general is becoming more aware of waste, (2) the amount of solid waste has increased and (3) the original raw material is becoming more expensive and less abundant. Regarding the question on the modifying factors that may influence the practice of reverse logistics, according to Table 3, Alfa's employees considered legislation as a very important factor, while other companies considered ecological factors as very important.

TABLE 3 – Modifying factors that may influence the practice of reverse logistics

	Factors	Not so important(%)	Important (%)	Very Important (%)
Ecological Factors	Alfa	14,3	46,4	28,6
	Other companies	4,26	40,43	57,45
Factors related to Legislation	Alfa	17,9	46,4	35,7
	Other companies	10,64	42,55	46,81

Source: the authors (2009)

The modifying factors in reverse channels are identified by government intervention. They change the natural balance of the market in order to improve the supply of post-consumption quantities available and recycled, regulate the waste disposal or the market conditions for products made with secondary materials, among other possibilities, allowing the implementation of reverse logistics in the companies of the sector (LEITE, 2003, p.152). The author also states that the current laws are intended to blame the manufacturers, directly or indirectly, for the impact of their products. The best destination for the reverse products indicated by Alfa's employees was the return to the production cycle (75%) and 25% (recycling). The other companies showed 47% recycling and 43% return to the production cycle. According to Stock and Lambert (2001), many materials can be recycled or reused, resulting in

revenues and profits. Czinkota and Ronkainen (2008) explain that reverse logistics has gained more importance

due to environmental concerns and to the development of reverse distribution systems. Such systems are crucial to ensure that the company will not only deliver the product to the market, but can also retrieve it from the market for subsequent use, recycling or disposal.

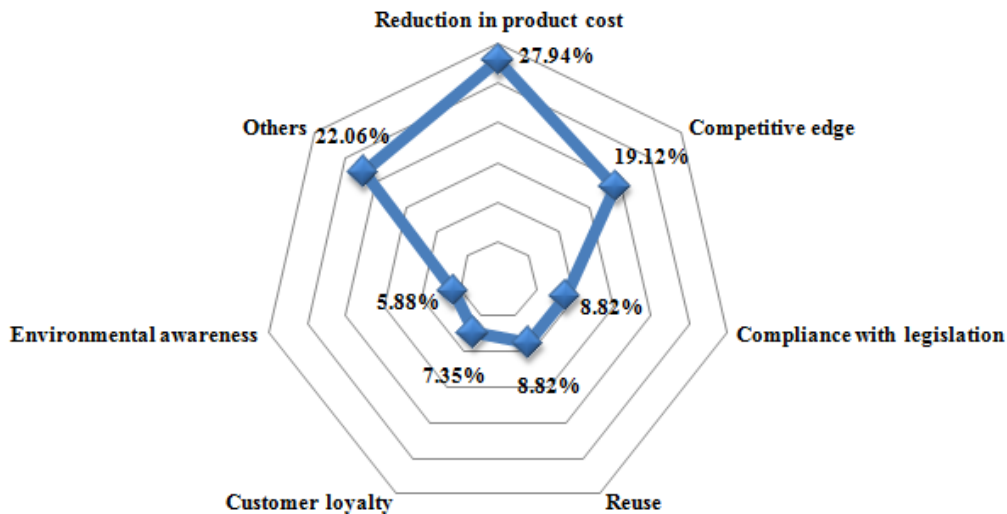
2) *Advantages for the company and benefits for customers and the society*

The last part of the survey consisted of open questions intended to check which were, in the opinion of respondents, the most significant dimensions for the company in terms of advantages, and the benefits for customers and the society through the practice of reverse logistics. An analysis of content was carried out and the data was exported to Excel software for compilation. Concerning the most significant

"advantages" for the practice of reverse logistics in "Alfa company", as Figure 4, the following dimensions were highlighted: reduction in product cost (27.94%) and competitive edge (19.12%). The dimensions treated as others were: development of environmental technology, marketing, waste reduction, environmental preservation, quality, relationship with environmental agencies, profitability and durability. Competitive costs, according to Ghemawat and Rivkin (2000), is the starting point for a competitive-edge strategic analysis. A low-cost position is key for added value and for a competitive edge. From a

financial standpoint, Gill and Marins (2006) state that there is a cost related to the management of reverse flow, which is added to the cost of purchasing raw materials, storage, transport and production. These are traditionally taken into account in Logistics. "The interest in analyzing competitive costs has survived the decline in the experience popularity curve of the 1970s, but has been redesigned in two important aspects. First, greater attention was given to the breakdown of business and its components, and the assessment of how costs could be shared between businesses in a particular activity. (Ghemawat, Rivkin, 2000, p. 62).

Figure 4 – Main advantages gained by the company, according to Alfa's employees.

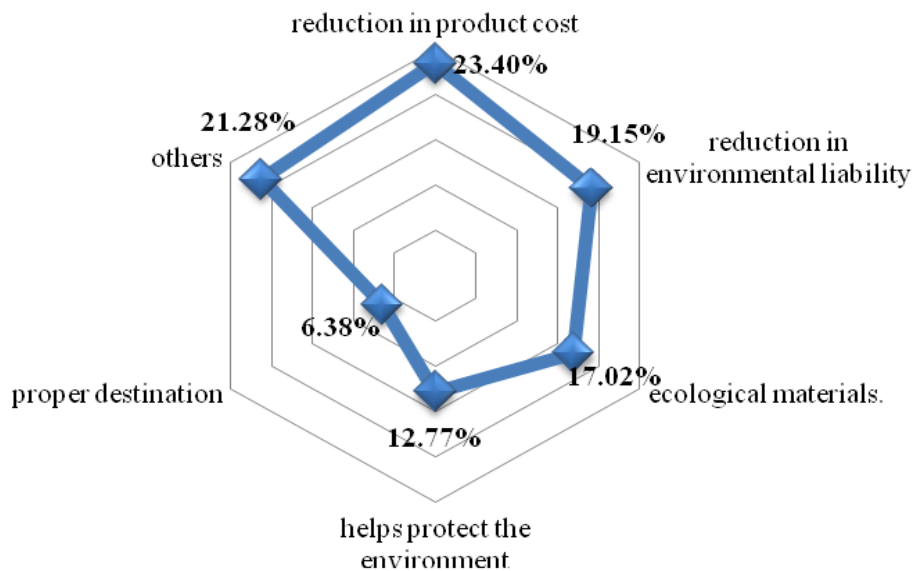


Source: the authors (2009).

Concerning the main —advantages" in the practice of reverse logistics for the other "companies" as per Figure 5, the following dimensions were highlighted: reduction in product cost (17.54%) and environmental awareness (12.28%). The dimensions treated as —others" were: organization of the production process, cost increase for the customer, enhancement of brand image, ethics, longer useful life of landfills, customer loyalty, improvement in mark-up margins and reduction in environmental impacts. We can see that in both surveyed companies (Alfa and other companies), —cost reduction" was the main dimension. Concerning the main —advantages" for Alfa's customers, as per Figure 6, the following dimensions were highlighted:

reduction in product cost (23.40%), reduction in environmental liability (19.15%) and ecological materials (17.02%). The dimensions treated as —others" were: safety, compliance with legislation, sustainability, quality, customer loyalty and resilient products. The reduction in environmental liability highlighted by Alfa's employees is due to the fact that customers are monitored by cognizant environmental agencies within each region of the country concerning the destination given to products after their useful life is ended. In addition to playing its social role, the company helps customers handle these products in a socially-responsible manner.

Figure 6 – Main advantages for customers according to Alfa's employees

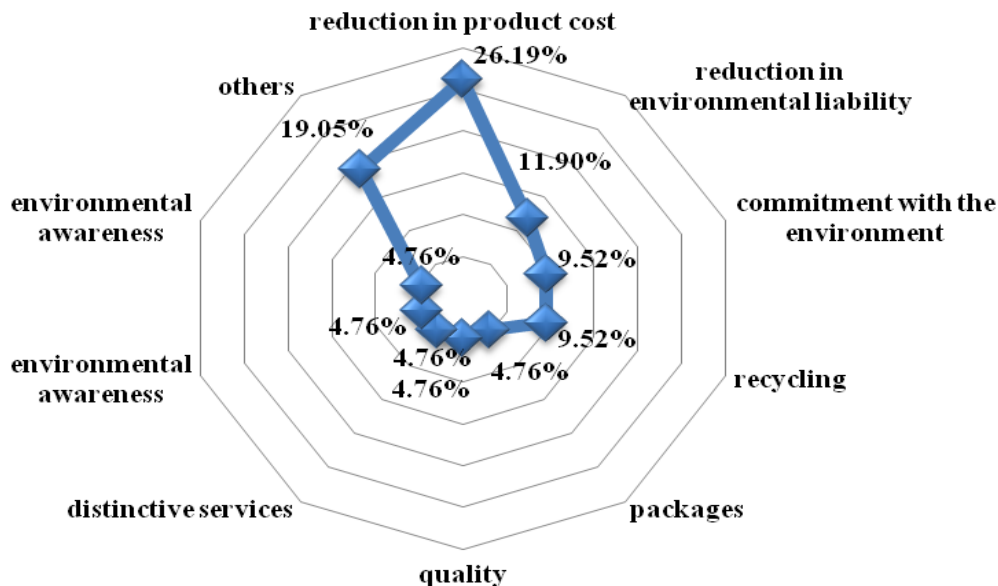


Source: the authors (2009).

Concerning the main —advantages” for the "customers" of other companies, as per Figure 7, the following dimensions were highlighted: reduction in product cost (26.19%) and reduction in environmental liability (11.90%). The dimensions treated as —others” were: after-sale relationship, customer loyalty, safety, advertisement, ng, sustainability, quality of life, creation of opportunities. When evaluating the advantages for customers, the respondents treated —reduction

in product cost” as the main dimension. This is true, as Alfa has reduced costs in its product line using reverse raw-material. According to studies carried out by Czinkota and Ronkainen (2008), the objectives of successful reverse logistics are the same: recover returns at the maximum possible value, maintain customer loyalty, control costs and gather information to help reduce future returns. The successful reverse logistics considerably affects the bottom line of a company.

Figure 7 – Main advantages for customers according to other companies.

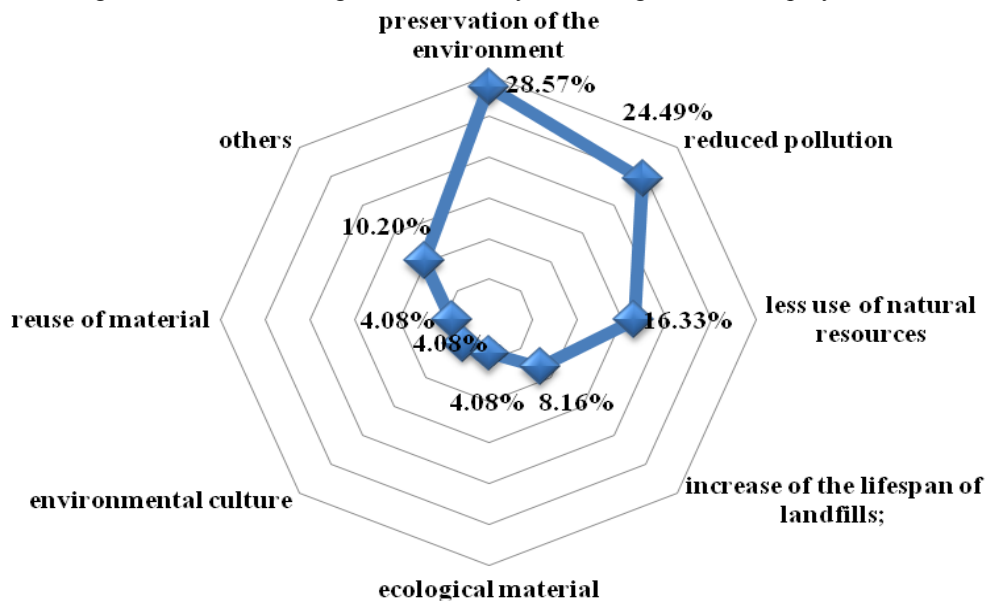


Source: the authors (2009).

With reference to the —advantages” for Alfa’s employees, as per Figure 8, the dimensions highlighted were: preservation of the environment (28.57%), pollution (24.49%) and less use of natural resources (16.33%). The dimensions treated as —others” were: creation of jobs, investment in other material, reduction in product cost, waste reduction, and substantial gains. An important dimension indicated by the staff was the creation of jobs. According to Nascimento (2008), when the customer buys a product with recycled

material in its content, he is not just making a choice between the type of raw material (product) he will take home, but he is also staying that he wants to create job opportunities for people in need, reduce the extraction of raw materials from the environment, reduce the volume of waste generated, etc. The "increase in the lifespan of landfills" was also recalled because the greater the number of recycled products the less necessary will be to use industrial landfills.

Figure 8 – Main advantages for the society, according to Alfa’s employees.

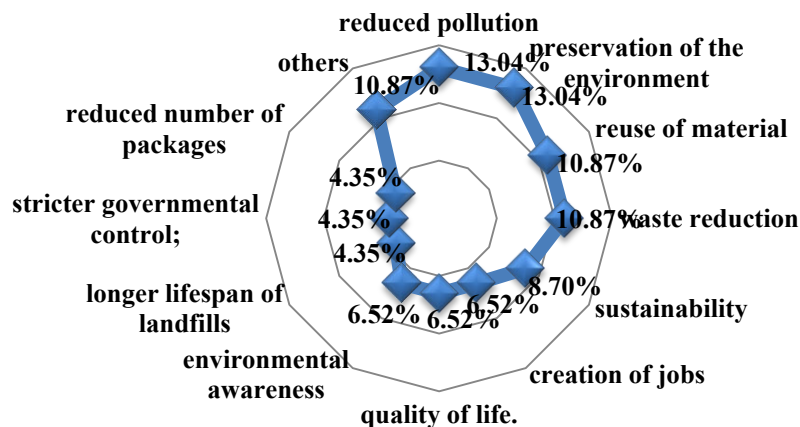


Source: the authors (2009)

Concerning the main "advantages" for the —society”, the employees of other companies highlighted, as per Figure 9, the following dimensions: reduced pollution and preservation of the environment, both with 13.04%; reuse of

material and waste reduction, both with 10.87%. The dimensions treated as —others” were: safety, products conforming to legislation, reduction in product cost, strategic positioning and less environmental impact.

Figure 9 – Main advantages for the society, according to other companies



Source: the authors (2009).

V. FINAL CONSIDERATIONS

This research has identified the reasons and factors for the company engaged in reverse logistics, as well as the perceptions of employees of other companies in Caxias do Sul, in addition to the advantages and benefits for customers and the society. It is noticeable that there are some differences in the answers given by the surveyed companies. In the strategic reasons that lead companies to engage in reverse logistics, Alfa considered as very important: increase in productivity, followed by compliance with legislation and rising in economic value, at the same level, and finally "asset recovery". The other companies consider as important: rising in economic value, increase in productivity, compliance with legislation and asset recovery regarding the modifying factors that may influence the practice of reverse logistics, Alfa considered as important ecologic factors followed by legislation. The other companies have considered as very important the same factors: ecologic and legislation. According to Esty and Winston (2008, p. 121) not all customers want green products, but a larger number of customers includes environmental factors in their purchasing equation. Companies that incorporate environmental performance within a strategic vision for recovery of their products will have a distinct advantage over the competition (DIAS; TEODOSIO, 2006, p. 438). The open questions showed what the perceptions of Alfa's employees were concerning reverse logistics. The perceived advantages and benefits showed some of the strategic reasons that lead firms to engage in this practice, such as the reduction in product cost indicated by Gemawat and Rivkin (2000), the competitive edge stated by Porter (1998), the compliance with legislation and customer loyalty shown by Leite (2003) and the environmental awareness highlighted by Hawken, Lovins and Lovins (2002). These dimensions are crucial for sustainability and for the competitiveness of companies. Some important dimensions in the study were brought into focus, such as: the influence of reverse logistics on the work of people, the collection of products which makes customers more loyal to the brand, and the practice of reverse logistics to strengthen the company's image in the market. Leite (2003) states that, according to recent studies, leading companies in their market segments already have an a positioning that adds value to their products and their images by means of reverse logistics. In terms of benefits to the society, the dimensions preservation of the environment and reduced pollution were highlighted. These dimensions demonstrate the concern of respondents about reverse logistics benefiting the environment, thus avoiding pollution, reducing costs for consumers, increasing the lifespan of landfills, in addition to social responsibility which creates jobs and improves quality of life. Other factors highlighted in the study were: the lack of understanding, from respondents, about the term reverse logistics and the association made by those who knew about packing recycling. The studied literature brought several examples of recycling practices in areas such as construction, metal-mechanical, plastics and others. Perhaps

there should be a greater concern by institutions interested in promoting what reverse logistics is and explain to the population which materials can be recycled. As future studies, we suggest an increase in the sampling of this research and statistical studies to determine the correlation among dimensions, in addition to applying this same research to Alfa's customers in order to measure the dimensions that they consider important in the practice of reverse logistics.

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Forage Productivity of Gongoshi grazing reserve, Adamawa State, Nigeria.

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GJMBR Classification (FOR)
M11,0701,0703 & Q51

Abstract-Gongoshi grazing reserve (8°N; 11°N and 11.5°E; 13.5°E) lies in the Sudan Savannah zone of Nigeria. A field experiment was carried out to evaluate the yield and productivity of Forage in the reserve between the months of August and October, 2005 with seasonal and monthly variation in temperature and rainfall. Forage yield was determined from mean dry matter yield of forage in randomly selected 1m² quadrats. The total forage yield for the three months for the area was found to be 2,130kgDM/ha. The month September was the most productive with monthly biomass of 63.1kgDm/ha and decreased towards the month of October. Reduction in grazing pressure, complete implementation of laws and range improvement practices such as reseeding were recommended for the reserve.

Keywords-Grazing reserve, forage, productivity, yield, Gongoshi.

I. INTRODUCTION

Many studies made for the assessment of forage productivity suggest that the sustainability of the range depends upon a number of factors such as rainfall, edaphic features, grazing system and seasonal availability of forage (Mirzaclinov and Yakovelva, 1990; Omar, 1991; Grunzoaltd *et al.*, 1994; Farooq, 2003; Durrani *et al.*, 2005). Protection and proper management increased the total palatable vegetation cover in a range (Rafi, 1965). It is important for grazers to know the productivity of their pasture since it is a critical area of measuring the possible profit from forage. Having knowledge of the productivity of forage helps in determining if there is enough forage dry matter in the next pasture to be grazed, the number of days of forage that are available on the forage being fed and the regrowth rate of forage in the most recently grazed pasture. It is clear that any future management planning definitely requires a base line data about the existing rangeland productivity (Gou *et al.*, 1997). The present study was therefore aimed at evaluating the yield and productivity of forage of palatable component to help range managers in the management of the reserve and its resources.

II. MATERIALS AND METHODS

The research was conducted in Gongoshi grazing reserve (8°N; 11°N and 11.5°E; 13.5°E) in Mayo-Belwa Local Government Area of Adamawa State, about 45km from

Yola. Permanent vegetation transects were established in Gongoshi grazing reserve following the method outlined by Weeks (1996). This involves the division of the study area into large adjacent and parallel strips (each 2km wide). The strips were further sub-divided along their lengths using natural features such as roads, tracks or trees to give a number of blocks. Each block was sub-divided across its width into ten (10) sections and the central longitudinal axis of each section served as the main transect. The transects were numbered A – J. Using a table of random numbers, two transects were chosen per block and used as the sampling transects. Sampling of the vegetation at the herbaceous layer for productivity and yield was carried out using the transects.

Table 1: Mean Monthly Climatic Data of Yola (Nearest to Gongoshi grazing reserve) (Latitude 09°16')

Month	T max °C	T min °C	T mean °C	R.H %	Rainfall mm	Pan A Eo mm	Sunshine
January	33.9	18.4	26.1	30	0	269.5	234
February	37.0	20.4	28.7	27	0	294.6	217
March	39.4	27.3	29.3	33	4.8	334.9	205
April	39.6	26.9	33.3	44	40.3	282.0	224
May	36.6	25.4	31.0	58	138.8	209.5	238
June	33.9	24.2	29.1	69	127.2	142.0	222
July	31.4	23.4	27.4	79	192.5	138.8	184
August	30.9	23.4	27.2	79	215.2	134.4	187
September	31.2	23.2	27.2	77	147.4	115.4	202
October	33.8	23.2	28.5	66	42.1	160.7	248
November	35.5	19.7	27.6	44	2.7	226.4	263
December	34.3	18.2	26.2	34	0	262.0	255
Year					910.8		

Source: Adebayo (1997) Cited in Adebayo and Tukur (1999)

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III. FORAGE PRODUCTIVITY DETERMINATION

Productivity determination followed the method outlined by Kershaw (1979). The procedure involved clipping of desirable herbage within a series of quadrats (1m^2 in size) distributed randomly along the transects at two weeks interval; for a period of three months (August – October 2005). Cutting height varied from ground level to about 10cm about ground level. The cut herbage was weighed immediately to obtain fresh weight, and then put in a sample bag for subsequent drying and weighing in an oven at 65°C in Forestry Laboratory of Federal University of Technology, Yola, Adamawa State, to a constant weight in order to obtain dry matter yield.

IV. FORAGE YIELD DETERMINATION

Yield determination followed the method by Kershaw (1979). The procedure involved clipping of desirable herbage within a series of quadrats (1m^2 in size) distributed randomly along the transects at two weeks interval and for a period of three months (August – October 2005). Cutting height varied from ground level to about 10cm about ground level. The cut herbage was weighed immediately to obtain fresh weight, and then put in a sample bag for subsequent drying and weighing in an oven at 65°C to a constant weight in order to obtain dry matter yield. The figure obtained from the sample quadrats was summed and divided by the number of quadrats used to obtain the mean yield of the desirable herbage per quadrat. The yield for the entire area was determined from the mean yield per quadrat.

V. RESULTS AND DISCUSSION

Table 2 shows the mean yield per block. Block J had the highest mean yield of 264kgDM/ha while block A has the lowest mean yield of 160kgDM/ha . Blocks B, C, D, F, and I had forage yield of between 205kgDm/ha and 260kgDM/ha . And Blocks E, G and H had forage yield of between 165kgDM/ha and 197kgDM/ha .

Table 2: Mean Forage Yield (kgDM/ha)

Blocks	Dry Weight (kgDM/ha)
A	160
B	209
C	239
D	213
E	197
F	264
G	166
H	166
I	260
J	266
Total	$2,130\text{kgDM/ha}$
Mean	213.0kgDM/ha

Table 3 shows the productivity of the desirable species in the reserve. The results indicated that the productivity is

highest in the month of September with a mean productivity of 63.1kgDM/ha but decreased at the end of October, with a mean of 32.3kgDM/ha while in August, the mean was 40.9kgDM/ha .

Table 3: Monthly Forage Productivity (kgDM/ha)

Blocks	Dry Matter in kg/ha per month		
	August	September	October
A	32	80	23
B	59	108	25
C	66	31	69
D	17	50	9.0
E	17	91	32
F	50	28	74
G	52	48	13
H	38	12	21
I	61	135	22
J	17	48	38
Total	409	631	323
Mean	40.9	63.1	32.3

VI. DISCUSSION

The study was undertaken to evaluate the forage yield and forage productivity of Gongoshi grazing reserve. Kefa and Oche (1989) reported that the amount of moisture available for plant growth affects both the yield and chemical composition of plants, while temperature is important in determining rate of development, phenology and total yield of many plants. The forage yield data of $2,130\text{kgDM/ha}$, from this study falls within the range of $1000 - 3500\text{kgDM/ha}$ reported by Kefa and Oche (1989) for the Sudan zone. This suggests a high productivity of the forage plants in the grazing reserve.

VII. CONCLUSION

The study evaluated the yield and productivity of forage plants in Gongoshi grazing reserve. Forage productivity was correlated with rainfall, temperature and relative humidity which were found to be part of the indices influencing forage productivity. The result of the forage yield calls for proper management of the resources of the range in order to meet up the amount of 3500kgDM/ha reported by Kefa and Oche (1989). The result also suggests the need for manipulation and use of improvement practices on the range sites.

VIII. RECOMMENDATIONS

In view of the findings of the study, the following recommendations are made: -

- 1) Wildfire should be prevented through the construction of fire lines and the use of prescribed burning.
- 2) Reseeding of the range sites with desirable plant species should encouraged.
- 3) Reactivation of the earth dams and construction of irrigation and water spreading systems should be done.
- 4) Extension agents should enlighten the nomads/settlers on the above points so as to boost livestock production in the area.

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Growth and Productivity Analysis of Paper & Paper Products Industry of Punjab

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GJM BR Classification (FOR)
M11, O47, F43 & 140202

Abstract-The policies of liberalized regime have initiated a change in the small scale industrial sector of Punjab where efficiency and productivity have emerged as important agents of growth and survival. This piece of study is an attempt to investigate growth pattern and productivity trends of small scale paper products industry of Punjab. The growth of industry has been measured in terms of four variables namely: number of units, fixed investment, employment and production. Yearly growth rates have been computed to mirror year-to-year fluctuations in growth and compound annual growth rates (CAGRs) have been worked out to find the impact of the policies of liberalized regime on growth of this industry. Productivity trends have been explored in terms of capital intensity, capital output ratio and partial factor productivities. The study observed that the policies of liberalization have promoted capital investment, production and labour productivity, boosted technological up-gradation, but resulted in fall in growth of number of units and deceleration in the employment opportunities. Capital output ratio has declined which is a good sign but at the expense of partial productivity of capital. Till the year 2020, Production and employment are supposed to grow moderately along with snail slow growth of number of units. Capital investment will fall but capital productivity would show remarkable growth. Capital output ratio is expected to decline but labour productivity is expected to express good signs of growth at the expense of capital intensity.

Keywords- exponential smoothing, productivity, compound growth rate, forecasts, ACF.

I. INTRODUCTION

The new millennium is going to be the millennium of the knowledge. So demand for paper would go on increasing in times to come. In view of paper industry's strategic role for the society and also for the overall industrial growth it is necessary that the paper industry performs well. Government of India regards the Indian paper industry as one of the 35 high priority industries in the country. It is 15th largest in world and provides employment to 1.3 million people directly as well as indirectly. The demand for upstream market of paper products, like, tissue paper, tea bags, filter paper, light weight online coated paper, medical grade coated paper, etc., is growing up India's per capita consumption of paper is around 4.00 kg, which is one of the lowest in the world. With the expected

increase in literacy rate and growth of the economy, an increase in the per capita consumption of paper is expected. These developments are expected to give fillip to the industry (<http://www.economywatch.com/business-and-economy/paper-industry.html>). Tracing the history, it is believed that Chinese were the first to make paper, from where the technology went to Samarkhad and then it eventually reached India. In India, the first paper industry was developed in Kashmir, established by Sultan Zaimal Abedin in 1417-67 AD. Soon, because of its quality, the Kashmiri paper was much in demand in the world. Then, with the rapid demand of writing materials, the paper making centers were developed in different parts of the country like Sialkot (now in Pakistan's Punjab), Arwal in Bihar, Murshidabad and Hoogly in Bengal, Ahmadabad, Khambat and Patan in Gujarat. Punjab has been the leading centre for white coloured and very stout paper (Tiwari, 2006). Now, Maharashtra, Karnataka, Andhra Pradesh and Tamilnadu, Gujarat, Uttarpradesh, Orissa and Punjab are playing an important role in continuous growth and development of paper industry in country. (The Hindu, 2003). As far as paper industry of Punjab in particular is concerned, with 882 units in 1980-81, this industry provided employment directly to 3926 persons and produced material worth 33.36 Rs. Crore (at constant prices) but gained units to 3491 till 2005 providing employment to 18268 persons and producing worth 276.67 Rs. Crore at constant prices (Directorate of Industries, Punjab, 2005).

II. OBJECTIVES OF THE STUDY

A sound industrial development strategy is obligatory to be framed on the basis of analysis of growth and productivity of concerned industry. In this study, an attempt has been made to dig the facts about paper products industry of Punjab which can be treated as a catalytic agent for policy formulation. The specific objectives of the study were:

1. To compute partial productivity of labour and capital, average capital output ratio and capital intensity.
2. To analyse the comparative picture of growth of number of units, fixed investment, direct employment and production during pre-liberalization and liberalization periods.
3. To generate short term forecasts of growth of paper and paper products industry in Punjab hence to predict the productivity profile of industry during forthcoming years till 2020.

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III. DATA BASE AND METHODOLOGY

Present study is based on secondary data for the period of 25 years i.e. 1980-81 to 2004-05. (Due to change in classification of industries, it is not possible to get the data as per requirement for the next four years because that data will not be in uniformity with that for the last 25 years, still study finds data for the 25 years sufficient to draw various conclusions). The data relating to number of units, employment, fixed capital and production of small scale paper and paper products industry at aggregate level for the said period were culled from Directorate of Industries, Punjab. Since the figures of fixed capital and production were given at current prices, these have been converted into constant prices by deflating them with index number of the wholesale prices of manufactured products' total, taking 1993-94 as the base year. Yearly growth rates for all the four variables were computed to capture year-to-year fluctuations in growth. Partial productivities of labour and capital were obtained as O/L and O/K. For making an assessment of the extent of amount of units of capital that are needed to produce a certain level of output and capital intensity K/O and K/L ratios were also computed. Compound Annual Growth Rates (CAGRs) for overall period (1980-81 to 2004-05) and two sub-periods: pre-liberalization (1980-81 to 1991-92) and liberalization periods (1991-92 to 2004-05) for all the eight variables were estimated by fitting an exponential function of the following form (Gujarati, 2004, p. 175):

$$Y_i = \beta_1 X_i^{\beta_2} e^{u_i} \quad (1)$$

In logarithmic form

$$\text{Log } Y_i = \text{Log } \beta_1 + \beta_2 \log X_i + u_i \quad (2)$$

Where Y_i - dependent variable
 X_i - independent variable

β_1 and β_2 are unknown parameters

U_i - disturbance term.

Using the ordinary least square method, estimated values of β_1 and β_2 denoted by

$\hat{\beta}_1$ and $\hat{\beta}_2$ have been calculated. Compound annual growth rate (Gr_c) has been computed by taking the antilog of estimated regression coefficient, subtracting 1 from it and multiplying by 100. (Gujarati, 2004, p. 179)

$$Gr_c = A.L. (\hat{\beta}_2 - 1) \times 100 \quad (3)$$

Since $\hat{\beta}_2$ is the estimate for β_2

In order to check the significance of growth rate student's 't' test has been applied (Gujarati, 2004, p. 135).

$$t = \frac{\hat{\beta}_2}{S(\hat{\beta}_2)} \sim t(n-2) \text{ d.f} \quad (4)$$

where $S(\hat{\beta}_2)$ is the respective standard error. The forecasts

have been generated by applying Double Exponential Smoothing using Holt's approach. Since Double Exponential Smoothing model is best suited to address the type of data which exhibits either an increasing or decreasing trend over time. Moreover, in Double Exponential Smoothing model past observations are given exponentially smaller weights as the observations get older. In other words, recent observations are given relatively more weight in forecasting than the older observations. Exponential smoothing is frequently the only reasonable time series methodology in large forecasting systems (Gardner, 1985, p.23). Two equations associated with Double Exponential Smoothing are (<http://www.itl.nist.gov/div898/handbook/pmc/section4/pmc434.htm>):

$$f_t = \alpha Y_t + (1-\alpha)(f_{t-1} + b_{t-1}) \quad (5)$$

$$b_t = \gamma(f_t - f_{t-1}) + (1-\gamma)b_{t-1} \quad (6)$$

where:

Y_t is the observed value at time t.

F_t is the forecast at time t.

b_t is the estimated slope at time t.

α (Alpha) is the first smoothing constant, used to smooth the observations.

γ (Gamma) is the second smoothing constant, used to smooth the trend. To adjust level at time t, the trend of the previous period b_{t-1} , is added to the last smoothed value of level component as shown by equation (5). Then equation (6) is used to update the trend component, which is expressed as the difference between the last two smoothed values. Since there might be some randomness remaining, the trend is modified by multiplying the trend in the past period ($f_t - f_{t-1}$) with γ and adding that to the previous estimate of the trend multiplied by $(1-\gamma)$ (Gupta and Kumar, 2008, p.30; <http://www.itl.nist.gov/div898/handbook/pmc/section4/pmc434.htm>). The one-period-ahead forecast is given by:

$$F_{t+1} = f_t + b_t \quad (7)$$

The m-periods-ahead forecast is given by:

$$F_{t+m} = f_t + mb_t \quad (8)$$

Equation (7) is used to forecast the value for one period ahead and finally equation (8) was used to forecast ahead. For initialization process, grid search procedure was used on the software SPSS (version 7.5) and the values of two smoothing parameters α and γ were obtained. Only those values of α and γ were selected which corresponded to the lowest figure of accuracy measure used. The best value for the smoothing constant is the one that results in the smallest sum of the squared errors given by the following equation: Sum of Square of Errors (SSE)

$$= \sum e_t^2 = \sum (Y_t - \hat{Y}_t)^2 \quad (9)$$

IV. ADEQUACY OF THE DOUBLE EXPONENTIAL SMOOTHING

Before generating forecasts it is imperative to check the adequacy of the forecasting technique used. Present study confirms the appropriateness of DES model to generate forecasts by making use of two identification techniques namely autocorrelation function and Ljung-Box Test. Exponential smoothing when allied to appropriate identification technique constitute an even stronger competitor method to alternative univariate forecasting procedures (Chatfield, Koehler, Ord and Synder, 2001, p.158). To test the hypothesis of randomness as a mean to confirm the adequacy of the model used, autocorrelation coefficients and Ljung-Box Q statistic of residuals have been calculated.

1) Autocorrelation Coefficient

The autocorrelation (Box and Jenkins, 1976) function has been used for the purpose of detecting non-randomness in data. Autocorrelations of residuals were worked out as under:

$$r_k(e) = \frac{\sum_{t=1}^{n-k} e_t \cdot e_{t+k}}{\sum_{t=1}^n e_t^2}; k=1,2,\dots,1 \quad (10)$$

Computed values of auto correlation coefficient, $r_k(e)$ and the lag k were displayed graphically to depict autocorrelation function (ACF) also known as correlogram. The 95% confidence interval for residual ACF was obtained by using Bartlett's approximation while calculating standard errors (Bartlett, 1946; Gupta and Kumar, 2008, p.31; <http://www.itl.nist.gov/div898/handbook/pmc/section4/pmc434.htm>). Residual ACF, which lies within the 95% interval taken as insignificant and insignificance of ACF, implies adequacy of DES to generated forecasts.

2) Ljung-Box Test

Out of a large number of tests of randomness we have selected Ljung-Box test which can be used to test multiple autocorrelation coefficients and instead of testing randomness at each distinct lag, tests the overall randomness based on a number of lags. For this reason, it is often referred as portmanteau (French word which refers to a coat rack that can hold many items of clothing on its hook) test. In this test we have considered the whole set of the values all at a time to see whether they are significantly different from zero. Ljung-Box Q statistics was computed from the model's residuals by using the following equation:

$$Q = n(n+2) \sum_{k=1}^L \frac{r_k^2(e)}{n-k} \quad \text{For } i = 1 \text{ to } k \quad (11)$$

Where Q is Portmanteau test statistic, n is the sample size, L is the number of lags being tested. Non-significance of Q test is taken to imply that the generated residuals could be considered as white noise, thereby indicating the adequacy of estimated model (Gupta and Kumar, 2008, p.31; <http://www.itl.nist.gov/div898/handbook/pmc/section4/pmc434.htm>).

V. RESULTS AND DISCUSSION

This section presents the results and discussion of the study. The first subsection is devoted to the analysis of compound annual growth rates of number of units, employment, fixed capital and production. Moreover yearly growth rates were also calculated to capture the year-to-year fluctuations. The second subsection is devoted to the profile of capital intensity, capital-output ratio and partial productivities of labour and capital in paper and paper products industry. The third subsection deals with generation of forecasts regarding different variables representing future assessment of productivities.

SECTION 1

VI. GROWTH PERFORMANCE

Measurement of growth has been one of the most extensively researched areas. The growth rate analysis provides the whole vision of growth performance. The year to year growth rates and compound annual growth rates (CAGRs) of number of units, fixed investment, employment and production of paper and paper products industry are shown in table I. The results have been discussed in brief under the following four sub heads:-

Table I
Year to year and Compound Annual Growth Rates (in percent)

Year	Number of units	Fixed investment (In Rs. Crore)	Direct Employment (in No.)	Production (In Rs. Crore)
1981-82	21.43	24.33	20.84	27.66
1982-83	18.67	7.12	16.82	7.91
1983-84	13.93	6.32	15.81	6.76
1984-85	12.15	4.99	12.06	4.96
1985-86	11.95	5.46	10.73	16.53
1986-87	7.76	6.71	11.83	5.25
1987-88	6.43	3.09	5.77	8.8
1988-89	10.22	-1.1	8.27	2.27
1989-90	7.66	-0.69	5.46	0.36
1990-91	5.54	-0.6	5.75	15.46
1991-92	5.67	3.57	6.88	6.31
1992-93	3.88	-2.56	3.94	1.5
1993-94	3.8	2.6	4.23	9.92
1994-95	3.46	1.12	4.14	5.79
1995-96	3.77	6.15	6.25	19.19
1996-97	3.26	15.62	5.48	10.6
1997-98	2.3	13.99	5.02	20.2
1998-99	1.99	10.23	3.52	4.87
1999-00	1.51	13.78	3.11	13.83
2000-01	1.43	5.4	2.5	10.2
2001-02	1.02	5.41	2.06	6.02
2002-03	-3.72	6.82	-2.32	14.12
2003-04	0.58	-2.61	2.01	2.93
2004-05	0.72	2.95	1.73	4.32

CAGRs:-

Pre Liberalization Period	10.42*	4.27*	10.36*	8.01*
Liberalization Period	1.83*	7.39*	3.36*	10.53*
Overall Period	5.27*	4.87*	6.02*	8.92*

*Significant at 5 percent level of significance.

**Insignificant at 5 percent level of significance.

Source: Calculated from the data supplied by Directorate of Industries, Punjab.

Note: - fixed investment and production figures are taken on 1993-94 constant prices to compute various growth rates.

VII. NUMBER OF UNITS

The year-to-year growth rates of number of units as compiled in column II of table I portrays a highest growth rate of 21.43 percent in the very initial year of the study i.e.1981-82. Thereafter the growth embarked on its steep downhill journey which continued uninterruptedly till 1987-88 when it touched the level of 6.43 percent. The southward movement of the growth rates continued for the rest of the study period but fluctuations were also noticed at odd intervals. The growth rate even slipped in the negative zone in 2002-03(-3.72 percent) but managed to finish at the level of 0.72 percent in 2004-05. Further perusal of the column reveals that the liberalization period turned out to be a nightmare for the industry as the compound annual growth rate (CAGRs) for the liberalization period plummeted to 1.83 percent from the level of 10.42 percent belonging to the pre- liberalization. However, a CAGR of 5.27 percent was noticed for the over all period of the study.

VIII. FIXED INVESTMENT

A glance at column III of table I mirrors annual growth rates of fixed investment with a wide diversity and wild fluctuations. Commencing from a highest growth rate figure of 24.33 percent in 1981-82, nosedived to the level of 7.12 percent in 1982-83 and further declined in the following two years to touch the level of 4.99 percent in 1984-85. The growth recovered a little bit in the next two years to touch a level of 6.71 percent in 1986-87. the growth rate again slipped downward and entered the negative zone and remained there consecutively for three years till 1990-91. The period 1991-92 to 1999-2000 witnessed some minor and broad swings in the growth rates and finally touched the level of 13.78 percent in 1999-2000. In the rest of the study period, the growth rate again tumbled to touch the level of 5.40 percent in 2000-01 and after minor fluctuations slipped again in the negative zone to finally settle at -2.95 percent in 2004-05. The column further envisages a significant CAGR of 4.27 percent in the pre-liberalization period which jumped to 7.39 percent in the liberalization period.

However, a CAGR of 4.87 percent was observed for the overall period of the study.

IX. DIRECT EMPLOYMENT

The yearly growth rates of direct employment as sketched in column IV of table I reveals a discouraging trend in the employment growth. Starting from a highest growth rate of 20.84 percent in 1981-82, decelerated in the following years. Barring the year 1986-87, the growth rate continued declining till 1987-88 when it touched the level of 5.77 percent. The period 1988-89 to 1995-96 experienced minor fluctuations to reach at a level of 6.25 percent. During rest of the study period the growth rate turned bearish which continued till the end with the only exception of the year 2003-04, when it pulled itself out of the negative zone to touch the level of 2.01 percent. Further investigation of the column delineates a CAGR of 10.36 percent in the pre-liberalization which declined miserably to the level of 3.36 percent in the liberalization period. However, a CAGR of 6.02 percent was observed for the overall period of the study.

X. PRODUCTION

Investigation of the yearly growth rates of production as shown in the column V of table I demonstrates wild fluctuations at odd intervals. Starting from the highest growth rate of 27.66 percent in 1981-82, nosedived to the level of 7.91 percent in 1982-83, further declined in the following two years to touch the level of 4.96 percent in 1984-85. The growth rate shot up to mount a peak of 16.53 percent in 1985-86 followed by an equally sharp fall to the level of 5.25 percent in the year 1986-87. Almost similar mountain-valley kind of growth pattern was viewed during the rest of the study period. Further perusal of the column suggests a significant CAGR of 8.01 percent in the pre-liberalization period, which accelerated to 10.53 percent in the liberalization period. However, a CAGR of 8.92 percent was observed in the overall period of the study. The conclusion that springs out of the above discussion is that the policies of liberalization have brought mixed blessings for the small scale paper industry in Punjab. While the CAGR of number of units & direct employment in the liberalization period decelerated substantially over the pre-liberalization period, whereas that of fixed investment and production recorded upswing. Hence the policies of the liberalization period have turned a boon for the fixed investment and production in the small scale paper industry whereas it proved to be a bane for the employment generation and the number of units.

SECTION-II**XI. PRODUCTIVITY ANALYSIS AND PROFILE OF RELATED VARIABLES.**

Productivity depends on the relationship between total output and related inputs such as labour and capital which have been used in production of that output. It is evident that the capacity of the economy to produce goods and services mainly depends on productivity of these factors.

Productivity can be enhanced through proper utilization of such resources. It is widely agreed that increasing productivity is a barometer of good health of a system which allows producing at lower cost and makes it competitive both in short as well as in long run. Table –II depicts the profile of capital intensity, capital output ratio and partial productivities of labour and capital of the paper products industry of Punjab. This table also highlights the compound growth rates of capital intensity, capital-output ratio and partial productivities of labour and capital for the pre-liberalization and liberalization period. The detailed column wise explanation of table II is discussed as under:

TABLE II
Profile of Capital Intensity, Capital-Output Ratio and Partial Productivity of Capital and Labour

Year	AOLR (In Rs.Cr.)	DOM (In Rs.Cr.)	COR	AOCR
1980-81	0.0085	0.0066	0.78	1.28
1981-82	0.009	0.0068	0.76	1.31
1982-83	0.0083	0.0063	0.76	1.32
1983-84	0.0076	0.0057	0.75	1.33
1984-85	0.0072	0.0054	0.75	1.33
1985-86	0.0075	0.0051	0.68	1.47
1986-87	0.0071	0.0049	0.69	1.45
1987-88	0.0073	0.0048	0.65	1.53
1988-89	0.0069	0.0044	0.63	1.58
1989-90	0.0066	0.0041	0.63	1.6
1990-91	0.0072	0.0039	0.54	1.86
1991-92	0.0071	0.0037	0.52	1.91
1992-93	0.007	0.0035	0.5	1.98
1993-94	0.0073	0.0034	0.47	2.13
1994-95	0.0075	0.0033	0.45	2.22
1995-96	0.0084	0.0033	0.4	2.5
1996-97	0.0088	0.0037	0.42	2.39
1997-98	0.01	0.004	0.4	2.52
1998-99	0.0102	0.0042	0.42	2.4
1999-00	0.0112	0.0047	0.42	2.4
2000-01	0.0121	0.0048	0.4	2.51
2001-02	0.0125	0.005	0.4	2.52
2002-03	0.0146	0.0054	0.37	2.69
2003-04	0.0148	0.0052	0.35	2.85
2004-05	0.0151	0.0049	0.33	3.06

CAGRs:-

Pre-liberalization period	-2.11*	-5.46*	-3.48*	3.62*
Liberalization period	6.92*	3.97*	-2.77*	2.92*
Overall Period	2.73*	-0.03*	-3.70*	3.87*

Source: calculated from the data supplied by directorate of industries, Punjab.

Note : *significant at 5 percent level of significance.

** Insignificant at 5 percent level of significance

Terms used:

a) DOM: Degree of Mechanization (capital intensity):- it is fixed capital at constant prices per employee.

c) AOCR:- Average output capital ratio (Capital Productivity):- it is ratio of total production to total fixed capital (both deflated)

d) AOLR: - Average Output Labour Ratio (Labour Productivity):- it is total production of constant prices per employee.

1) Labour productivity

The annual growth rates of labour productivity as compiled in column II of table II shows a figure of 0.0085 crores in the year 1980-81 which improved to the level of Rs.0.0090 crores in 1981-82. The period 1982-83 to 1992-93 experienced fluctuations, but with a negative bias, in the labour productivity and touched a level of Rs. 0.0070 crores in 1992-93. The period thereafter recorded a consistent upswing in the labour productivity and touched the peak of Rs. 0.0151 crores in 2004-05. The column further reveals that the CAGR for the liberalization period (6.92 percent) registered a remarkable improvement over the CAGR of (-2.11) belonging to the pre-liberalization period. However, a CAGR of 2.73 percent was observed for the overall period of the study.

2) Capital Intensity (Dom)

The profile of annual growth rates of capital intensity as sketched in column III of table II demonstrates that the capital intensity which was Rs. 0.0066 crores in 1980-81 increased to the highest level of Rs.0.0068 crores in 1981-82. The period thereafter can broadly be classified into three phases. The first phase of 1982-83 to 1995-96 witnessed a consistent decline in capital intensity to touch the lowest level of Rs.0.0033 crores in 1995-96. The second phase of 1996-97 to 2002-03 observed consistent uptrend to touch the level of Rs. 0.0054 crores. In the remaining period of the study the capital intensity again started falling and finally reached a level of Rs.0.0049 crores in 2004-05. Further perusal of the column explains that the liberalization period recorded a substantial improvement in the CAGR (3.97 percent) when compared with the CAGR of pre-liberalization period (-5.46 percent). However, a CAGR of (-0.03 percent) was registered for the overall period of the study.

3) Capital- output ratio

The column IV of table II portrays the profile of annual growth rates of capital output ratio. The capital output ratio is showing a clear and consistent downtrend right from the beginning till the end of the study period. Starting from a highest level of 0.78 in 1980-81 declined constantly and uninterruptedly till 1995-96 to touch the level of 0.40. Then after fluctuating in a narrow band till 2001-02, declined further in the rest of the study period to finish at the lowest

level of 0.33 in 2004-05. Further investigation of the column reveals that the CAGR of the pre-liberalization period which was -3.48 percent declined at a slower pace (-2.77 percent) in the liberalization period. However a CAGR of -3.70 percent was noticed for the overall period of the study.

4) Capital productivity (AOCR)

The yearly growth rates of capital productivity as mirrored in column V of table II reflects almost clear uptrend during the entire study period. Commencing from a level of 1.28 in 1980-81, the capital productivity improved continuously till 1995-96 to touch the level of 2.50, with the only exception of the year 1986-87 when it marginally declined to the level of 1.45. After experiencing minor fluctuations during the brief period of 1996-97 to 1999-2000, the capital productivity resumed its upward march which continued unhindered till the end to touch the peak of 3.06 in 2004-05. Further perusal of the column reveals that the CAGR which was 3.62 percent in the pre-liberalization period drifted down to 2.92 percent in the liberalization period. However a CAGR of 3.87 percent was noticed for the overall period of the study. The above discussion leads us to the conclusion that the liberalization has encouraged mechanization and technological up gradation in the paper industry in Punjab. The policies of the liberalization have resulted in lower COR and higher DOM. And all these developments have hampered the growth of employment opportunities.

SECTION— III

XII. FORECASTS

Future is highly uncertain but most people view the future as consisting of a large number of alternatives. Future research or forecasting is the best way of examining the different alternatives, identifying the most probable ones and thus reducing the uncertainty to the least. Forecasting is the best designed tool to help decision making and planning in the present (Walonick, 1993). Initially forecasting was confined to limited areas but these days one forecasts at every stage of life. Now it includes trade, commerce, welfare and industry too. Present study has made an attempt to generate the forecasts on the basis of study of past behavior assuming that it may help the policy makers to monitor the probable growth of this industry so that they may timely initiate the appropriate policies.

1) Smoothing Parameters

The optimal values of smoothing parameters Alpha and Gamma in case of Number of units are 1.0 and 0.4, in case of Fixed Investment these are 0.8 and 1.0 whereas in case of Employment and Production are 1.0 and 0.4, 0.5 and 1.0 respectively as exhibited in Table III

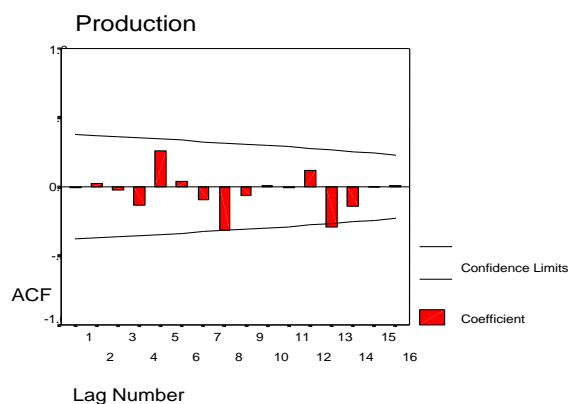
Table-III

Variable	F ₀	B ₀	α	γ	SSE
No. of Units	827.6 4583	108.708 33	1	0.4	73465. 85651
Fixed Investment	24.70 958	2.68083	0.8	1	189.95 942
Employment	3627. 20833	597.583 33	1	0.4	159992 5.823
Production	28.29 104	10.1379 2	0.5	1	1117.4 5461

The adequacy of the fitted model was tested by computing autocorrelation function of residuals and applying Ljung Box Q-statistics. Figure 1 depicts ACF among residuals and the values of Q-statistics for all the four variables for time lag of 16. Perusal of figure 1 shows that in case of Number of Units, the value of Q-statistics was 5.386 and the value of Q in case of Fixed Investment, Employment and Production were 14.547, 10.666 and 14.155 respectively. At 5 percent level of significance, all were found to be insignificant. Non-significance of Q-statistics ensures the adequacy of fitted model to generate forecasts.

figure-I

FORECASTS



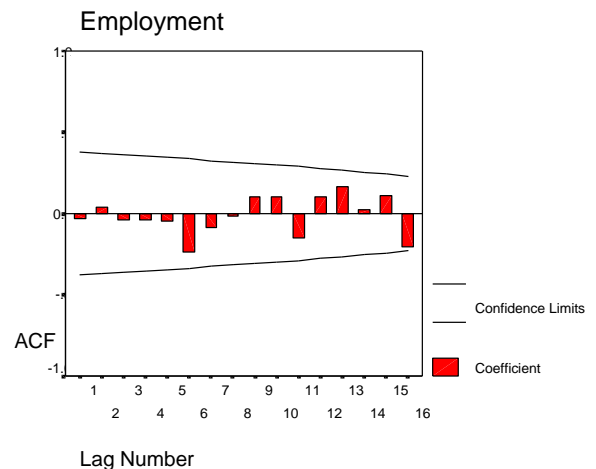
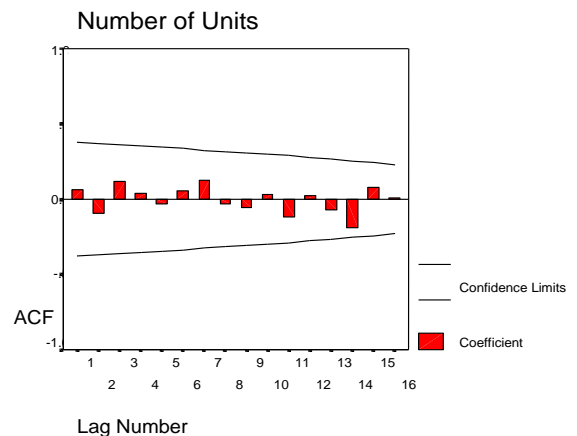
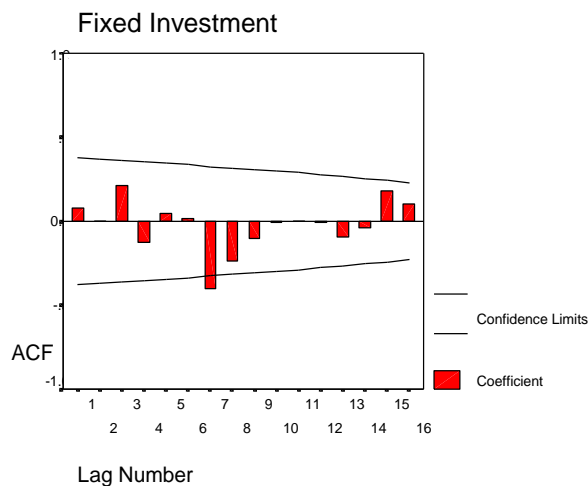
After ensuring the adequacy of DES model, the next step is to generate forecasts regarding growth and productivity of paper industry in the state of Punjab for ensuing decade till 2020. The forecasts for all the variables concerned are given in Table IV.

Table – IV

Year	Production(In Rs. Crore)	Fixed investment(In Rs. Crore)	Number of units	Direct Employment (in No.)	DOM(In Rs. Crore)	COR	AOCR	AOLR(In Rs.Crore)
2005-06	294.79	87.56	3498	18518	0.0047	0.30	3.37	0.0159
2006-07	307.40	84.00	3505	18769	0.0045	0.27	3.66	0.0164
2007-08	320.01	80.45	3512	19019	0.0042	0.25	3.98	0.0168
2008-09	332.62	76.89	3519	19270	0.0040	0.23	4.33	0.0173
2009-10	345.23	73.34	3526	19520	0.0038	0.21	4.71	0.0177
2010-11	357.84	69.79	3533	19771	0.0035	0.20	5.13	0.0181
2011-12	370.45	66.23	3540	20021	0.0033	0.18	5.59	0.0185
2012-13	383.06	62.68	3547	20271	0.0031	0.16	6.11	0.0189
2013-14	395.67	59.12	3553	20522	0.0029	0.15	6.69	0.0193
2014-15	408.28	55.57	3560	20772	0.0027	0.14	7.35	0.0197
2015-16	420.88	52.01	3567	21023	0.0025	0.12	8.09	0.0200
2016-17	433.49	48.46	3574	21273	0.0023	0.11	8.95	0.0204
2017-18	446.10	44.90	3581	21524	0.0021	0.10	9.93	0.0207
2018-19	458.71	41.35	3588	21774	0.0019	0.09	11.09	0.0211
2019-20	471.32	37.79	3595	22025	0.0017	0.08	12.47	0.0214
CAGRs:	3.39*	-5.72	0.2*	1.25*	-6.85	-8.85	9.66*	2.12

Source: Calculated from the data supplied by directorate of industries, Punjab.

Note *significant at 5 percent level of significance. Perusal of Table IV reveals that the forecasts of degree of mechanisation ensure a slight upshot. In 2005-06, the forecasted figure is 0.0047 (Rs. Cr.), expected to be 0.0042 (Rs. Cr.) in 2007-08. Probably fall to 0.0023(Rs. Cr.) in 2016-17 and finally expected to reach the level of 0.0017 in 2019-20. The expected CAGR is -6.85 percent for coming decade.



Further examination of Table IV depicts that the forecasts for COR have depicted a declining growth which is a good sign for an industry because low level of COR is desirable everywhere. COR in paper and paper products industry was forecasted as 0.30 in the year 2005-06 would ensure fall in the next year and expected to dip to 0.25 in 2007-08, anticipated to decline till 2012-13 and finally expected to fall upto 0.08 in 2019-20. The expected CAGR is -8.85 percent for the ensuing decade till 2020. Perusal of Table IV shows that the AOCR is expected to rise from 3.37 in the year 2005-06 to 5.59 in the year 2011-12 and to 9.93 in 2017-18. It is further expected that AOCR figure would observe arise upto 11.09 in 2018-19 and then would probably reach upto 12.47 in 2019-20. The expected CAGR has found to be 9.66 percent for the lead time. Further glance at Table IV reveals that in case of AOLR, the growth forecasts have depicted an increasing trend. The forecasted figure for AOLR in this industry was 0.0159 (Rs. Cr.) in the year 2005-06, 0.0164 (Rs. Cr.) in 2006-07 and further expected to escalate to 0.0181 (Rs. Cr.) in the year 2010-11. It is expected that this upward tendency would continue till AOLR would probably climb to 0.0204 (Rs. Cr.) in 2016-17 and finally getting level of 0.0214 (Rs. Cr.) The expected CAGR is 2.12 percent for the ensuing decade. More examination of Table IV depicts that in case of Production, the growth forecasts have depicted an increasing trend. The forecasted figure for Production in this industry was 294.79 (Rs. Cr.) in the year 2005-06, 307.40 (Rs. Cr.) in 2006-07 and further expected to escalate to 357.84 (Rs. Cr.) in the year 2010-11. It is expected that this upward tendency would continue till this variable would probably climb to 433.49 (Rs. Cr.) in 2016-17 and finally getting level of 471.32 (Rs. Cr.) The expected CAGR is 3.39 percent for the ensuing decade. Glance at Table IV furnishes that that in case of Fixed capital investment, the forecasts have depicted a declining trend. The forecasted figure for investment in this industry was 87.56 (Rs. Cr.) in the year 2005-06, 84.00 (Rs. Cr.) in 2006-07 and further expected to fall to 69.79 (Rs. Cr.) in the year 2010-11. It is expected that this decreasing tendency would continue till this variable would probably dip to 48.46 (Rs. Cr.) in 2016-17 and finally getting level of 37.79 (Rs. Cr.) The expected CAGR is -5.72 percent for the days to come. Glance at Table IV indicates that the forecasts of Number of units ensure a snail slow growth. In 2005-06, the forecasted figure is 3498 expected to be 3512 in 2007-08. Probably rise to 3574 in 2016-17 and finally expected to reach the level of 3595 in 2019-20. The expected CAGR is 0.20 percent for for ensuing decade till 2020. Further perusal of Table IV reveals that the forecasts of Employment ensure a slight upshot. In 2005-06, the forecasted figure is 18518 expected to be 19019 in 2007-08. Probably rise to 21273 in 2016-17 and finally expected to reach the level of 22025 in 2019-20. The expected CAGR is -8.85 percent for coming decade

XIII. CONCLUDING REMARKS

The entire discussion boils down to the conclusion that despite the problem of militancy in the pre-liberalization period, significant growth rate was observed in all the four variables namely: number of units, direct employment, fixed investment and production. On the other hand, the liberalization period also managed to record significant growth rate for all the aforesaid four variables, but the figures of CAGR for the pre-liberalization and liberalization period reveals discouraging growth rate for the direct employment and a dismal growth figure for the number of units. This clearly indicates that policies of the liberalized regime for the paper industry of Punjab are not very benign for its quantitative growth and direct employment. However, in the over all period of the study significant growth rate was measured for all the four variables. The profile of labour and capital productivity reveals that in absolute terms partial productivities of labour and capital has gone up significantly, while capital output ratio and capital intensity have fallen during over all period of the study. The comparative profile of pre-liberalization and liberalization period indicates that during liberalization period labour productivity and capital intensity showed a remarkable turnaround, capital productivity declined marginally while capital output ratio continued its declining spree. As far as expected growth of paper industry till 2020 is concerned, Production and employment are supposed to grow moderately with snail slow growth almost negligible regarding number of units. Capital investment will fall but capital productivity would show remarkable growth. Capital output ratio is expected to decline but labour productivity shows good signs of growth at the expense of capital intensity.

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Role of Leadership in Training & Development

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150305,M12,M53&150503 }

Abstract-HRM Practices are extensively considered as essential features of organizational success. Most significant unit of HRM Practices is Training and Development. It is the only key practice to attain the desired organizational objective. Training and Development can reduce the gap between the desired organizational state and its current state. On the other hand it has been observed, leadership is the imperative aspect of Human Resource Management. It has been observed that organizational leadership is relevant to organizational effectiveness and efficiency. In this research study we have analyzed, if the leadership skills are applied in the Training and Development process then the output would be maximized. The aim of this paper is to report the findings of an empirical study exploring the relationship between Training & Development and Leadership. Elemental directorial features such as satisfaction, communication and motivation plays crucial role in the training and development and enhanced by Leadership skills as well. The results revealed that, Training & Development process is enhanced by enhancing the leadership skills of trainer. The research discovered Training and development could be further fruitful by adding leadership skills but it does not mean that without leadership skills it would be useless.

I. INTRODUCTION

In the field of human resource management, training and development is the field concerned with organizational activity aimed at bettering the performance of individuals and groups. In organizational settings Training is, of course, an indispensable part of any employment. Very few of us, after all, are proficient to undertake a new job from day one. Training can be informal, on the job training, or take the form of formal recognized courses. T&D is the most important and influential aspect of Human Resource Practices. If we glance at the value of Human Resource Practice and its implementations in our real business and employment sector than we shall come to know about a huge gap between both of them. Human Resource Practices are of gigantic importance but their execution is not up to the required level. Once employees are on board, the employer must train them. (Gary Dessler 2007) Many of today's businessmen are still not familiar with the significance of Human Resource Practices. We have analyzed that

effectiveness and efficiency in the business sector results in form of more profit. Efficiency and effectiveness is crucial for every business which is associated with the actual performance of the employees if the performance of the employees would be perfect then attainment of effectiveness and efficiency would be much easy and we can maximize effectiveness and efficiency with the help of training and development because training and development is the only key to reduce the gap between actual performance and desired performance of the employees. Another very important aspect of Human Resource Practices is Leadership. Before we get moved ahead, let's define leadership, leadership is a process by which a person influences others to accomplish an objective and directs the organization in a way that makes it more cohesive and coherent. This definition is similar to Northouse's (2007, p3) definition — the concept of leadership is relevant to any aspect of ensuring effectiveness in organizations and in managing change. Leadership is the only vital role of the whole business environment which has almost no negative effect on other organizational variables and can enhance the functionality of all other variables. Leadership skills aids in all stages and roles of business; from the very beginning stage of development of business plan to the maturity stage of Business cycle and then its decline as well. Leaders carry out this process by applying their leadership knowledge and skills. This is called Process Leadership (Jago, 1982). However, we know that we have traits that can influence our actions. This is called Trait Leadership (Jago, 1982) in that it was once common to believe that leaders were born rather than made. These two leadership types are shown in the chart below (Northouse, 2007, p5): We have joined and interlinked the two very important roles of business "Leadership" and "Training and Development" and analyzed that Training and development is compulsory for accomplishment of desired state of business and Leadership plays vital role in all activities of business. By observing the Leadership and T&D simultaneously we came to know that training and development is augmented by improvement of Trainer's Leadership skills.

II. LITERATURE REVIEW

A growing body of empirical research has examined the effect of certain HRM practices on firm performance and analyzed that Leadership skills plays important role in Human Resource Management Practices. Although there is a long list of best HR practices that can affect either independently or collectively on the organizational performance, Training and development is the most important aspect of HR and influenced by Leadership skills,

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+9233335138061 each and every function of all the trades is to go with utmost effectiveness and efficiency: More the

but the results are hard to interpret. In order to determine any effect of Leadership practices on training and development, the following sections develop hypotheses concerning the relationship between training & development and leadership. Orientation of the new employee is the part of the Training, and this is the point from where the training starts. Employee Orientation provides new employees with the basic background information they need to work in your company such as information about company rules. However Orientation programs are moving away from mere discussions of rules, to explaining the company's mission and the employee's role in accomplishing it. (Garry Dessler 2008) If the trainer or manager have leadership abilities and have to train the employees then the training process could be much efficient and output oriented. Training requires the complete understanding and analysis of trainee's competency level and the skills required for the job; we can say the training requires situation handling. Situation is a factor of Leadership (U.S. Army, 1983) therefore Leaders can train more effectively. Also note that the situation normally has a greater effect on a leader's action than his or her traits. This is because while traits may have an impressive stability over a period of time, they have little consistency across situations (Mischel, 1968). Training requires communication and communication is also a factor of leadership (U.S. Army, 1983) therefore good leaders can be good trainers. Training involves presentation and leaders are good presenters. According to a study by the

Hay Group, a global management consultancy, there are 75 key components of employee satisfaction (Lamb, McKee, 2004). They found that: Effective communication by leadership in three critical areas was the key to winning organizational trust and confidence:

1. Helping employees understand the company's overall business strategy.
2. Helping employees understand how they contribute to achieving key business objectives.
3. Sharing information with employees on both how the company is doing and how an employee's own division is doing — relative to strategic business objectives.

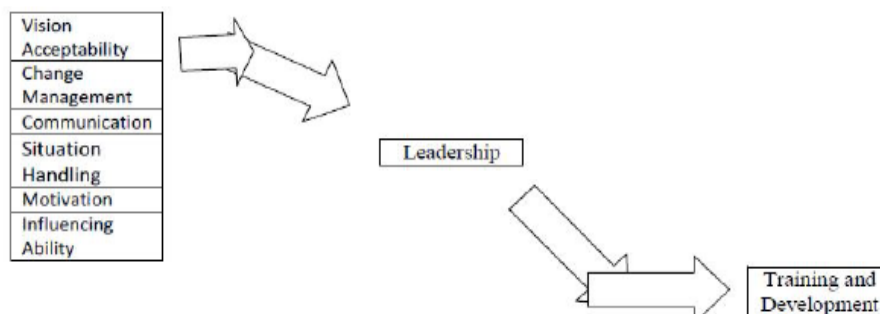
Training is offered to cope with change while Leader brings the change in his followers most effectively. Training requires motivation which is the fundamental object of leadership therefore leaders are much productive in creating motivation instead of conventional trainers. Development requires change and leaders bring change brilliantly. Determining management development needs can be difficult for a manager but for a leader it would be slightly easy. Development requires interpersonal skills, communication, problem-solving, time management, supervision, delegation, empowerment, planning and organizing, coaching, mentoring, situational problem solving analysis, decision making, behavior modification, evaluation, comparing, crisis handling and stress management

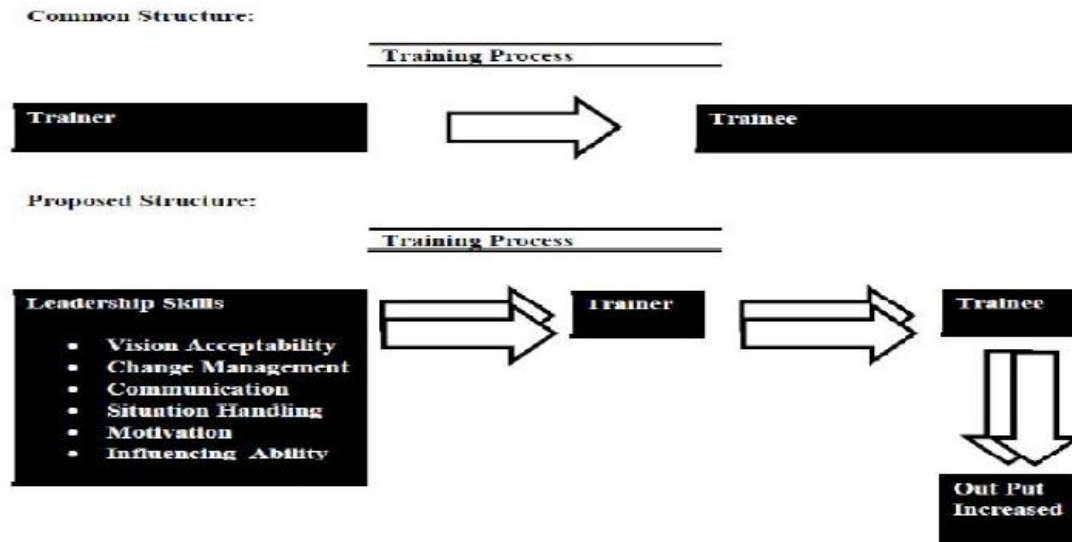
Variables:

In this research we shall focus towards these variables

Independent	Dependent	Extraneous
Leadership	Training and Development	Vision Acceptability
		Change Management
		Communication
		Situation Handling
		Motivation
		Influencing Ability

Variable Diagram:





Hypothesis

1. Orienting Employee through leaders is much productive and output oriented
2. Leadership skills enriches and enhances the Training and development Process
3. Leadership skills plays vital role in training and development process.

Detail and Explanation of Hypothesis Orienting Employee through leaders is much productive and output oriented.

This assumption postulates that orientation of new employees through good leaders and through the peoples having leadership skills can produce results more than expectations. During orientation vision and mission of the organization is to be communicated and People follow and accept the visions and missions of their leaders very quickly.

Leadership skills enriches and enhances the Training and development Process

This hypothesis shows that if the leadership skills of trainer are high then the training process would be enriched and trainees will get their required training more effectively. They will be more attentive towards trainer and will try to learn at their own pace. They will be motivated and influenced. If the trainer has the leadership skills then he possesses good communication and situation handling skills.

Leadership skills plays vital role in training and development process.

This hypothesis is based upon the value of Leadership skills in Training and development and shows that leadership is not compulsory for training and development but it play a vital role in training and development it will bump up the training and development process.

III. RESEARCH DESIGN

This study followed the quantitative tradition using a cross sectional correlation strategy, as suggested by Gravatter and Forzano (2003), to examine the influence of Leadership skills on Training and development in the business sector. The cross-sectional co relational strategy was chosen

because it has been widely used in the field of social science to study relationships among two or more variables (De Vaus, 2004). Primary data were collected from students of BBA 6th semester and MBA 4th semester of University of Gujrat who have taken the course of Leadership and Human Resource Management. These entire students have learned the basics of Leadership and Training and Development. Such research has its own strengths in that it enables the control of extraneous influences on the research outcome (Pearce & Herbig, 2004).

IV. SAMPLING

1) Research participants

The population of this study comprised all the students of Business Administration who have taken the course of Leadership and Human Resource Management studying in the University of Gujrat Pakistan. Each member of the population has a strong understanding of Leadership and Training and Development. The unit of analysis was individual level. Hence, at single level, the total number of samples conducted was 27. The use of the individual level of analysis was therefore much more appropriate. Since this study involved a single organizational setting and an individual level of analysis was used as the unit of analysis, a probability sampling technique was used. A purposive sampling strategy was used for this study. The reasoning behind the latter criterion was that they were assigned to a 3 credit hours course of Leadership and same for the Human Resource Management course. Although purposive sampling is used more commonly in qualitative studies, Punch (1998, p. 106) asserted that such a method is also suitable in studies examining relationships among variables because _it make sense to select the sample in such a way that there is a maximum chance for any relationship to be observed.

2) Study setting

The organization studied is a University implemented these courses for the students of BBA. All the students take the

course and studies all the pros and cons of Leadership in detail and analyzed the importance of Training and Development during their course of Human Resource Management. The students are empowered with greater responsibilities and are involved in different co-curricular activities of Leadership. Some of them have attended a workshop on youth Leadership. Each student is given a final project of Human Resource Management covering training and development practices of any profit oriented organization.

3) Measures

Data were collected through self-administered questionnaires. The variables studied were measured with the instrument developed by past researchers, as discussed below. All the items used to assess the variables were measured with a five-point Likert scale ranging from 1 = 'strongly disagree' to 5 = 'strongly agree'. Since the unit of analysis is group level, all the items Role of Leadership was measured by different variables e.g. their counseling abilities, situation handling techniques, abilities of vision delivery, Supervision expertise, dexterity to cope with change, tactics of attention attainment, Motivational handiness, influencing capacity, decision making styles, use of time, Loyalty development aptitude, staging proficiency, reinforcement talent, behavior modeling ways, communication skills, and the role of such variables in Training and development.

4) Research procedure or Data Collection

Approval was obtained from the Course instructor for the researcher, to collect data for this research through individual-administered questionnaires. The respondents were informed that participation was voluntary. At each meeting, the purpose and procedures were explained. The respondents were then handed a questionnaire and asked to

complete it while in the room. This procedure enabled the researcher to stay in control of the data collection. For example, the researcher was able to explain questions that respondents found unclear and provide detailed instructions where necessary this method of data collection also yields a high response rate. A total of 27 responses was obtained, which accounted for 90% of the response rate.

5) Analysis of Data

Several statistical techniques were used in this study for the purpose of the analysis of the data. A descriptive statistical analysis with frequency distribution was used to describe the demographic profile at the individual level of analysis and to describe the variables of the study. Since the unit of analysis used in this study was individual level, the data obtained from the respondents at individual level. The data aggregation was performed using the SPSS version 18 by averaging the individual responses for each independent and dependent variable across all the respondents following James, Demaree and Wolf (1984).

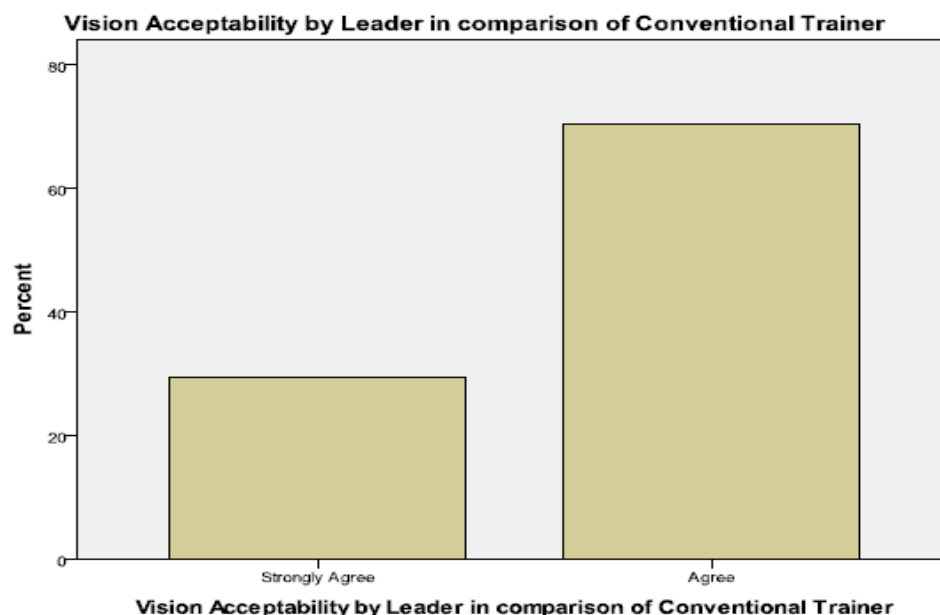
V. RESULTS

1) Demographic profile of respondents

Given tables presents the demographic profile of the respondents of analysis. The average age of the respondents was 18-25 years. Among the respondents 51.9 percent were male while 48.1 percent were female all of them were unmarried and belongs to urban area and students of the University of Gujrat

2) Vision Acceptability by Leader in comparison of Conventional Trainer

During the orientation of new employees we need to deliver the vision, mission, values, rules, regulations, dos, don'ts and code of ethics of the organization

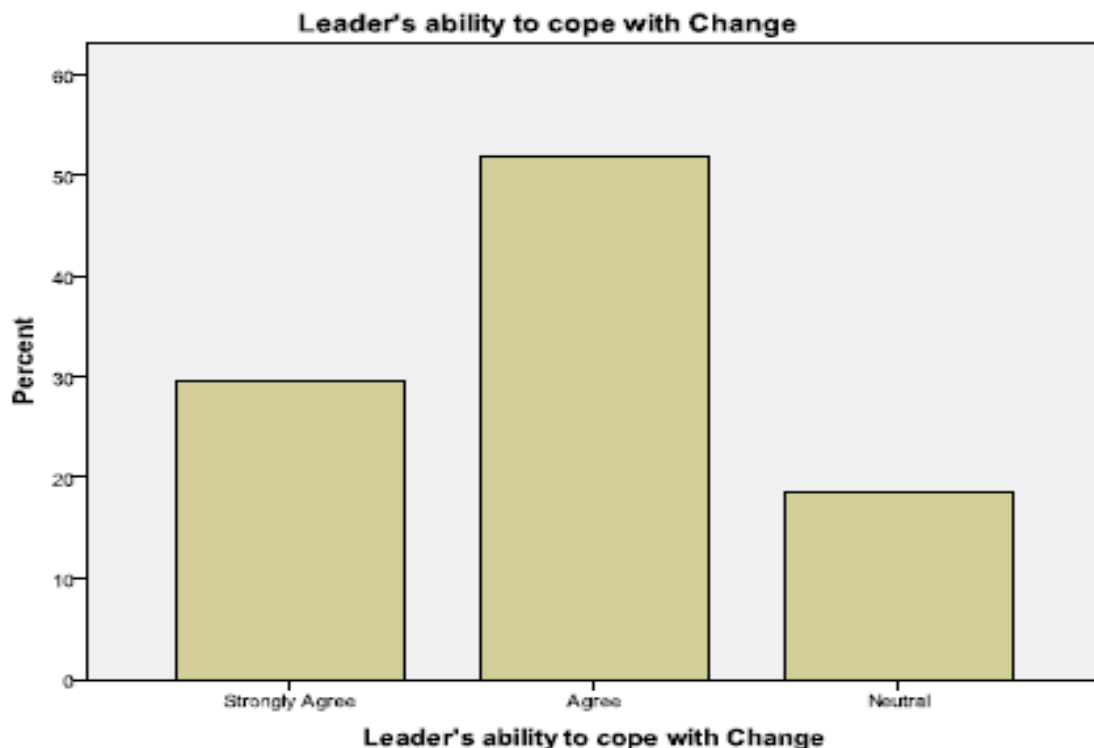


29.6 Percent people are strongly agreed that if the vision is communicated by a leader instead of a conventional trainer than its acceptability would be much greater and rest of all are agreed.

3) *Leader's ability to cope with Change*

Bringing up the change is the central task of Leadership and in T&D change is essential therefore leaders are good trainers. It is widely assumed that effective leaders are creative (Basadur, 2004; Bellows, 1959; Puccio, Murdock, & Mance, 2006; Simon, 1986; Sternberg, Kaufman & Pretz,

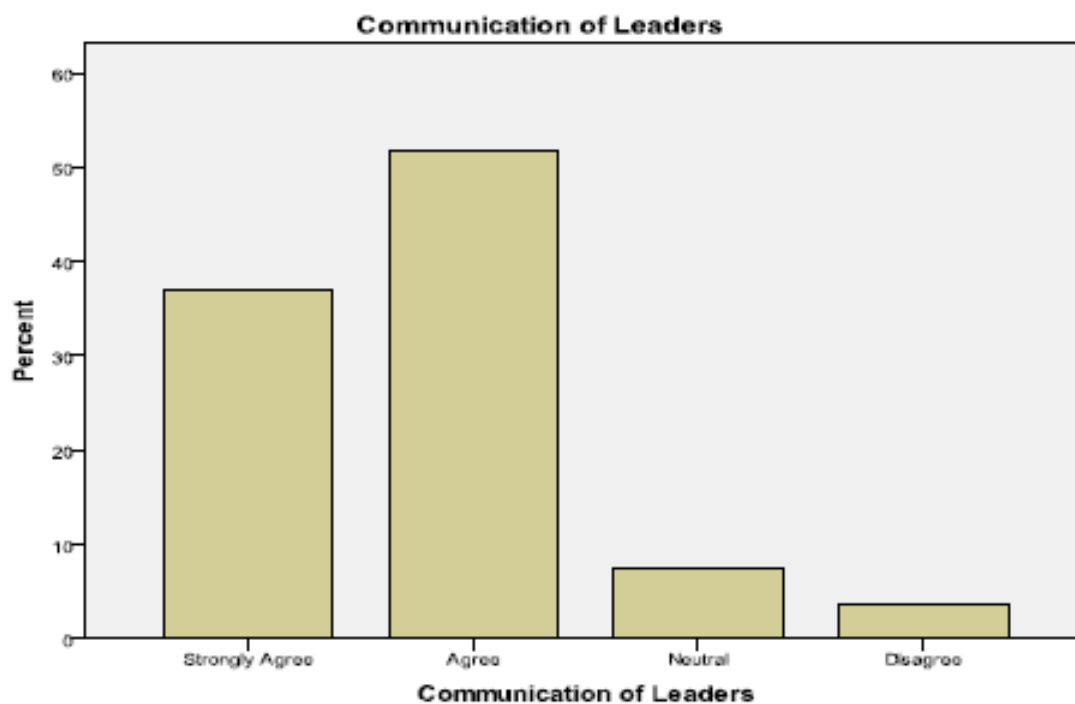
2003). Creativity is to bring the change Creativity, however, has drawbacks (Cropley, Cropley, Kaufman, & Runco, 2010). For example, a creative solution to one problem may generate other problems, and similarly, a creative solution to one element of a situation may have unexpected negative consequences with respect to other elements. Moreover, time spent creatively finding a solution for oneself is time not spent imitating and passing on solutions already found by others Leijnen, S. & Gabora, L. (2010).



Later than analysis we find that 29.6 percent of the respondents were strongly agreed and 51.9 percent of them were agreed and believe that Leaders are best to cope with change

4) *Communication of Leaders*

In training and development communication is very important to deliver your thoughts to the trainees. Communication is complete when trainer delivers his thoughts and the trainee understands.

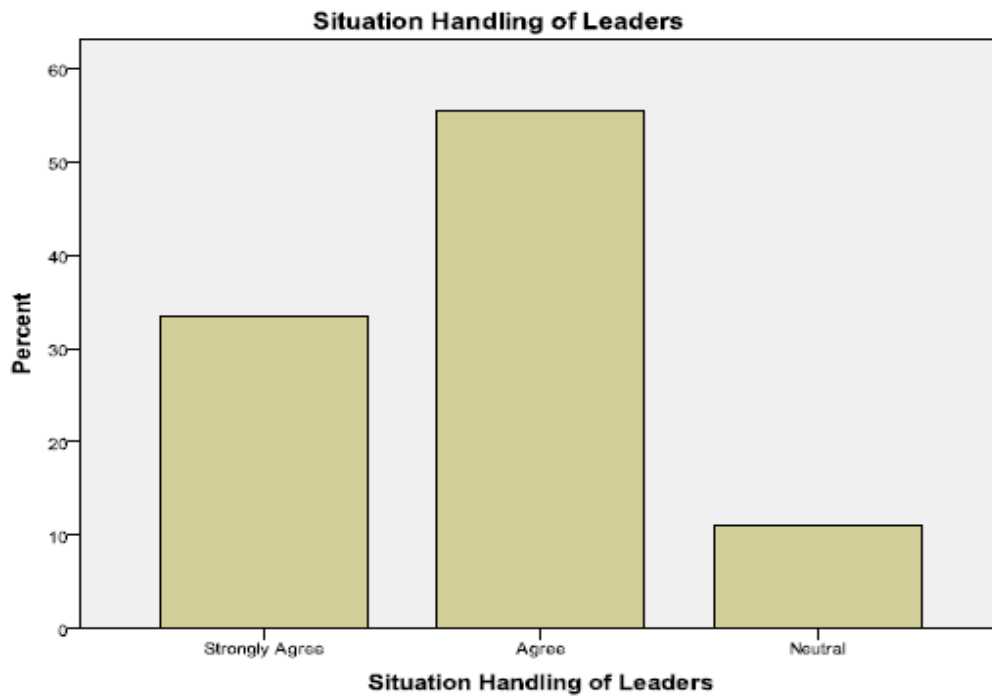


37 percent people strongly agree that leaders are the best communicators, 51.9 percent people agree, 7.4 percent of people are neutral to this issue and 3.7 percent people think that it is not necessary that leaders are good communicators.

5) *Situation Handling of Leaders*

All situations are different. What you do in one situation will not always work in another. You must use your

judgment to decide the best course of action and the leadership style needed for each situation. For example, you may need to confront an employee for inappropriate behavior, but if the confrontation is too late or too early, too harsh or too weak, then the results may prove ineffective.



6) *+Leaders are best in attaining Motivation*

Motivation is necessary for all types of learning processes and helpful in Training & Development.



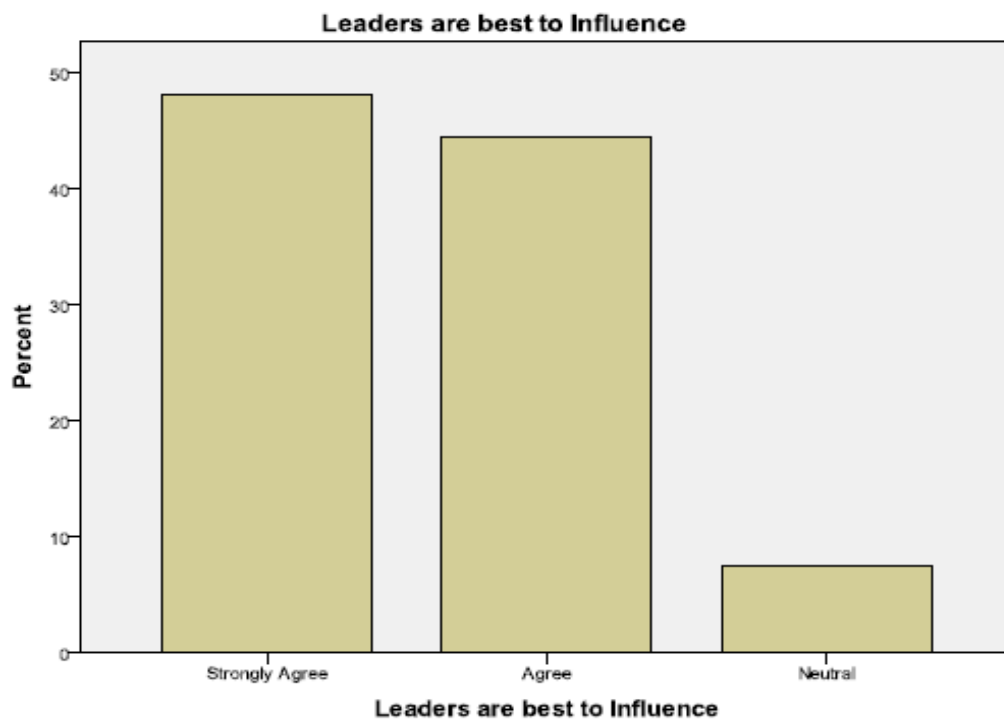
33.3 percent of people strongly agreed that Leaders are good motivators and 48.1 percent were agreed so Leaders are good Motivators.

7) *Leaders are best to Influence*

A common definition of leadership is "a process of social influence by which an individual enlists the aid and support of others in the accomplishment of a task or mission" (Chemers, 1997) Influencing is the role of Training and

development and in training process it is very much required. Leadership makes the followers *want* to achieve high goals (called *Emergent Leadership*), rather than simply

bossing people around (Rowe, 2007). People get much influenced towards their Leaders instead of conventional trainer



The concept of leadership is relevant to any aspect of ensuring effectiveness in organizations and in managing change while the objective of training and development is also the same. Leader is someone who sets direction in an effort and influences people to follow that direction while the training requires the same to influence people in a certain direction. Training and development requires negotiation and coercion when necessary.

VI. CONCLUSION AND DISCUSSIONS

This study concludes that leadership is very much essential for training and development and plays very productive role in the whole process of training and development. From new employee orientation to the development stage Leadership skills aids to the Training and Development and enhances and enriches it This study focuses on the importance of Leadership in T&D but it does not mean that training and development without Leadership skills is not useless but with all these skill the training and development becomes more fruitful. These skills polish the trainer and the whole training process. Transactional leadership style is the extent to which the managers discuss matters with their subordinates or others before they decide what to do to achieve unit objectives. Here, although the managers support, the resulting decision is theirs alone and they shoulder the responsibility for them. (Galanou Ekaterini 2010) a trainer with leadership skills is much productive. We have analyzed that orienting employees is the part of Training & Development which requires vision delivery and

its acceptability by the employees' Mission delivery and its adequacy and a lot more and this paper concludes that we can achieve these entire task brightly if the trainer has the Leadership Skills. Here the first hypothesis regarding the orientation is hence proved. Training is the art of communicating, presenting, counseling bringing up the change, reinforcing, situation handling, and behavior modeling. In this research we have judged that leaders are perfect to communicate, best to present, accurate to counsel and excellent to bring the change, superb in reinforcement, and admirable in behavior modeling, leaders are much adaptable to the situations and supportive in the communication process (Bolden, R., Gosling, J., Marturano, A. and Dennison, P June 2003) so leaders can train better than a conventional trainer. The second hypothesis is regarding the Leadership's ability to enrich the T&D process. As we know followers are more attentive towards their leaders as compared to trainers and try to learn at their own pace. This study postulates that if the trainer has the Leadership abilities then the trainees will be motivated and influenced and trainer will possess good communication and situation handling skills. In the development process we have to train our employees for higher positions means we have to increase the worth of our inner pool of employees in order to fulfill the future Human Resource needs. We have to train them situation handling, and leadership have a factor i.e. Situation which shows that leaders are superlative in situation handling. Determining management development needs is the process of analyzing in a sense and we know

leaders are good analyzers this study proves the second hypothesis as well and postulates that Leadership skills enhances and enriches the T&D process The absence of leadership is equally dramatic in its effects. Without leadership, organizations move too slowly, stagnate, and lose their way. (D. Quinn Mills 2005) here the third hypothesis is proved this study claim Leadership is of immense importance but is not compulsory for training and development play a vital role in training and development it will bump up the training and development process. But we cannot say that without Leadership skills trainer cannot train at all or the T&D process will be useless.

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