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Editorial

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PAPERS

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The Impact of Structural Changes in the Indian Manufacturing Industries: 1980-2013

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Abstract: With regard to the importance of the manufacturing, industrial sector for economic growth and its priority for motivating other sectors to development, the paper is aimed to study the structural changes condition in the Indian manufacturing industries. The changing in value-added of industrial activities due to industrial and economic policies is an important indicator for the recognition of manufacturing industries structure. We have analyzed the industrial structure and competitiveness of each industrial activity by using data value-added of manufacturing industries and common indexes such as the structural changes index in the period of 1980-2013. The results of structural index analysis showed that of textile products; leather; basic chemicals and chemical products in the periods of 1980-98 and also in the periods after 2000industries wearing apparel; dressing and dyeing of fur tanning and dressing of leather ; wood and products of wood; motor vehicles, trailers and semi-trailers; recycling; other transport equipment have been the industrial activities that their structural changes indexes has been positive and they have had the highest competitiveness in comparison to other industrial activities and the greatest opportunities to create value-added.

Keywords: *Manufacturing industry sector, Value added of industry, Structural Changes index*

1. Introduction

Industrial development holds the key to fast economic development. Realizing the political leadership of the economy chose to pursue the path of planned industrial development. The change in the industrial structure is attributed largely to the government policies which have influenced the pattern of industrialization through controls over the composition of investment, the regulation of foreign trade and direct influence on the pattern of income distribution, policies of import substation and export promotion and the composition of demand (Kuar, 1997). The liberalization of Indian economy started gradually in the 1980's and major economic liberalization (structural adjustment programs) began from 1991. Reforms in industrial and trade policy (according with liberalization) were a central focus of much of India's reform effort in the early stages. The 1980s and 1990s have witnessed extensive changes in the industrial policy of the Indian government and the first step toward liberalization was taken by relaxing licensing and various other controls. Reforms in industrial and trade policy (according with liberalization) were a central focus of much of India's reform effort in the early stages. The 1980s witnessed policy liberalizations of small doses (Panagariya, 2004). These included more liberal permission for capacity expansion, rising of investment limit for exemption from licensing, raising of the asset threshold for the application of the MRTP Act, delicensing of a number of industries, broad banding, liberalization of imports, liberalization of policy towards large houses and companies for encouraging industrialization of backward areas, etc. This trend towards liberalization became more pronounced since around the mid-eighties.

The small dose of liberalization has had significant beneficial effects which became visible by way of acceleration of industrial growth, increase in supply and competition and more attention paid by manufacturers for quality, cost and after sales-service etc. Also The Government of India had announced important changes in the industrial and trade policies in its Industrial Policy Statement of July 22, 1991. Also the government of India had announced important changes in the industrial and trade policies in its Industrial Policy Statement of July 22, 1991.The majority of the new industrial policy package of 1991 also added a bold set of measures which included liberalization of foreign investment and technological participation, redefining the role of the public sector, to maintain a sustained growth in productivity and gainful employment and to attain international competitiveness. In pursuit of the above objectives, significant changes have been introduced in the areas, namely, industrial licensing, foreign investment, foreign technology agreements and public sector policy (Singh, 2008). Considering the importance of the Indian industry, we focus on the effects of structural change on the manufacturing sectors as the main purpose of

this research and tries to find an answer to this question which industrial branches (activities) in the industrial structure of India have been more impressed by as the consequence of the changes in industrial policies and liberalization in the Indian economy during1998-2013.Therefore, this study tries to survey the industrial changes, the process of the combination of industrial activity of factories and the focus of their industrialized activity. The study is organized as follows. Section 2 will present definition of structural change and review of literature. Section 3 discusses the methods of industrial structure analysis. The sources of data and construction of variables are given in Section 4. Section 5 presents analysis of the growth and structure of Indian manufacturing industries Section 6 discusses the results of structural changes index analysis. Section 7 states conclusion and suggestion.

Defining structural change: The terms "structure" and "structural change" have been widely used in economic research, although with different meanings and interpretations. In development economics and economic history, structural change is commonly understood as "the different arrangements of productive activity in the economy and different distribution of productive factors among various sectors of economy, various occupations, geographic regions, types of product, etc. …". (Memedovi and Apadre, 2010). Some economist and economic theory have given significant attention to structural change. Chenery and Syrquin pointed that although the concept of structural change has been defined in different ways, the most common meaning refers to long-term and persistent shifts in the sectoral composition of economic systems. Adam Smith stated structural features were strongly related to the level of economic development while for Ricardo changing the composition of the productive system was a requisite for economic growth. Structural change is the process by which an economy is progressively transformed over time. Change can occur across industries, within industries or at the level of the firm. The largest changes are occurring at the macroeconomic level affecting all industries and firms but often with a different impact (Downes and Stoeckel, 2006). The most common attributes used for measuring the structural changes are shares of total output and shares of total employment. Other characteristics, including capacity, occupational composition of the work force, size of plants and firms, produce mix, plant location and extent of foreign direct investment could also be used to document structural changes. Based on given definition, the aim of this study is to examine the impact of Structural change concept occurring in the manufacturing industry sector by change in quantity important economic index such as value-added that it has changed during the change in Indian manufacturing industries after 1990 year. The created value added in the industrial sector is the index which is used to study the industrial structure of countries. Therefore, value added reflects to economic capabilities of the activities of a sector and its higher proportion showing positive changes in industrial structure.

2. Methods of Industrial Structure Analysis

The industrial policies in any country cause changes in the manufacturing sector structure. Structural changes in the manufacturing sector can be considered by the change in share of industrial value added activities. Positive changes in industrial structure which resulted in strengthening industrial infrastructures of a sector and reinforcing vertical and horizontal relations will definitely increase the share of value added of that activity and that sector. These changes may be due to the increase of production due to the application of better equipment, the increase of productivity, the use of new methods of production or even the number of workshops of an industrial activity. Structural change is a process and also it is a general and common concept that consequently is difficult to capture in a single measure. Different measures are often used in the literature. But, despite the differences in formulation the results of the indexes tend to be relatively close. Several statistical methods can be used for this purpose ranging from simple descriptive indicators, such as the Lilien index to complex econometric techniques, such as non-parametric methods aimed at gauging the dynamics of overall specialization (De Benedictis and Tamberi, 2004). To continue it will be mentioned to several indexes. The index of Lilien was defined in terms of relative growth rates. The Lillian index of structural change in industry employment is calculated as follows:

$$I_{Lillien} = \sum \frac{e_i}{e_T} \times (\Delta Ln(e_i) - \Delta Ln(e_T))^2 \qquad (1)$$

Here ei is employment in industry i and eT is total employment. A standard approach for measuring structural changes which proves flexible for comparisons among different distributions over time and across countries, namely the Finger- Kreinin dissimilarity index or OECD index (UNIDO, 2010). The SCI may be

defined as half the sum of the absolute value of the differences in variable over time. The calculation is given by the formula:

$$SCI_{OECD} = \frac{1}{2}\sum\left|X_{i,t} - X_{i,t-1}\right| \qquad (2)$$

Where $X_{i,t}$and $X_{i,t-1}$ represent each industry's share of total value-added at a time (t) and (t-1), respectively. The created value added in the industrial sector is the index which is used to study the industrial structure of countries. Analysts expressed their position to demonstrate structural changes in industries in such a way in which the structure of an industry includes two main components; the technical structure and market structure of the industry. The technical structure of the industry refers to a situation in which technical conditions are more concerned that can produce the maximum output using a combination of factors. Thus, the structure defines the composition and diversity of its production regarding the type of production whether it is applied, capital oriented or knowledge oriented. Generally, structural changes depend on factors such as changes in industrial investment, the removal of competing industries in the industrial market, changes in productivity of production factors, the strengthening of backward and forward linkages, changes in the level of technology on production methods, and changes in the severity of domestic and foreign demands for industrial products. Thus, the changes in any of these mentioned factors can lead to changes in the structure and the level of activity of the industry and the changes value added will be reflected consequently (Darounparvar et al., 2009).

The index of structural changes in the country's manufacturing industries mainly shows the industrial capability and the centralization of value added of an industry for the base year. Consequently, the increase in the index for the base year represents the progress and growth of the desired industrial activities in comparison to other industries. In other words, those industries which had greater growth in industrial activities and could maintain or increase their capability for industrial activities are industries which have been affected more by industrial policies or structural changes. Therefore, in order to analyze the structural change and the share of industrial activities value added will be used, index of change industrial activities value added. This method mainly has been used by experts of the United Nations Industrial Development Organization (UNIDO) and the World Trade Organization (WTO) to analyze the industrial structure. The index of structural changes of a period to the base year can be calculated through the following equation which is based on the relation of the average rate of geometrical growth in a certain period.

$$SCI_{i=}\left[\frac{\left(\frac{V_i}{V_T}\right)_i}{\left(\frac{V_i}{V_T}\right)_O}\right]^{\frac{1}{n}} \qquad (3)$$

In which SCIi is the average index of structural changes of the sector or the Ith activity, Vi is the amount of value added of the ith industrial activity, VT is the total value added of industry sector and n is the number of years in the desired period. The numerator is related to the share of value added of the sector or the industrial activity from the total added value of the sector or the industrial activity in the ith period and the denominator represents the same share in the base year or period. If the numeric amount of SCIi is less than 100, it means that the manufacturing industry under the desired activity cannot concentrate on the former industrial activity during the certain time and its capability to establish added value has been decreased in comparison to other industries. In contrast, the increase of the numeric amount of SCIi more than the base index (100) shows the structural changes has been led to the improvement of the desired capability of the industrial activity. In order to illustrate the structural changes in the manufacturing industries in terms of increasing the share of industrial value added of polygon graphs or spider diagrams are used (Salimifar and Sheirzour, 2006).

Olga Memedovic Research and Statistics Branch Program Coordination and Field Operations Division UNIDO (2010) in the working paper entitled "Structural Change in the World Economy: Main Features and Trends" have provided a starting point for more specific studies at sector, national and regional level. In this working paper has been presented a quantitative analysis of sectoral trends in the global economy. This analysis has referred to six continental regions and covers a period of 40 years. Constant-market-shares (CMS) analysis has been used to investigate changes in the contribution of regional aggregates to world production. It has been followed by an analysis of the evolution of the manufacturing industry and the intensity of structural

change by the use of Finger-Kreinin index of structural change in the manufacturing industry for a sample of 30 countries and 18 sub-sectors. Three main findings resulted from the analysis. First, the long-term rise in the share of services in global value added has been slowing down in the last decade. Second, the upward trend in the global value added share of North America and Asia seems to be partly reverted in favor of other regions. Third, after a setback during the 2000s, structural transformation in the manufacturing sector has been accelerating in the last two decades.

3. Results

The coverage of the Annual Survey of Industries extends to all Indian manufacturing industries at the two-digit level of classification. Variables are reported for 17 two-digit industry groups (20 to 38) according to NIC-1998 and 24 two-digit industry groups (15 to 37) according to NIC-2004 pertaining to the manufacturing industry. The data for 1980-98 are matched to the NIC-98 classification according to the published tables by NIC-1987 and data for 1998-2013 according to the published tables by NIC 2004. It is worth to be mentioned that according to the modified classification system in a manufacturing industry in the 2013-14 based on NIC2008(National industrial classification). Also Suitable deflectors have been used to deflate the time series data. The wholesale price index (base 1981-82 = 100) for different sectors has been used for 1980-98 and the wholesale price index (base 2003-24 = 100) for different sectors has been used since 1998-2013.The necessary data and information were collected from secondary sources as (a) Annual Survey of Industries (census sector), Ministry of Statistics and Program Implementation, Govt. of India. (b) National accounts statistics, central statistics organization and (c) ministry of planning, government of India.

Nature of structural change in Indian manufacturing industry: In this part presents an analysis of the share and structure of Indian manufacturing industries over the past 24 years 1980-91 and 2013-14. Variables are factories, gross value added. Therefore, the study analyses the following aspects: share and structure of factories and gross value added. In order to have an idea about the changing structure of the Indian manufacturing industry, various industries have been classified as leading, lagging and moderate industries, in terms of their respective percentage shares of the manufacturing industry.

Growth and structure of factories and gross value added in1980-1998: As it is clear from table (1) that the total number of factories in the manufacturing sector increased from 92612 in 1980-81 to 106966 registering a growth rate of 1.5 percent per annum, for the eightieth. The number of factories further increased to 128643, recording a growth rate of 2.7 percent per annum in 1997-98 in the ninetieth. The number of factories recorded a growth rate of 2 percent per annum for 1980-97. The study of the structure revealed that share of the (20-21) food products reduced in the number of factories from 18.4 percent in 1980-81 to 17.7 percent in 1997-98, but the industry had the maximum share in a number of factories among the others. The (30) basic chemicals and chemical products (except products of petroleum and coal) was having the highest share up to 1980-81 and afterwards occupied the fourth position in terms of the number of factories. Its share was 3.8 percent in 1980-81, which increased to 7.3 percent in 1997-98. The (22) beverages, tobacco, etc. deteriorated its share significantly from 9.6 percent in 1980-81 to 6.7 percent in1997-98. The (26) textile products and (38) other manufacturing industries groups also increased their shares. The share of (22) beverages, tobacco, etc. (23) cotton textiles (27) wood and wood products, furniture and fixtures (28) paper, etc.; printing, etc. (33) Basic metal and alloy industries (34) metal products and parts reduced in total number of factories for the period as a whole. The (24) wool, silk and man-made fiber textiles (31) rubber, plastic, petroleum and coal products (37) transport equipment had with some fluctuations in share of a number of factories. The (29) leather, etc. and (25) jute and other vegetable fiber textiles placed at the bottom of the table.

The gross value added in manufacture sector increased from 11915 cores in 1980-81 to 29496 cores in 1990-91 with registering a growth rate of 9.5 percent per annum, during the eightieth. The gross value added also increased to 47578, recording a growth rate of 7.1 percent per annum in 1997-98 in the ninetieth. The manufacturing sector achieved totally a growth rate of 8.5 percent per annum for the period 1980-98. The leading industries were (30) basic chemicals and chemical products (except products of petroleum and coal), (22) beverages, tobacco, etc., (38) other manufacturing industries, (26) textile products, (29) leather, etc. the (33) Basic metal and alloy industries, (24) wool, silk and manmade fiber textiles, (32) non-metallic mineral

products, (37) transport equipment, (35-36) machinery and equipment, (34) metal products and parts (28) paper, etc.; printing, etc. , achieved moderate growth rate. The (31) rubber, plastic, petroleum and coal products, (23) cotton textiles, (25) jute and other vegetable fiber textiles, (27) wood and wood products, furniture and fixtures were the lagging industries for the period as a whole. The (20-21) food products experienced negative growth rates. As regards, percentage distribution of the gross value added among manufacturing groups, it is evident that the (35-36) machinery and equipment held the highest share with 15.8 per cent share of in gross value added in 1980-81 and followed by (31) rubber, plastic, petroleum and coal products. The (30) basic chemicals and chemical products (except products of petroleum and coal) was having the fifth share in 1980-98 and afterwards occupied the first position in terms of gross value added. Its share was 5.2 percent in 1980-81, which increased to 17.9 percent in 1990-91 and 21.4 percent in 1997-98. The (22) beverages, tobacco, etc. Its share significantly improved from 2.1 percent in 1980-81 to 7.3 percent in1997-98. The (20-21) food products deteriorated its share significantly from 7.0 percent in 1980-81 to 1.5 percent in1997-98. The other manufactures of industry had with some fluctuations in share of gross value added. During the period (1980-98), the least share of gross value added pertains to (27) wood and wood products, furniture and fixtures.

Table 1: The share of manufacturing industries of factory and Gross value added in 1980-1998

Industrial code	1980-81 factory	1990-91 factory	1997-98 factory	1980-81 GVA	1990-91 GVA	1997-98 GVA
(20-21) food products	18	18	18	7	9	1
(22) beverages, tobacco, etc.	10	8	7	2	2	7
(23) cotton textiles	8	7	7	12	7	5
(24) wool, silk and man-made fiber textiles	4	3	3	4	5	4
(25) jute and other vegetable fiber textiles	0	0	0	3	1	1
(26) textile products	3	3	4	1	2	2
(27) wood and wood products, furniture and fixtures	4	3	3	1	0	0
(28) paper, etc.; printing, etc.	5	5	5	4	3	2
(29) leather, etc.	1	1	1	1	1	1
(30) basic chemicals and chemical products (except products of petroleum and coal)	4	6	7	5	18	21
(31) rubber, plastic, petroleum and coal products	6	5	6	15	9	8
(32) non-metallic mineral products	7	9	9	4	5	4
(33) Basic metal and alloy industries	6	6	5	13	11	15
(34) Metal products and parts	7	7	6	3	2	2
(35-36) machinery and equipment	11	12	11	16	15	12
(37) transport equipment	3	3	3	8	8	8
(38) Other manufacturing industries	2	3	4	1	3	4
All Manufacturing	100	100	100	100	100	100

* Source: Research's calculations

Growth and structure of factories and gross value added in 1998-2013: The survey of information shows that the total number of factories in the manufacturing sector increased from 128174 in 1998-99 to 141736 registering a growth rate of 1.3 percent per annum for the1998-2008. The number of factories further increased to 221116, recording a growth rate of 7.7 percent per annum in 2013-14. The number of factories recorded a growth rate of 4.3 percent per annum for 1998-2013.The study of the structure revealed that share of the (20-21) food products reduced in the number of factories from 19 percent in 1998-99 to 17 percent in 2013-14, but the industry had the maximum share in a number of factories among the others. The

(26) other non-metallic mineral products was having the highest share up to 1998-2013 and afterwards occupied the second position in terms of the number of factories. Its share was 9 percent in 1998-99, which increased to 12 percent in 2013-14. The (24) chemicals and chemical products by having 8 percent share in span of whole time occupied the fourth position in terms of the number of factories. The (17) textile deteriorated its share significantly from 11 percent in 1998-99 to 8 percent in2013-14. The 28) other fabricated metal products; except machinery and equipment's also increased their shares. The share of (22) beverages, tobacco, etc19) luggage, handbags saddler, harness and footwear (20) wood and products of wood and cork, expect furniture; (22) Publishing; Printing and Reproduction of recorded media reduced or had with some fluctuations in share of a number of factories in total number of factories for the period as a whole. The lowest share is owned by the (23) coke, refined petroleum products and nuclear fuel, (30) -(32) -(33) computing machinery, communication and optical instruments and (37) recycling. The (37) recycling placed at the bottom of the table. The gross value added ((Rs.in crore-constant price) in manufacture sector increased from 217756 cores in 1998-99 to 477038 cores in 2007-08 with registering a growth rate of 10.3 percent per annum, during mentioned period.

The gross value added further increased to 700160, recording a growth rate of 6.6 percent per annum in 2013-14. The gross value added recorded a growth rate of 9.4 percent per annum for 1998-2013.The leading industries were (24) chemicals and chemical products, (27) basic metal, (15) food products and beverages, (23) coke, refined petroleum products and nuclear fuel, (17) textile products. But their share of gross value added in comparison to 1998 till 2013 has decreased. The share of gross value added in total for (34) motor vehicles, trailers and semi-trailers; (29) machinery and equipment n.e .c; (34) motor vehicles, trailers and semi-trailers has placed in part of moderate industries. The (30) -(32) -(33) computing machinery, communication and optical instruments; (31) electrical machinery and apparatus n.e.c; (25) rubber and plastic products; (22) Publishing; Printing and Reproduction of recorded media and the rest of others industries were the lagging industries for the period as a whole. The (20-21) food products experienced negative growth rates. As regards, percentage distribution of the gross value added among manufacturing groups, it is evident that the (24) chemicals and chemical products held the highest share with 15percent share of in gross value added in 2013-14 and followed by (23) coke, refined petroleum products and nuclear fuel with 11 percent and (15) food products and beverages with 7 percent in total. The other manufactures of industry had with some fluctuations in share of gross value added. During the period (1980-98), the least share of gross value added pertains to (37) recycling.

Table 2: The share of manufacturing industries of factory and Gross value added in 1998-2013

Industrial code	1998-99 factory	2007-08 factory	2013-14 factory	1998-99 GVA	2007-08 GVA	2013-14 GVA
(15) food products and beverages	19	18	17	10	8	7
(16) tobacco products	2	2	1	2	1	1
(17) textile	11	11	8	8	6	6
(18) wearing apparel; dressing and dyeing of fur tanning and dressing of leather	2	3	4	2	2	2
(19) luggage, handbags saddlery, harness and footwear	2	2	2	1	1	1
(20) wood and products of wood and cork, expect furniture	3	2	2	0.13	0.19	0.22
(21) paper and paper product	3	3	3	2	1	1
(22) Publishing; Printing and Reproduction of recorded media	3	2	2	1	1	1
(23) coke, refined petroleum products and nuclear fuel	1	1	1	4	13	11
(24) chemicals and chemical products	8	8	7	22	14	15
(25) rubber and plastic products	5	6	6	3	2	4
(26) other non-metallic mineral products	9	11	12	4	6	4
(27) basic metal	6	5	5	15	17	12
(28) other fabricated metal products; except machinery and equipment's	6	6	8	3	3	3
(29) machinery and equipment n.e .c	8	7	5	6	6	6
(30) -(32) -(33) computing machinery, communication and optical instruments	2	2	1	4	3	3
(31) electrical machinery and apparatus n.e.c	3	3	3	4	4	4

(34) motor vehicles, trailers and semi-trailers	2	2	3	4	6	7
(35) other transport equipment	2	1	1	2	2	3
(36) furniture, Manufacturing n.e.c.	2	2	1	1	1	0
(37) recycling	0.01	0.10	0.14	0.002	0.02	0.07
Others	3	4	7	1	3	8
Total	100	100	100	100	100	100

* Source: Research's calculations

Analysis and Interpretation of changes of industrial structure in manufacturing industries in India: In this section we studied the results of the structural changes index of each of manufacturing industry due to changes in economic condition. In order to consider the differences in the change of the structural changes index after liberalization, the analysis has been done separately for two sub-periods: pre and post-liberalization period, 1980-98and after the period of 1998-2013.

The calculated structural changes index for manufacturing industries with two digit codes in 1980-98: The table 5 reveals the result of the structural changes index for manufacturing industries with 2-digit codes in 1980-98. According to the calculated structural changes index for manufacturing industries with two digit codes, the manufacturing industries can be classified to below the group: The first group including, (26) textile products, (29) leather, etc., (30) basic chemicals and chemical products (except products of petroleum and coal), (38) Other manufacturing industries, are the industrial activities that their structural changes indexes were higher than 100 in the two periods of 1980s and 1990s.These industrial activities had the highest competitiveness in comparison to other industrial activities and they have had the greatest opportunities to create value-added. The second group includes, (20-21) food products, (24) wool, silk and man-made fiber textiles, (32) non-metallic mineral products are the industrial activities that their structural changes index was higher than 100 in the 1980-1990 period. Despite the acceptable performance in 1980s, these industrial activities have lost their comparative advantage in the next period (1990s) and they could not use of the conditions to create the value added. The third group including (22) beverages, tobacco, etc., (33) Basic metal and alloy industries, (34) metal products and parts, (37) transport equipment are the industrial activities that their structural changes index was higher than 100 in 1990-1998 period. With regard to weak performance in 1980s, these industrial activities could use of the conditions to create the value added for maintaining their proper position and created a comparative advantage in the next period. The fourth groups including (23) cotton textiles, (25) jute and other vegetable fiber textiles, (27) wood and wood products, furniture and fixtures, (28) paper, etc.; printing, etc., (35-36) machinery and equipment are the industrial activities that their structural changes index was less than 100 in the two periods of the 1980s and 1990s. The competitiveness of these of the industrial activities has declined in comparison with other industrial activities. They have had less opportunity and a chance to create value added, especially in the short term.

Table 3: The structural changes index for manufacturing industries with 2-digit codes in 1980-1998

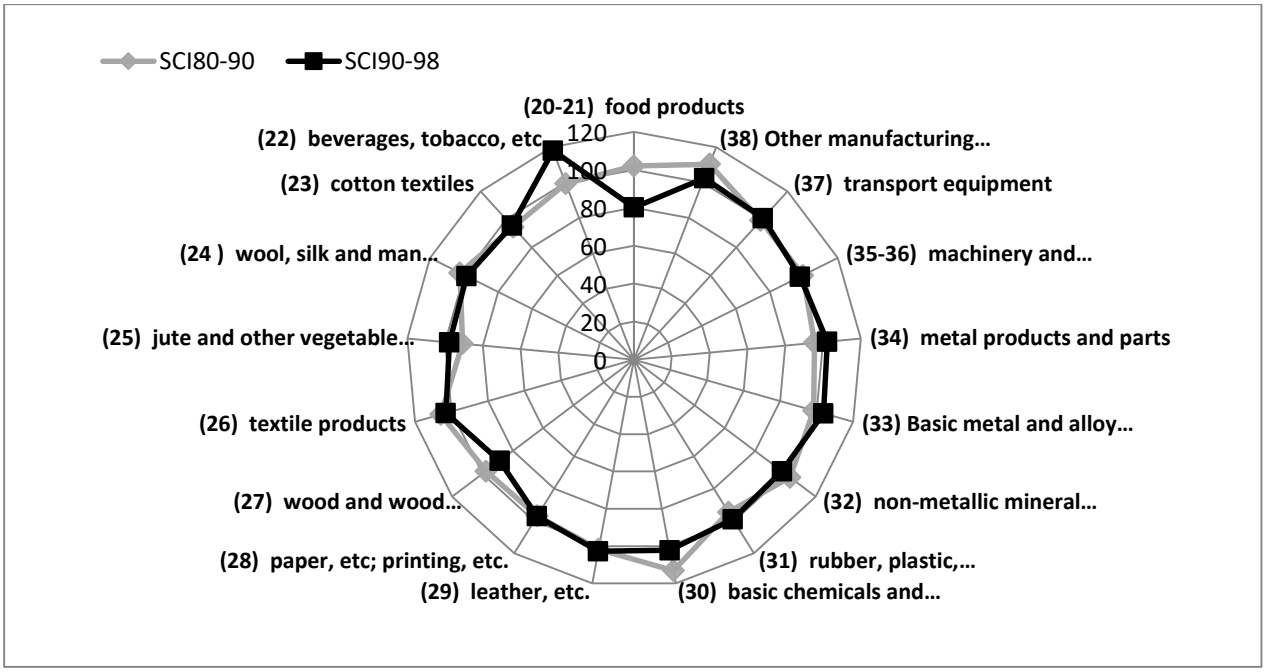
Industry code	SCI80-90	SCI90-98
(20-21) food products	101.99	80.18
(22) beverages, tobacco, etc.	99.39	118.04
(23) cotton textiles	94.47	95.47
(24) wool, silk and man-made fiber textiles	102.45	98.59
(25) jute and other vegetable fiber textiles	90.78	97.70
(26) textile products	105.85	103.13
(27) wood and wood products, furniture and fixtures	97.69	88.62
(28) paper, etc.; printing, etc.	96.91	97.12
(29) leather, etc.	101.66	102.77
(30) basic chemicals and chemical products (except products of petroleum and coal)	113.19	102.26
(31) rubber, plastic, petroleum and coal products	94.60	98.98
(32) non-metallic mineral products	103.02	97.72
(33) Basic metal and alloy industries	98.40	103.73

(34) metal products and parts	95.53	102.23
(35-36) machinery and equipment	99.40	97.72
(37) transport equipment	99.07	100.81
(38) Other manufacturing industries	110.40	102.55

* Source: Research's calculations

Also, in order to analyze of structural changes in manufacturing industries has used of spider graphs. The graph (1) shows that the impact of economic policies of India on industrial codes in each industry classification before and after 1991 (pre-liberalization 1980-1990 and post liberalization 1990). Also Graphs show that the trend investments and creation of new capacity in which industry codes increases the structural changes and in which industry codes has not had success.

Graph 1: The impact of economic policies of India on industrial codes in each industry classification1980-98



The calculated structural changes index for manufacturing industries with two digit codes in 1998-2013: So according with National Industrial Classification (NIC, 2004), in order to consider the differences in the change of the structural changes index after liberalization, the analysis has been done separately for two sub-periods: 1998-2008 and 2008-2013.

Table 4: The structural changes index for manufacturing industries 2-digit codes in 1998 2013

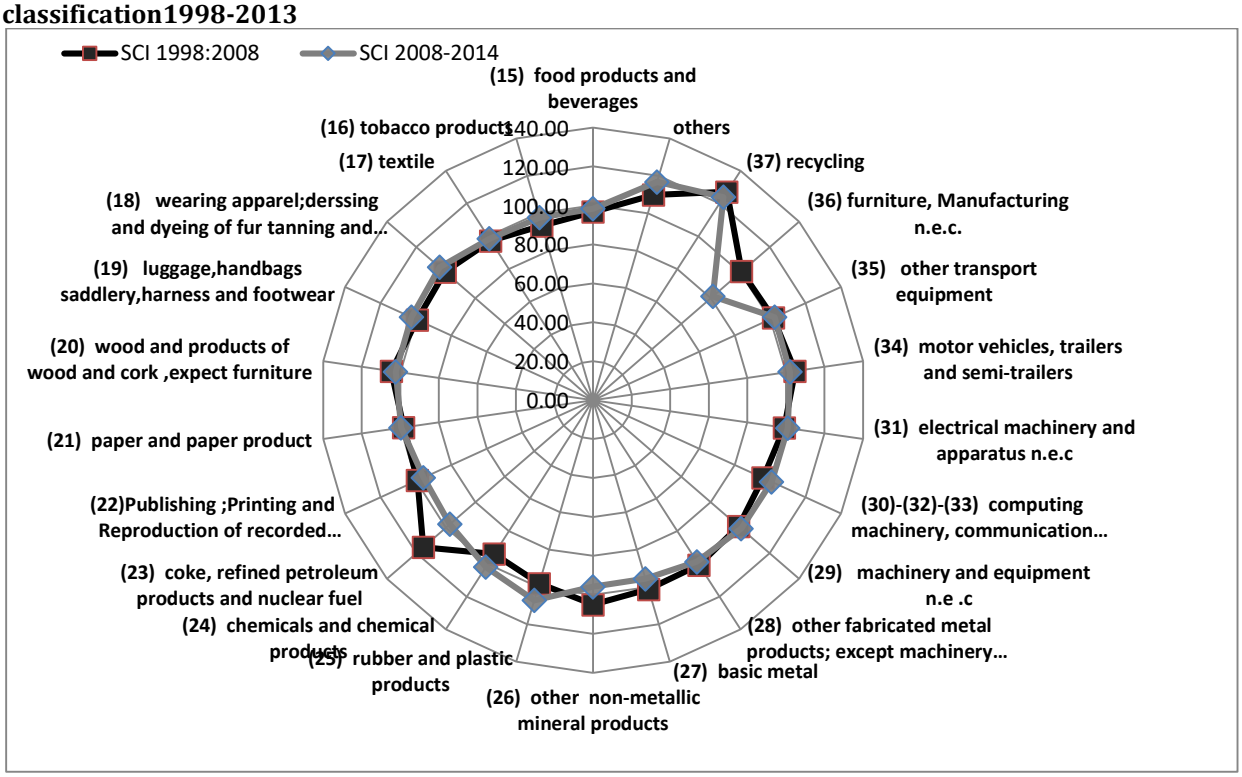
Industrial code	SCI 1998:2008	SCI 2008-2013
(15) food products and beverages	96.67	98.352
(16) tobacco products	93.30	97.661
(17) textile	97.29	98.505
(18) wearing apparel; dressing and dyeing of fur tanning and dressing of leather	100.59	104.210
(19) luggage, handbags saddlery, harness and footwear	99.29	102.542
(20) wood and products of wood and cork, expect furniture	104.66	102.461
(21) paper and paper product	98.27	99.602
(22) Publishing; Printing and Reproduction of recorded media	99.17	95.707
(23) coke, refined petroleum products and nuclear fuel	115.37	97.252
(24) chemicals and chemical products	93.90	101.868

(25) rubber and plastic products	98.17	107.169
(26) other non-metallic mineral products	105.04	95.817
(27) basic metal	101.20	95.606
(28) other fabricated metal products; except machinery and equipment's	100.67	98.649
(29) machinery and equipment n.e .c	98.91	100.643
(30) -(32) -(33) computing machinery, communication and optical instruments	95.93	100.843
(31) electrical machinery and apparatus n.e.c	99.21	101.003
(34) motor vehicles, trailers and semi-trailers	104.73	102.227
(35) other transport equipment	101.78	102.552
(36) furniture, Manufacturing n.e.c.	100.94	81.390
(37) recycling	127.10	123.881
Others	109.89	116.750
Total		

* Source: Research's calculations

According to the calculated structural changes index for manufacturing industries with two digit codes, the manufacturing industries can be classified to below the group: The first group including, (18) wearing apparel; dressing and dyeing of fur tanning and dressing of leather; (20) wood and products of wood and cork, expect furniture; (34) motor vehicles, trailers and semi-trailers; (37) recycling; (35) other transport equipment and (38) Other manufacturing industries, are the industrial activities that their structural changes indexes were higher than 100 in the two periods of 1998-2008 and 2008-2013. These, are identified as drivers of industrial growth and they have abilities that will be introduced as the axis of India's industrial strategy. The second group includes, (23) coke, refined petroleum products and nuclear fuel; (26) other non-metallic mineral products; (27) basic metal; (28) other fabricated metal products; except machinery and equipment's and (36) furniture, Manufacturing n.e.c. are the industrial activities that their structural changes index was higher than 100 in the 1998-2008 period. These have lost their comparative advantage in the next period (2008) and they could not use of the conditions to create the value added for maintaining their proper position. The third group including (19) luggage, handbags saddler, harness and footwear; (24) chemicals and chemical products; (25) rubber and plastic products; (29) machinery and equipment n.e.c; (30) -(32) -(33) computing machinery, communication and optical instruments and (31) electrical machinery and apparatus n.e.c are the industrial activities that their structural changes index was higher than 100 in 1990-1998 period. This industrial activity could be used to create the value added for maintaining their proper position and create comparative advantage in the next period. The fourth groups including15) food products and beverages; (16) tobacco products; (17) textile; (21) paper and paper product and (22) Publishing; Printing and Reproduction of recorded media are the industrial activities that their structural changes index was less than 100 in the periods of the 1998-2013.These industrial activities are industry losers. The competitiveness of these industrial activities has declined in comparison with other industrial activities. The graph (2) shows that the impact of economic policies of India on industrial codes in each industry classification in the period of 1998-2013.

Graph 2: The impact of economic policies of India on industrial codes in each industry classification1998-2013



4. Conclusion

This paper has analyzed the effect of structural changes in the Indian manufacturing industry. The analysis has been done separately for the pre-liberalization period, and the post-liberalization period to examine the industrial structure. The analysis has been done using a structural change index method that mainly has been used by experts of the United Nations Industrial Development Organization (UNIDO) and the World Trade Organization (WTO) to analyze the industrial structure. It was observed that the amounts of the structural changes index for some of industrial activities were positive in two periods during 1980s and 1990s and 2000s. So, these industrial activities are identified as drivers of industrial growth and they have abilities that will be introduced as the axis of India's industrial strategy. The increase in the number of factories and rising of the demand society to new appearance manufacturing industry (such as recycling), government supportive policies and tend to high investment and attention to special manufacturing industries (such as steel, iron, cement), the growing domestic demand, the rise in export, the high capital-intensive of some of manufacturing industries, the private sector orientation to investment, using of technological advancement and modernization, the increase in foreign direct investment and reliance to domestic resource are considered as main reasons for being high or increase of structural changes index. Furthermore, despite the acceptable performance in the 1980s, some industrial activities have lost their comparative advantage in the next period and they could not be used as a condition to create the value added. However, some industrial activities with regard to weak performance in the 1980s could create comparative advantage in the next period. At last, the industrial activities and their structural change index were less than 100 in two periods of 1980s and 1990s and 2000s can be considered as loser industries. The use of low of labor productivity due to low capital-labor proportion and decrease of export (such as food), Problem of raw materials, obsolete machinery and need to modernization, high cost and competition in foreign markets such as (textile, paper), governmental restriction on import of raw material and machinery coupled high excise duties and customs duties are considered reasons for being low or decrease of structural change index.

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Ordinal Logistic Regression for Students Academic Performance in Kurdistan Region of Iraq

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Abstract: The First Attempt Exam is the first final exam for students after their first academic year to show their academic performance. According to the outcomes of our project, some factors influence students' academic performance. These factors include (Sex, Car Ownership, Relationships, Smoking, Hours of Study, Facebook Use, Father Alive, Mother-Edu, and Father-Edu). These factors have a high effect on the results of the First Attempts Exam. Furthermore, females are more likely to pass the first attempts exam than the males. Also, students with cars, relationships, who smoking, use Facebook regularly, and whose mothers have higherlevels of education are negatively affected by the student's academic performance. On the other hand, mother alive, higher level education of father, and increasing one-hour daily study are positively affected on the students' academic performance.

Keywords: *Logistic Regression Model, Odd Ratio, ROC (Receiver Operating Characteristic) curve, Area Under the Curve(AUC), Students Performance*

1. Introduction

For several decades' institutions of higher education across the globe have experienced significant growth in both their student populations and the diversity of those students. As a result, many studies have been conducted into trying to gauge and understand the factors that contribute to student's academic performance. These predictive types of studies have become more common and important to overall planning for universities worldwide including in such areas as curriculum development and student placement. This literature review has looked at studies in such places as Australia, the United States, India, United Arab Emirates, Nigeria, Pakistan, and Iraq to identify recurring outcomes and methodologies shared by scholars working in this area. It is significant to observe that studies conducted as early as the 1980's and reported on in 2001 (McKenzie & Schweitzer, 2001) investigated such things as student's academic backgrounds and a broad litany of psychosocial factors contributing to future performance like socio-economic indicators, parents' educational levels, and gender. Most of the studies reviewed for this investigation also share many common indices used by these previous scholars. For example, (Baradwaj & Pal, 2011), (Mushtaq & Khan, 2012), (Ali et al., 2013), and (Asogwa & Oladugba, 2015) all used student socio-economic data, gender and age information, parental educational levels and a significant resource pool ranging from 100 students to over 400. Some like (McKenzie & Schweitzer, 2001) looked at several years of student's prior GPA scores and (Ali et al., 2013) investigated students actual residential/geographical backgrounds noting that place of residence and social status in India were key factors to student's future academic performance.

Other studies like (Huws, Reddy & Talcott, 2006) considered such things as student's motivational levels and reasons for pursuing higher education contradicting earlier findings that student's future success is largely dependent on preceding performance. Their findings showed that students learning or studying at the graduate level and the score secured did not have any predictive relevance to their achievements in graduate school. In the important work of (McKenzie & Schweitzer, 2001) the study established an important link between student's prior and current employment responsibilities and experience, as well as their overall outlook or "self-efficacy" in achieving above average grades and performance. This study established that student's "time management" skills are significant indices of future success prompting many universities to invest in training programs and skill building in this area. For the purposes of this study, one previous work conducted in Iraq (Gardy & Akbay, 2015) is of special note. The report "Academic Performance of Undergraduate Students at Soran University in Northern Iraq" provides an important template for cross-referencing and comparison of the present study. In the prior study, Gardy found that such factors as the educational level of the student's mother positively correlated with student's academic performance. Other factors such as the student's age, "class", employment status and significantly the size of their families played

an important part in predicting future academic performance. As a result of this work, the present study looked deeper into such issues as whether or not students own a car, are in a personal relationship, smoke, have a Facebook account and the number of hours they spend on social media. Consequently, the present state of investigations into these areas can continue to be informed by previous studies and important valuable comparisons can be made. For example, the present study found a negative correlation between students' academic performance and their mother's educational levels contradicting or questioning Gardy's earlier findings and prompting the need for further investigations. In general, the vast majority of the studies reviewed clearly show an important connection between a student's socio-economic status and their future academic performance. However, recent studies including this one, suggest that this once significant link may be changing. Perhaps, because of the revolutionary changes and access to affordable technology student's socio-economic circumstances and family status will not be the driving factor determining their future scholastic success.

2. Methodology

According to the regulations outlined by the Iraqi Higher Education system students who do not pass their final exams on the first attempt, have the ability or the right to retake the exam at a later date. In such a way, binary logistic regression model (pass in the first attempt, fail in the first attempt) is used to test the data and to illustrate the factors affecting student's performance in the University of Sulaimani. Logistic regression is the appropriate regression analysis to conduct when the dependent variable is dichotomous (binary). In this project, logistic regression is used to model the probability of a positive outcome for a binary (fail in the first attempt = 0, pass in the first attempt = 1) outcome variable as a function of covariates, and the goal of logistic regression models is used to model the probability of the occurrence of an event depending on the value of covariates. In other words, the model is used to investigate the relationship between a binary response variable (First Attempt Exam) and a set of explanatory, or independent, variables (Sex, Age, Handwriting, Breakfast, Car, Phone types, Job, Relationship, Smoke, Alcohol, Elementary school types, Study-Hours, Sitting in the class, Dorm-Living, Sleeping-Hours, Nap-Hours, TV-Hours, Facebook, and Family variables such as Father Alive, Father Education Levels, Mother Alive, and Mother Education Levels). Furthermore, JMP software program tool was used to analyze the dataset and to explain the capacity of their impacting.

Research area: The University of Sulaimaniis the oldest university in Northern Iraq and is located in the city of Sulaymaniyah, which is the cultural capital city of the Kurdistan Region. The university's system of education in the Kurdistan Region is focused primarily on assisting the region students in their pursuit of higher education. The education system in Kurdistan is the same as in Iraq, and the undergraduate study is universally composed of four stages (1st, 2nd, 3rd, and 4th) in which students need at least 4 years to complete the whole stages to get Bachelor degree except Medicine and Architectural Engineering colleges that need 6 years and 5 years respectively to get Bachelor degree.

Data Collection: The essential data for this study was collected by the use of questionnaires, and the simple random sampling was used to collect a sample size of 370 students from all the undergraduate students in the University of Sulaimani. The surveys were handed out to students in the (2nd, 3rd, and 4th) years at the University of Sulaimani. The data gathered in this study was collected from all the colleges in the University of Sulaimani except the Medicine College because of the specialist nature of its students and conflicts with their study hours. The background information used in the study consists of 23 questions, and all the predictor and response variables derived from the database are given in Table 1 for reference.

Table 1: Student Related Variables and Measures

Variables		Codes
Response Variable	First Attempt Exam	$FirstAttemptExamPass = 1 FirstAttemptExamFail = 0$
	Sex	$Female = 0, Male = 1$
	Age	Categorical
	Hand-Writing	$Right = 1, Left = 0$
	Breakfast	$HavingBreakfast = 1, Don'thaveBreakfast = 0$
	Mobile type	$SmartPhone = 1, RegularPhone = 0$
	Job	$HavingJob = 1, Don'thaveJob = 0$
	Relationship	$MarriedorHavingRelationship = 1, Unmarried = 0$
	Alcohol	$DrinkingAlcohol = 1, NoDrinkingAlcohol = 0$
	School Type	$PrivateSchool = 1, GevernmontSchool = 0$
	Place in Class	$SittingontheFirstTwoRows = 1, OtherRows = 0$
	Dorms	$LiveintheDorm = 1, LivewithParents = 0$
	Sleeping Hours	Categorical
	Nap	$TakeaNap = 1, Don'tTakeaNap = 0$
	Watching TV Hours	Categorical
	Family Member	Categorical
	Mother Alive	$MotherAlive = 1, MotherDied = 0$
	Father Alive	$FatherAlive = 1, FatherDied = 0$
Predictor variables	Mother Education	$Lessthanhighschool = 1,\ Highschool = 2,\ Somecollege = 3, UniversityandHigher = 4$
	Father Education	$Lessthanhighschool = 1, Highschool = 2$ $Somecollege = 3, UniversityandHigher = 4$
	Smoking	$Smoking = 1, NoSmoking = 0$
	Facebook	$HaveFacebookAccount = 1, Don'tHaveFacebook = 0$
	Study Hours	Categorical
	Car	$HaveaCar = 1, Don'tHaveCar = 0$

3. Analysis and Results

The Iterations report in the Table (1) shows each iteration and the evaluated criteria that determine whether the model has converged. As the results, the model is converged gradient in 5 iterations.

Table 2: Iterations of the converted model

Item	Objective	Relative Gradient	Norm Gradient
0	256.46445681	9.3099272204	162.96855525
1	209.41037853	1.9344043844	12.523767342
2	207.39480515	0.2546886064	1.6015556473
3	207.36192362	0.005512953	0.078683959
4	207.36190842	3.0792292e-6	0.0000752681
5	207.36190842	1.109546e-12	3.644049e-11

While P-value < 0.001, shows in Table 3, the model is significant for the Chi-Squared test. In other words, full model is better than the reduced one (model with only intercept parameters), and it indicates that at least one of the parameters has an effect on the response variable (First Attempt Exam). On the other hand, A min (AIC) strategy is used for selecting among two or more competing models. In a general sense, the model for which AIC_c is smallest represents the "best" with this formula $AIC_c = -2\log likelihood + 2\,k + 2\,k\left(\frac{k+1}{n-k-1}\right)$ where k is the number of parameters in the model. Thus,

AIC_c = 466.202 for full model

AIC_c= 563.877 for null model

As a result, the full model is the best one.

Shows the R-Square, which is the ratio of the Difference to the Reduced negative log-likelihood values. It is sometimes referred to as U, the uncertainty coefficient. R-Square ranges from zero for no improvement to 1 for a perfect fit. A Nominal model rarely has a high R-Square, and it has an R-Square of 1 only when all the probabilities of the events that occur are 1. In our case, R-square is 19.06 %

Table 3: Whole the Model

Model	-Log-Likelihood	DF	Chi-square	Prob>ChiSq
Difference	48.83762	23	97.67524	<.0001*
Full	207.36191			
Reduced	256.19953			
RSquare (U)	0.1906			
AICc	466.202			
BIC	556.648			
Observations	370			

As a result of Table 4, Since Age, Hand-writing, Breakfast, Mobile Type, Job, Alcohol, School Type, Place in Class, Dorms, Sleeping, Nap, Watching-TV, Family Members, and Mom Alive show up as not significant, it indicates that these fourteen variables have not any effect on the First Attempt exam. Consequently, the regression equation is shown below

Log (odds of a First Attempt Exam) = 1.219 – 0.707 (Sex) – 1.009 (Relationship) + 1.329 (Father-Alive) – 0.505 (Mother-Edu) + 0.366 (Father-Edu)– 1.012 (Smoking) – 1.086 (Facebook) + 1.172 (Hours Study) – 1.130 (Car)

As with any regression, the positive coefficients indicate a positive relationship with the response variable (First Attempt Exam). Consequently, -0.707 is the increment to log odds of a worse outcome for males. In other words,

$$log(OR) = log\left(\frac{Oddsofmalespassthefirstattemptexam}{Oddsoffemalespassthefirstattemptexam}\right) = -0.707$$

$WhereORindicatestoOddRatio.$

Log odds are difficult to interpret on their own. However, it can be translated using the formulae described below in such a way Log-odds could be converted to normal odds using the exponential function

$$log(OR) = -0.707 \Rightarrow OR = e^{-0.707}$$

Hence, the odds ratio$e^{-0.707} = 0.493$ indicates that males are 0.493 times more likely to fail the First Attempts of the exam than females. Furthermore, for married students or students with having relationship the odds ratio $e^{-1.009} = 0.365$ indicates that students with having rea lationship are 0.365 times more likely to fail the first attempts of extheam. As well, the odd ratio $e^{1.329} = 3.777$ indicates that students with alive father are 3.777 more likely to pass the first attempts of exathem than those students who lost their fathers. In addition, the odd ratio $e^{-0.505} = 0.604$ indicates that students with one level higher of their mother's education are 0.604 times more likely to fail the exam. On the other hand, students with one level higher of dad's education are $e^{0.366} = 1.442$ times more likely to pass the first exam than students with lowera level of dad's education. Besides, the odd ratio $e^{-1.012} = 0.363$ indicates that students' smoker are 0.363 times more likely to fail the first attempts of exam tthehanthose smoking. Additionally, the odd ratio $e^{-1.086} = 0.338$ indicates that students who use Facebook 0.338 times more likely to fail the first attempts of exam ththean those do not use it. Further, the odd ratio $e^{1.172} = 3.288$ indicates that students with increasing one hour of study are 3.288 times more likely to pass the first attempts of exam. Lathe the stly, Car case, the odds ratio$e^{-1.130} = 0.323$ indicates that a student with having car is 0.aa 323 times more likely to fail the First Attempts of exam than the one with no having car.

Table 4: Parameter Estimates

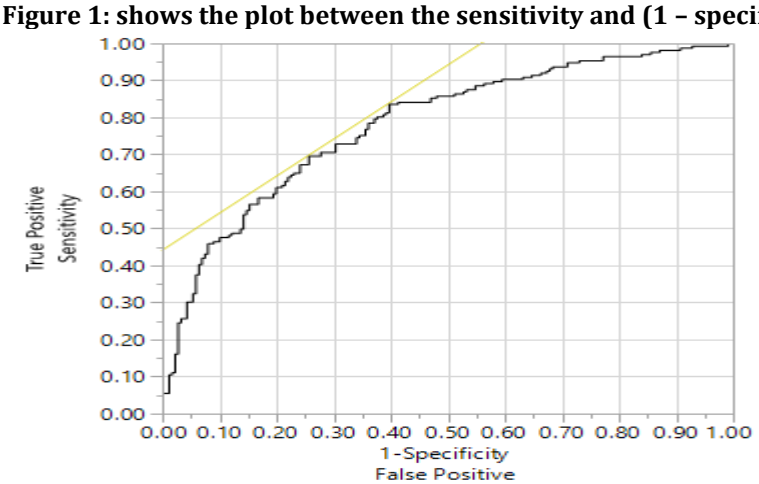
Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	1.21927692	2.1574109	0.32	0.5720
Sex	-0.7068091	0.3360941	4.42	0.0355*
Age	-0.0089979	0.0718449	0.02	0.9003
Hand-Writing	0.31714648	0.4426766	0.51	0.4737
Breakfast	0.46665181	0.2706419	2.97	0.0847
Mobile type	-0.1234657	0.3816041	0.10	0.7463
Job	0.67797553	0.3666101	3.42	0.0644
Relationship	-1.0086692	0.4118749	6.00	0.0143*
Alcohol	0.74493559	0.3951886	3.55	0.0594
School Type	-0.3565235	0.4707394	0.57	0.4488
Place in Class	-0.5063182	0.2718216	3.47	0.0625
Dorms	-0.0244414	0.2988203	0.01	0.9348
Sleeping	0.03703869	0.0888991	0.17	0.6769
Nap	0.19725684	0.2603607	0.57	0.4487
Watching TV	0.02502406	0.06901	0.13	0.7169
Family Member	-0.0447408	0.0709466	0.40	0.5283
Mother Alive	-0.4459353	0.8935099	0.25	0.6177
Father Alive	1.32933275	0.5745795	5.35	0.0207*
Mother Education	-0.5047344	0.1558384	10.49	0.0012*
Father Education	0.36603957	0.1414639	6.70	0.0097*
Smoking	-1.0120636	0.4140007	5.98	0.0145*
Facebook	-1.086195	0.4108137	6.99	0.0082*
Study Hours	1.17204784	0.2811257	17.38	<.0001*
Car	-1.1298474	0.2848938	15.73	<.0001*

Ultimately, plotting the pairs of the true positive rate (Sensitivity) versus the false positive rate (1-Specificity) on a scatter plot, shown in Figure 1, provides a ROC (Receiver Operating Characteristic) curve, and the area under the curve(AUC) clarifies an overall measure of fit of the model. As a general rule:

If $AUC < 0.5$ No discrimination
If $0.50 \leq AUC < 0.70$ Poor discrimination
If $0.70 \leq AUC < 0.8$ Acceptable discrimination
If $0.80 \leq AUC < 0.90$ Excellent discrimination
If $AUC \geq 0.90$ Outstanding discrimination

Using First Attempt = "1" to be the positive level, $AUC = 0.78447$
Comparing this value with the general rule, the model is considered acceptable discrimination.

Figure 1: shows the plot between the sensitivity and (1 – specificity)



4. Conclusion

The objective of this study is to illustrate the factors that affect students' academic performance in the Iraqi University of Sulaimani; According to the results, the factors of (Sex, Car, Relationship, Smoking, Hours Study, Facebook, Father-Alive, Mother-Education, and Father-Education) have a high effect on the First Attempts of Final Exam, in which for Sex, the females are0.493 times more likely to pass the first attempts exam than the males. Furthermore, students who have cars and who are in relationships, as well as students who smoke, use Facebook and whose mothers have higher levels of education are 0.323, 0.365, 0.363, 0.338 and 0.604 times more likely to fail the first attempts exam respectively. On the other hand, factors such as father alive, higher level education of father, and increasing one-hour daily study are positively significant to pass the first attempt of the finalexam with 3.777, 1.442, and 3.288 individually. This project depicted some fascinating and weird points that should be copied more seriously and carefully with the results. First of all, the results show that apart from the advantages and utility of technology and fortune, there are still some uselessness issues for someone who does not knowingly use them in a careful and right way, such that car ownership and using Facebooks. Next, the outcomes illustrated uncanny result while mothers with higher education levels, having a negative effect on their university students' test results. the conclusion regarding relationship between mother education levels and students might due to Iraqi father sovereignty, or might be because of educated mothers constantly have their own jobs as the men, and it makes them busier and reduces their times to care for children compared to uneducated mothers who always stay at home with greater conscious of children.

Recommendations

- In order to find out whether the effective university model is applicable to all universities in Iraq and Kurdistan Region, on the other hand, to find other factors that influence academic performance, similar studies should be conducted in other universities of the country.
- It is necessary for Iraqi communities in general to preserve a warm and friendly relationship with their students irrespective of their gender differences.
- Parents should provide a great academic atmosphere for their students and improve the level of care of their children.

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Uncovering the Relationship of Supply Chain Management and Firm Performance: Evidence from Textile Sector of Pakistan

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Abstract: The purpose of this research paper was to find the impact of the supply chain on firm performance in Textile firm of Pakistan. Data was collected through questioners in the month of March 2018, Approximately 30 questioners were distributed among the managers of the ten textile organizations in Faisalabad which are expected to have the best knowledge about the supply chain operations and its impact on the performance of the organization, all of them responded positively. It is found that dimensions associated with SCM methods as well as explain the connection amongst SCM methods, aggressive benefit, as well as firm performance. The actual study focuses on the causal associations in between SCM exercise, aggressive benefit as well as firm performance as well as ignores the actual feasible recursive associations.

Keywords: *Supply Chain Management, Effectiveness, Financial Performance, Organization Performance, Customer Relationship, Level of Information sharing, Postponement, Competitive Advantage.*

1. Introduction

The efficient management of the supply chain is a very valuable and important way of staying competitive in the market and improving the performance of the organization. It has a very important role to remain competitive as the SCM competes between organizations. In the early 1990's, when world markets got rigorous competition to deliver a product or service in the right place at the right time. Because global organizations have now become competitive in the local market and work should be done to improve the effectiveness of the organization and to improve the supply chain as well as more efficient as to a competitor. Organizations must understand the SC management concepts and practices with a view to increasing competitiveness and profit (Groznik, & Maslaric, 2010). SCM is defined to achieve the strategic objective of the coordination between the commercial partners and the operations described. The main reason for managing the supply chain on progress in the normal operations of individual organizations and improve the performance of all the steps involved in the supply chain. The objective is to combine more product flow SCM information on the supply chain as a competitive cannons (Feldmann, & Muller, 2003). Now, many organizations have begun to recognize that there is an important opportunity to build a sustainable and competitive advantage of their global market products and services with a packed client key SCM. The practice and corporate implementation of the strategic suppliers of product quality and the performance of the organizations also have a major impact. Relationship to the provider is important in relation to the type of relevant organizations that are at the cost of improving their business performance.

This study verifies the relationship of the strategic provider in the supply chain to improve product quality and the performance of Pakistani projects. With regard to the washers, this relationship uses a different methodology, such as Pearson correlation regression analysis. The Pakistani manufacturing company has a variety of management programs to improve the value and quality of the product and improve the performance of the organization. Due to globalization, there is intense market competition and companies have to take competitive strategies into their operating systems to stay in the market. Competitive strategies relate to the provision of low-cost products and better quality for the competitor. Strategic competitiveness deals with the latest technology used in its operations to improve product efficiency. To get full advantage, the multinational company must take more productive and more competitiveness. Responsibility is also important in its operation, how fast it satisfies your client, your customer can not wait for your product, if it does not provide it quickly, it will change your company. Manufacturing companies should focus on improving the supply chain management to maximize their output. Most researchers say supply chain

management (SCM) is essential to survive the world market and get more profitability. At present, most of the organizations focus on their supplier and their clients. It must be aligned between the SCM and the company's strategy. SCM plays a crucial role in creating sustainable benefits for its products and services in the global market.

Some problems occur in the application and understanding of the scope of the practical implementation of the SCM program and to measure the performance problem in team practice and implementation. The combination of all activities is understood by the highest customer satisfaction at low cost. SSP (Strategic Supplier Partnership) is sure to have a positive outcome in the performance of organizations. It has a great impact on the performance of the product and the performance of the organization. It mainly informs us of the relationship between SSP and performance and also has a positive impact on SCM practices. Successful manufacturing companies should emphasize the improvement of the relationship between the SSP in the SCM process. As the supply chain is important in many organizations, it is now considered that buying a business partner's role is increasingly important. Many researchers have shown that they are actively involved in strategic leadership in the organization's planning process. The provider and the internal clients of the organizations play an important role and the production and supply of customers' value outside organizations. The relationship between the internal organization and the promotion of the core function in purchases played a vital role. Their forensic performance function has not yet been studied in the company. Relationship management is now focused on the basis of competitive advantage.

The strategic purchase offers greater development of learning. The basis of company capabilities is that the company is working with a small number of providers and open and secure communications between supplier relations among supply chain members who develop long-term orientation to achieve long-term mutual gains. All of the above capabilities give them the opportunity to maintain a competitive advantage that will allow the company. Some researchers have documented that customer responsiveness is an essential element of any organization to improve competitiveness. Supply chain Management can have a strong emphasis on the overall performance of the organization. In this study, we will examine the impact of all factors in the supply chain that affect the overall performance of organizations; the relationship between customer responsiveness to the supply chain management and the most important overall performance will be examined. In the modern era, organizations are an important part of the ability to make and manage the relationship between the supply chains. Some of the capabilities play a crucial role, such as relationships with the limited number of suppliers and long-term relationships, purchases in the organization's development, but also interventional factors, play a crucial role.

2. Literature Review

SCM practices refer to the full set of actions performed in organizations to improve the efficiency of the internal procurement chain. a modern assessment of SCM practices that include the cooperation with the provider, the outsourcing process, time compression cycle, process flow continuity and technological and knowledge exchange, through the quality and relationship of purchase with the client in order to represent the practices of SCM that are part of the empirical study (Alvarado, & Kotzab, 2001). The use of internal organizational system such as EDI and eliminate excessive inventory of customizations reducing the way to the supply chain. The practice of SCM across the factorial study, the integration of the UK, the exchange of information, the characteristics of service management for supply chain customers, due to the proximity and ability of the JIT relationship long term communication.

Concept SCM: Agreement of vision and purpose of the organization exchange of information, consideration and risk, cooperation, integration of the process, long-term relationships and supply chain leadership. In the review and compilation of the literature process, five different aspects were identified. Strategic association provided with supplier. It is defined as the long-term partnership between the company and the provider. The objective is to achieve long-term benefits in organizational benefit (Hall, 1997). Organizations provide the provider and help the organization in a planning process and solve any problem. It allows the organization to operate efficiently and efficiently with the main provider willing to take responsibility winner or default of the product and services. The provider's participation in product and product design can be profitable. Relationship with client concerns customer complaints and managing quick solutions to their

problems. This helps the organization have long-term good relations with customers and give more satisfaction, supply chain management: provider performance and performance of company. The component is a very important management of customer relations in this process. The level of information exchange is two main components: the amount of information and the quality of information.

Both of these are more important for SCM practices (Moberg, Cutler, Gross, & Speh, 2002). How effective information is shared inside and outside the organization. The exchange of communication is a symbol of the SSC relationship. Larchur refers to operations and activities one or more subsequent points of the supply chain. It supports organizations to build flexible supply chains and product development according to customer needs, and product categories and demand functions (Waller, Dabholkar, & Gentry, 2000). Create a balance between market demand and company capabilities to meet that demand. Competitive advantage is value a company provides to their customer which is other company enable to provide same value. Capabilities of company may give competitive advantage over the competitors (McGinnis, & Vallopra, 1999). Organizational performance defined as how a company achieving their market goals, and also its overall goals. Increase productivity by using lower cost on inventory management are the short term goals of supply chain management long term goals of supply chain are enhancing profit and its stock supply chain management: Supplier performance and firm performance.

Hypothesis: The framework developed in this SCM proposed that the practices of SCM has and direct impact on the overall performance of the organization and Practices of SCM are supposed to increase the market share of an organization, return made on investment and also help the organization to improve the competitive position in the market (Stanley, & Wisner, 2001) e.g. strategic partnership with the supplier has resulted an increase in specific benefits in form of overall performance of the organization supply chain management: Supplier performance and firm performance. Relationship with the customer (customer relationship) has shown to increase a prominent improvement in the performance of an organization supply chain management: Supplier performance and firm performance. The level of information sharing, related with lowering the total cost, the rapid and higher rate of fulfilling the orders of the customers, and shortening the time of order cycle (Lin, Huang, & Lin, 2002). A recent survey had concluded, organizations that are good at SCM, hold advantage of 40%-65% in cash-to-cash cycle time on the other organizations and the top organizations are carrying from 50%-85% than their competitors (Fawcett, & Magnan, 2002).

Hypothesis 1: Firms with the high level of performance of the practices of the SCM will result in the high organization's performance level. Practices of SCM will not only make an impact on the overall performance of the organization, but also on the competitive advantage of the organization. These practices are supposed to improve the organization's competitive advantage using the price/cost, the quality, the delivery dependability, the time to market, and product innovation. Prior studies had identified that some of the components of SCM practices i.e. strategic partnership with the supplier have a major impact on various forms of competitive advantage (i.e. price/cost). For example, the strategic partnership with the supplier will help in improving the supplier performance, and will help to reduce the time to the market (Ragatz, Handfield, & Scannell, 1997), and will also results in the responsiveness and satisfaction of the customer (Power, Sohal, & Rahman, 2001). Information sharing will help to high level of integration of supply chain (Fynes, Voss, & de Burca, 2005) by making enable the organizations for the dependable delivery, also for introducing new product in market quickly. Sharing of information and the quality of information contribute positively towards the satisfaction of the customers and quality of partnership. Strategy for postponement not only helps to increase the flexibility in SCM but also help to balance the global efficiency and responsiveness to the customer.

Hypothesis 2: Firms having active consideration of the practices of SCM will be able to maintain competitive advantage at a high level. Generally competitive advantage suggests, having one or more than one capabilities mentioned below when it is compared with the competitors, low level of prices, high level of quality, high dependability, and shortest time for delivery. Above mentioned capabilities, will in return, will help the organization to improve overall performance (Mentzer, Min, & Zacharia, 2000). Competitive advantage is a best way for achieving the economic performance at a high level, for achieving customer satisfaction and loyalty, and effectiveness in relationship. The brands having high loyalty will result in less switching rate as compare to their competitors in the target markets and thus increase in sale and profitability (Grover, &

Malhotra, 2003). If an organization is providing products with high level of quality can charge extra prices and then is able to increase its profit. An organization with low time to the market will be able to enjoy a huge market share

Hypothesis 3: As the level of competitive advantage will be higher, there will be higher performance of organization.

3. Methodology

This section of research describes instrumentation, formulating the models and method used for sampling. Data was collected through questioners in the month of March 2018, Approximately 30 questioners was distributed among the managers of the ten textile firms situated in Faisalabad which are expected to have a best knowledge about the supply chain operations and its impact on the overall performance of the organization, all of them responded positively. Respondents selected to this study were the managers, working on a higher post. The respondents were given a statement either agree or disagree by using a five point Likert scale. Respondents were also asked to refer to their key supplier for the relevant questions. First part is comprised of the (SSP) strategic supplier partnership; describing the impact of the strategic partnership with the supplier of the company, and how they affect the overall performance of the organization, using 5 point Likert scale enabling the respondents to answer the questions. The second part is consisted on the gathering of many performance measurements; (CR) customer relationship; consisted on how the customer is satisfied and up to what extent their complaints are being handled in order to keep the customer loyal to the organization, about meeting the expectations of the customers, as if they are satisfied they how it would affect financially for managing such operations in the organization. (LIS) Level of information sharing, (LIQ) Level of information quality, Postponement, price/cost, Delivery dependability, Product innovation, Time to market, (OP) Organizational performance.

4. Results

Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.603[a]	.363	.315	.29124

Predictors: (Constant), Competitive advantage, organizational performance

ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.259	2	.630	7.424	.003a
	Residual	2.205	26	.085		
	Total	3.465	28			

a. Dependent Variable: SCM practices

Predictors: (Constant), competitive advantage, organizational performance

There is a significant correlation between dependent variable supply chain practices and independent variable competitive advantage, organizational performance ($p<0.05$). It shows the positive correlation among these variable. So this is best fit for regression model. It will also be interesting to note the actual effect of providing a chain framework (the length of the supply chain, the location of the organization within the supply chain, the automotive framework, etc.) on the operation of SCM and aggressive benefits.

Coefficients (a)

Coefficients[a]

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.218	0.521		2.338	0.027
	Organizational Performance	0.138	0.138	0.188	0.997	0.328
	Competitive Advantage	0.368	0.146	0.477	2.528	0.018

a. Dependent Variable: SCM practices

Supply chain practices have no significant correlation with organizational performance. So we reject this hypothesis. Supply chain practices has significant relation with competitive advantage ($p<0.05$) and accept this hypothesis.

Anova (b)

Anova[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.171	2	1.088	6.636	.005a
	Residual	4.262	26	.164		
	Total	6.438	28			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Competitive Advantage, SCM practices

There is a significant correlation between dependent variable organizational performance and independent variable competitive advantage, supply chain practices ($p<0.05$). It shows the positive correlation among these variable. So this model is best fit.

Coefficients (a)

Coefficients[a]

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.965	0.773		1.248	0.323
	SCM Practices	0.267	0.268	0.196	0.997	0.328
	Competitive Advantage	0.468	0.207	0.445	2.268	0.032

a. Dependent Variable: organizational performance

There is no significant correlation between dependent variable organizational performance and independent variable supply chain practices. In such type of organization there is no practice of supply chain. Organization performance has positive correlation with competitive advantage ($p<0.05$).

Implication for the Research: The actual study focuses on the causal associations between the practice of SCM, the aggressive benefit and the overall performance of the organization, as well as ignoring the real feasible reactive societies. Improved offensive benefits and the high overall organizational performance can improve the actual amounts of SCM practice. The organization's very high competition can allow a company to apply a higher level related to the SCM practice because it has to constantly violate its competitors and maintain its aggressive location within the powerful business community spot. However, the overall performance of the organization's enhanced organization provides high funds to implement multiple SCM modes. Similarly, overall organizational performance could better enhance real-offensive company benefits. For example, a company can also provide a low cost-paying monetary ability, which provides more than its competitors with price benefits. Since competitors are currently changing between "organizations" in relation

to "between supply chains", larger companies are accepting more SCM performance within the real desire to reduce supply chain spending and Benefit aggressive. The actual research results help to see the SCM methods that could have a significant impact on the aggressive benefit and the overall performance of the organization. It should be noted that SCM methods can have contextual elements, such as the type of business, the size of the organization, the location of the company within the supply chain, the length of the chain, as well as the type of supply chain. For example, the amount of functioning sentimental customer relations, measured by customer satisfaction and anticipation, maybe more about the company located at the end of the supply chain (close to the customer).

Larger companies may have a greater degree of SCM methods because more generally complex supply chain systems are required that require much more management of the supply chain. Perhaps the length of the supply chain would have a negative impact on the quantity of quality information. The delay and distortion affecting the information, as it moves along the supply chain, is less the actual supply chain, the smallest opportunities you get. In addition, the largest amount of removal may be related to tailor manufacturing techniques compared to manufacturing techniques. As a result of a limited number of results, the actual recharging associated with the buildings was not completed by this investigation. Independent research sets organized collective bans set when the device uses. Long-term research of scales of three-dimensional scales created through this particular research should be validated. Because the idea of a scam is really complicated and the system related to companies is within the work of generating and the final item, your site can not be protected in just 1 research. Long-term research can contribute to the actual position of additional measures to consider considering, for example, close proximity, JIT/ability to read, functional coordination, logistics integration and the supply chain management firm, which is ignored this investigation. The actual long-term study can also verify the relationship/rely on the actual measurements of 5 SCM modes. For example, the actual business of the appropriate supply relationship may need to be addressed on the discussion of information.

The knowledge for this study consists of reactions through solitary participants in a business that may be a trigger for feasible reaction. The results should be interpreted and taking into account this particular restriction. The use of the individual respondent can generate some aspects of accuracy. Long-term research should try to use a number of participants through all their business to improve the results of the study. Similarly, it will be associated with the curiosity that the use of real participants will be used through a series of two-end companies related to the supply chains. By comparing various aspects of SCM methods on supply chain companies, you can identify the power and weakness of the supply chain, as well as the best SCM supply chain practice. Long-term research can study SCM problems at the supply chain level. The solitary chain is solitary, for example, with the curiosity to the characteristics, plan and system that govern this supply chain in particular, the real relationships between individuals within the supply chain (first level providers, the second - service providers, producers, service providers, customers, etc.), as well as the way in which SCM methods change in all participating businesses. The long-term research of the associations that is recommended can be given through contextual parameters to design, for example, the organizational and frame working feature for string work. For example, it is likely that it is interesting to investigate how the SCM exercise changes the business dimension.

5. Conclusion

This document provides empirical validation for any construction that identifies 5 key factors related to SCM methods, as well as the link between SCM methods, the aggressive benefits, as well as explaining the overall performance of the organization. This does through the analysis of a research inquiry: (1) the carrying business with larger amounts of aggressive benefits as well as larger amounts of SCM methods; (two) launch business with a higher level related to SCM methods that have larger amounts of total organizational performance; (3) Do businesses have a higher level and higher amounts of the aggressive benefits of the overall performance of the organization? With regard to the purpose of investigating these problems, an extensive, legitimate and reliable device was established in evaluating the SCM methods. The actual device was examined using total record evaluations such as relative validity, discriminatory validity, reliability and the declaration of second-order buildings. This particular study provides empirical evidence to help conceptual and expressive statements within the books about the actual effect of SCM methods.

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The Impact of Corporate Social Responsibility on Firm's Financial Performance

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Abstract: Corporate Social Responsibility (CSR) is now an integral part of business model of most of the modern organizations. Companies are making efforts to play their role in improving society in one or other ways. The scope of efforts ranges from donating money to nonprofit organizations to employing environmental-friendly policies in their workplace. As per the general global perception the corporate sector of Pakistan has been lacking behind in respect of CSR implementation. It has largely concentrated on profit minting rather than taking care of the welfare aspects of employees and other stakeholders. This attitude has affected the business and as a result industry has failed to keep pace with the modern industry. The objective of this study is to analyze the impact of CSR on firm's financial performance. The research therefore predicates that increase in CSR activities of poor CSR firms shall have a negative effect on the company's financial performance. Whereas, Middle CSR firms having a positive relationship with Excess Value (EV) will enhance the project performance, financial stature and future prospect of the firms. However, the firms with the best CSR will always have a positive relationship with the firm's financial performance but its impact will not be observed significantly on the firm's financial condition.

Keywords: *CSR, corporate sector, financial performance, financial structure*

1. Introduction

The dialogue continues uninterrupted whether the firms in Pakistan should engage themselves more amicably in socially viable behavior. Whereas the traditional economic dialogueforces the managers to make such decisions which lead to maximize the wealth of a firm's equity. In order to pursue the goal, the managers resort to all sorts of malpractices to maximize the existing value of a firm's and fetch maximum revenues. Since socially responsible activities do not correspond to the aforesaid economic objectives, the financial logic compels to refrain from putting them into practice. At times a narrow focus may suggest the managementto ignore important stakeholders (employees, customers andother stakeholders) which may adversely affect the interests of a firm's equity and also reduce the present value of a firm's cash flows (Yunis, et. al, 2017; Mc William & Seigel, 2001; Abboud & Abdul Razek, 2010 & Friedman, 1970).

No doubt since the advent of industrial revolution and globalization, the role of CSR has gained manifold importance among practitioners, policymakers and in organizations day-by-day (McWilliams and Siegel, 2001; Margolis and Walsh, 2001, 2003; Orlitzky et al, 2003). Resultantly this element has brought forth a new concept in the field of research of the relationship between CSR and firm's value performance and CSR and firm's financial performance etc. Formally, CSR is defined as "the movement aimed at encouraging companies to be aware of the impact of their business on the rest of the society, including their own stakeholders and the environment". Furthermore, by Visser (2008), it is the process by which company or firm continuously contributes toward improving its governance, ethical standards and environmental conditions. The concept of CSR is not new; rather it was introduced in 18th century by the Cadbury, when the owner of the organization had planned to invest money for the cultivation of plants in Bernville Cadbury farms. However, this concept gained popularity in the nineteenth century, especially in European countries as well as in the USA. Now a days, this concept has been recognized worldwide (Orlitzky, 2001, Mc William & Seigel, 2001; Qazi et. Al, 2015 & Akhtar & Awan, 2014).

Most of the western countries have a perception about Pakistan that the local companies have no concept of CSR. This exception can be taken as granted since most of the business communities in Pakistan always give profit oriented directions to their organization rather than taking care of social aspects of investment like the interest of stakeholders, environmental friendly policies and employees' welfare etc. The other problem in the country is that most of CEO's and other executives of the organizations are young and inexperienced with

a little knowledge about CSR. They think that CSR is merely a tool of philanthropy to grab donations etc. (Qazi, et. al, 2015; Yunis, et. al, 2017). However, the Securities Exchange Commission of Pakistan took due cognizance of these anomalies during the Musharraf regime and introduced Securities Acts 2005 and 2007 for the protection of shareholders / stakeholders in the market (Yunis, et. al, 2017 & Yunis, 2009). In Pakistani dynamics the knowledge of CSR is generally on the bottom line. However, a few companies like Engro and Fauji Fertilizer etc. are contributing substantially towards CSR. Engro's Annual Sustainability reports have full filled almost all the requirements of CSR in case of environmental protection, contribution towards society and welfare of employee at site positions. Similarly, another corporate firm Fauji Group of Companies is also fulfilling the demands of CSR in Pakistan. Except for these firms most of the firms follow the statement "All profit is mine and pollution is yours". Anyhow this aspect needs comprehensive deliberations (NFEH, 2016).

With reference to the above compendium we cannot neglect this problem because foreign companies feel reluctant to enter into Pakistani market with this snag in the hind. Western and Developed countries have the proper setup for CSR. Since every company contribute towards the environment and for society therefore there is a negligible cumulative effect cost effect on the financial performance of the firm. But in case of Pakistan as very few companies contribute towards social welfare aspects therefore such firms suffer enormous loss as compared to the others. It is therefore imperative that the Government must legislate on CSR policies to provide relief and protection to welfare oriented firms (NFEH, 2016). The aim of this research is to provide the valuable knowledge and guidance about the role CSR and its relation with the Firm's Financial performance. The research is based on Pakistani markets where the CSR Practices are not efficient at firm's level. The crux of our research is to apprehend that do CSR effects firm's financial performance or not in Pakistani markets.

2. Literature Review

By Akhtar & Awan (2014), Yunis, et. al, (2017) & Carroll (1998) Corporate Social Responsibility (CSR) has been encrypted in the Accounting and Management literature for over 45 years. However, firms and societies have substantially enhancedfocus on CSR over the past few years. In order to expand their business companies have evolved such strategies that have taken their business operations from the company into the society. Therefore, the scholars have regardedthesemarket-oriented strategies as companies CSR activities. By Yunis, et. al, (2017) & Essay UK (2013) the importance of CSR is accepted around the globe. Globalization has changed the concept of modern business practices and business theories. In addition, in the present world the globalization is the process of strengthening and increasing the role of social activities in economic corporations (Essay UK 2013). The above-mentioned trends make corporate world more flexible to run international and domestic businesses. These trends have generated the concept of CSR and also made it more prominent in the present world (Kell, 2016; Scherer & Palazzo, 2011; Salzmann, Ionescu-Somers, & Steger, 2005). By Roberts & Dowling (2002) and Yunis (2009), the concept of CSR was initially originated from the UK and America. Especially in the USA this problem was much debatable in the era of the 1970's and 80's.

Memon et. al, (2014) solemnly argued in their research that CSR is still a new concept in Pakistan. It should preferably be taught at an academic level in order to flourish it in the country's business organizations. It will directly affect the Firm's hierarchical level. Moreover, they suggested that HEC should also introduce CSR as an academic subject. A case study of Kasur city shows that very little has been invested in the social sector by the business firms. As a result, its soil and underground water have been polluted to a highly dangerous level which is adversely affecting the health of masses and creating multifarious problems for the people.

Theoretical Perspective of CSR and Empirical Findings: There are several theories about CSR, by Friedman (1970); Wright and Ferris (1997) asserted that the implementation of CSR belongs to the agency problem or denoted the interest with managers and shareholders. Similarly, he argued that bad CSR is the conflict of interest between managers and stakeholders if managers are profit-oriented then he follows all profit is mine and the pollution is yours. This argument too muchsatisfied. If manager profit oriented they have a conflict with its stakeholders while if managers are stakeholder oriented they have no conflict and would like to invest on its stakeholders. Waddock and Graves (1997) and Freeman (1984) argued that CSR

have a significant relation with the firm's financial performance. By Jones (1995) suggested that a firm that conduct its business with collaboration and in the protection of stakeholders bring positive impact on firm's financial performance. The protection of stakeholders by firms will enable the firm to achieve its competitive advantage. Hence all theoretical results in favor of CSR as increase the activity of CSR bring positive change in firm value and firm productivity. A paper published on that topic in 1987 by Malik & Nadeem, (2014) in that research the authorshave used three dependent variables for to measure firm's financial performance and use three variables like CSR, ROE and ROA. In this paper CSR was measured by reputation index but the authors have allowed the measure of CRS by firms spending on that element. In that research CSR brings positive change in company financial condition. Another research conducted on that topic by Qazi et. al., (2015), the main findings of that paper that most of the organizations even have no knowledge about that field they told that companies heads consider the corporate social responsibilities are just spent money on donations. Note: the second empirical findings are valid, if we check NEHB award-winning corporations of 2016 conference in CSR. We come to know that all award-wining firms put their whole CSR activities under the head of Donation. Perhaps the main reason is that this concept is new in Pakistan. Some of the empirical results suggested that CSR is the tool for commercial success by mean of ethical values like respect employee at workplace, work for communities and introduce environment-friendly policies. By Kiran et. al, (2015) suggested that anincrease in the activity of CSR bring positive change in financial performance of the organization.

Development of Hypotheses

Hypothesis 1: CSR has a significant relation with firm's financial performance. It will help to firm achieve its competitive advantage in the industry and counter agency problem with its stakeholders (Roberts & Dowling, 2002; Mc William & Seigel, 2001)

Hypothesis 2: CSR has no significant relation with firm's financial performance. It will help to firm achieve its competitive advantage in the industry and counter agency problem with its stakeholders (Roberts & Dowling, 2002; Mc William & Seigel, 2001)

Econometric Model

$$\mathrm{p}(\mathrm{Y} = \mathrm{CSR} = 1 \text{ intercept } \mathbf{X}_1 + - - + \mathbf{X}_\mathrm{i}) = \frac{1}{(1 + \mathrm{e}^{-\alpha - \beta \mathrm{X}_\mathrm{i}})} - - - - - 1$$

3. Research Methodology

Sample and data collection: We use secondary data, time horizon is 2012 to 2016, whole data is selected from the business recorder while the CSR data has been selected from annual reports of the respected organizations. The sample size is limited because most of the firms CSR values have either the stationary issues or have incomplete data. In Pakistan mostly firms contribute in the name of CSR but it is just limited to financial statements, means no more than a financial statement. We drive CSR data from the fiscal report of the firms and spending on CSR in the fiscal year. Furthermore, we use Logistic Regression for analysis.

Measurement of Variables

Reputation Index: CSR is generally measured by two methods, the first one is the Reputation Index Method whereas the second method is by Content analysis or taking figures from annual reports of the companies. In Reputation Index Method the firms are rated on the basis of multiple dimensions of social performance. The advantages of this method are that one evaluator applies the single criteria to each firm. Whereas the other advantage is that it makes no pretence of applying a rigorous objective measure to a dimension that may naturally be subjective. The first reputation index was used by Council of Economic Priorities (CEP) in the 60s and early 70s (Folger and Nutt, 1975, and Spicer, 1978). Another reputation index is designed by Moskowitz in 1972 and Beresford (1973, 1975, 1976)). Our reputation index is based on the ER (employee relations), ENV (Environment), SHA (shareholder relations), PRD (product quality and relations with providers and customers), and COM (community) to measure CSR. We divide the sample companies on Poor CSR companies, Best CSR Companies and Middle Companies on mentioned ratings

Measures of Financial Performance: To measure firm's financial performance we use accounting data, the reason behind that accounting data eliminate distortion from the data and results in this regard three proxies

have been used. The ratio of operating earnings to the sale which is considered the weak proxy in the empirical research and free from the leverage differences. Earning access value will evaluate the company future aspect if the EV increase it means that firm financial performance increase as an increase in CSR. At the last the operating earnings from asset will evaluate the firms revenue performance. In this study Excess Value (EV) is a measure of financial performance. This measure of performance is used in finance literature, by Thomadakis (1977) as well as Errunza and Senbet (1981). Excess value defined as the difference between total firm market value (market value of equity and book value of debt) and the book value of assets, normalized by sales or, in the absence of wealth transfers of the agency tradition. This measure captures the value premiums or discounts accorded by the market to various companies.

All of these proxies will evaluate the firm's financial performance (Cochran & Wood, 1984).

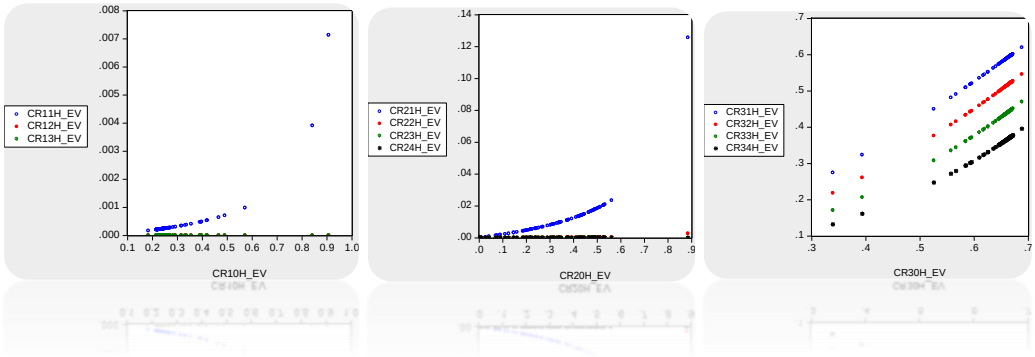
- operating income to Asset $=$ opreating income$/Asset$
- operating income to Sales $=$ opreating income$/Sales$
- Excess Value $=$ (Market Value of Equity $+$ Book value of debt $-$ Total Assets)$/sales$

4. Results

Table 1: CSR by reputation index

Dependent Variable: CSR	Worst CSR	Mid CSR	Best CSR
Variable	Coefficient	Coefficient	Coefficient
C	(-1.716481)***	0.277583	0.722671
EV	(-0.310481)**	(2.852995)*	0.120236
OPREATING INCOME TO ASSET	-7.212403	0.728593	-0.303702
OPREATING INCOME TO SALE	2.241732	-3.975948	0.580704
McFadden R-squared	0.164497	0.180597	0.008176
S.D. dependent var	0.351866	0.408697	0.476557
Akaike info criterion	0.773219	0.927556	1.360367
Schwarz criterion	0.883586	1.037923	1.470734
Hannan-Quinn criter.	0.817745	0.972082	1.404893
Restr. Deviance	74.64117	93.24783	116.7479
Log likelihood	-31.18146	-38.20379	-57.89669
Deviance	62.36291	76.40758	115`.7934
Restr. log likelihood	-37.32058	-46.62391	-58.37394
Avg. log likelihood	-0.342653	-0.419822	-0.636227
LR statistic	12.27826	16.84025	0.954494
Prob (LR statistic)	0.006488	0.000762	0.812261
Obs with Dep=0	78	72	31
Obs with Dep=1	13	19	60
Total obs	91	91	91

EV for Worst, Fair & Best CSR relation with Excess Earning



The model one Worst CSR firms explain that an increase in activities of CSR effect firm's financial performance. Worst CSR firm Model has satisfied all statistical tests. The EV have a significant relation with the CSR which interpret that as an increase in CSR brings a negative effect on firm's future prospect as well as firm's revenue, project management, internal management and values. On the other side the logistic regression has also confirmed the aforementioned results that as increase CSR activities in Worst CSR firms bring negativeeffect on the Firm's revenues. More as an increase in CSR activities the curve line shifted down. Middle firm CSR has a positive significant relationship with financial performance indicators. In this section Middle CSR firms have a strong relationship with firms earning excess value. That type of firms explains that as increase one unit of CSR brings the positive impact of firm's future prospect, revenue, efficient internal asset utilization and efficient impact on firm's productivity and internal management efficiency. The graphical results curve is high that explains that EV have significant relation with CSR as one-unit increase in CSR brings sharp impact on firm's financial performance or firms excess value. Best CSR positive relation with the firms financial performance. in this segment the graphical analysis explains that firm's financial indicators have no relationship with Best Firms CSR.

5. Conclusion and Recommendations

From the study of the subject it can very conveniently be concluded that increase in CSR activities of those firms which have paid little or no attention towardsCSR at the planning stage of their business, shall have a negative effect on the company's financial performance since it will reduce company's revenue. Whereas the middle CSR firms since have a positive relation with EV, it will therefore enhance the project performance, financial stature and future prospect of the firms. However, the firms with the best CSR will always have a positive relationship with the firm's financial performance but its impact will not beobserved significantly on the firm's financial condition. Since CSR has gained a paramount importance in the modern business world and has become backbone of every industry, therefore in order to ensure nourishing of Pakistani industry on firm footings it is imperative for the government to introduce, Legislation and special training programs on CSR in the form of courses and workshops at institution/university levels.

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Annexure
EV for Worst CSR relation with Excess Earning
Worst

Goodness-of-Fit Evaluation for Binary Specification								
Andrews and Hosmer-Lemeshow Tests								
	Quantile of Risk			**Dep=0**		**Dep=1**	**Total**	**H-L**
	Low	**High**	**Actual**	**Expect**	**Actual**	**Expect**	**Obs**	**Value**
1	0.023	0.0381	8	8.7131	1	0.2869	9	1.8304
2	0.0381	0.0503	8	8.6018	1	0.3983	9	0.9513
3	0.052	0.0709	8	8.4371	1	0.5629	9	0.3621
4	0.0722	0.0843	9	8.2876	0	0.7125	9	0.7737
5	0.0864	0.0973	9	8.1622	0	0.8379	9	0.9239
6	0.0987	0.1108	9	8.0462	0	0.9538	9	1.0669
7	0.1108	0.1199	7	7.9687	2	1.0313	9	1.0276
8	0.1239	0.1494	7	7.7662	2	1.2338	9	0.5514
9	0.1544	0.3043	9	6.9573	0	2.0427	9	2.6425
10	0.3095	0.8042	4	5.06	6	4.94	10	0.4495
		Total	**78**	**78**	**13**	**13**	**91**	**10.579**
H-L Statistic			10.579		Prob. Chi-Sq(8)		0.23	
Andrews Statistic			45.36		Prob. Chi-Sq(10)		0***	

Goodness-of-Fit Evaluation for Binary Specification								
	Quantile of Risk			Dep=0		Dep=1	Total	H-L
	Low	High	Actual	Expect	Actual	Expect	Obs	Value
1	3.00E-14	9.00E-05	9	8.9997	0	0.0003	9	0.0003
2	0.0001	0.0211	9	8.9383	0	0.0617	9	0.0621
3	0.0281	0.0968	9	8.4466	0	0.5534	9	0.5896
4	0.0981	0.1447	8	7.8234	1	1.1766	9	0.0305
5	0.1514	0.2063	7	7.4628	2	1.5372	9	0.1681
6	0.2078	0.2274	7	7.0548	2	1.9452	9	0.002
7	0.2376	0.2831	8	6.685	1	2.315	9	1.0057
8	0.3172	0.344	6	6.0328	3	2.9672	9	0.0005
9	0.3522	0.4104	3	5.5389	6	3.4611	9	3.0262
10	0.4104	0.7763	6	5.0177	4	4.9823	10	0.386
		Total	72	72	19	19	91	5.2709
H-L Statistic			5.2709		Prob. Chi-Sq(8)		0.7283	
Andrews Statistic			26.703		Prob. Chi-Sq(10)		0.0029***	

Goodness-of-Fit Evaluation for Binary Specification

	Quantile of Risk			Dep=0		Dep=1	Total	H-L
	Low	High	Actual	Expect	Actual	Expect	Obs	Value
1	0.2917	0.6486	4	3.8868	5	5.1132	9	0.0058
2	0.6499	0.655	2	3.1299	7	5.8701	9	0.6254
3	0.6566	0.6616	2	3.0645	7	5.9355	9	0.5607
4	0.6618	0.664	1	3.0317	8	5.9683	9	2.0531
5	0.664	0.6665	0	3.0135	9	5.9865	9	4.5305
6	0.6665	0.6677	3	2.9957	6	6.0043	9	######
7	0.668	0.6694	7	2.9818	2	6.0182	9	8.0977
8	0.6695	0.6718	8	2.9614	1	6.0386	9	12.777
9	0.6723	0.6799	4	2.9166	5	6.0834	9	0.5954
10	0.6804	0.7371	0	3.0181	10	6.9819	10	4.3228
		Total	31	31	60	60	91	33.568

H-L Statistic	33.568	Prob. Chi-Sq(8)	0
Andrews Statistic	37.847	Prob. Chi-Sq(10)	0***

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The Impact of Personal Characteristics on Personal Branding in Reflection to the Employability

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Abstract: Unemployment is a major problem Sri Lanka is facing over the years. Although 22,000 graduates pass out every year from state and private universities, there is always a gap between what employers expect in a graduate and what the graduate could offer to the employer. This research focus on the employability of the IT graduates passing out from state and private universities, with specific reference to their personal characteristics and personal branding. Personal branding is a major concern with respect to the recruitment of any graduate. IT graduates especially are expected to have certain personal characteristics which determine their personal branding and influence their employability. The main objective of this research is to determine the impact of the personal characteristics such as personal identity, personal image and personal positioning on employability of IT graduates and to analyze their mediation effect with the personal branding. Further, an attempt is made to determine whether the personal branding and employability of IT graduates significantly differ based on the university type (state and private). The research mainly focuses on quantitative analysis by piloting a questionnaire to 300 IT graduates following a hypothetical deductive method. The findings through the quantitative data are followed up based on qualitative data collected through semi-structured interviews with HR and Recruitment Managers of IT companies. Findings of this research revealed that personal characteristics have a strong impact on the employability of an IT graduate and this relationship is mediated by personal branding. Further, IT graduates passing out from private sector universities have stronger personal characteristics and personal branding compared to the graduates passing out from state sector universities. Thus, they are more employable compared to IT graduates passing out from state sector universities in Sri Lanka.

Keywords: *Personal branding, Employability, Personal identity, Personal image, Personal positioning*

1. Introduction

As economic growth in Sri Lanka has been amongst the fastest in South Asia in recent years, several employment opportunities emerge regularly and the demand for professionals has risen. The current primary and secondary education enrolment rates of Sri Lanka are 98% and 97% respectively, which are quite high for a developing economy (Kapurubandara, 2016). There are 18 state universities in Sri Lanka with an annual intake of about 22,000 students per year and the annual graduate output is around 20,000 per annum. Although the graduates passing out from the state Universities is in the rising level, still the unemployment rate of Sri Lanka is alarming (Dissanayake, 2014). According to Unemployed Graduate Association there are around 42,000 graduates who are unemployed in Sri Lanka (Srilankamirror.com, 2016). According to Kapurubandara (2016), even though the "overall unemployment rate is 4.6% in 2016; the unemployed rate of the educated is a disturbing 10.1%. The numbers are even more disconcerting as the unemployment rate of the overall youth (15-29 years), is 27.3% for the same period". With the growing economy, although enough jobs are created for university graduates, the challenge for the employers is finding the right workers as most graduates lack soft skills and workforce skills (Dissanayake, 2014). Thus, the question arises as to why such a situation transpired.

Many explanations are given for unemployment among the educated youth in Sri Lanka. The most well-known is that there is a skills mismatch, owing to the education system not harnessing the skills required by the job market (Sanderatne, 2011). Companies nowadays weigh applicants' "personal characteristics" just as heavily as they weigh core job capabilities and traditional qualifications (Miester, 2012). Applicants with strong personal characteristics and personal branding have an advantage in the recruiting process and the potential of standing out (Paul, 2012). Personal characteristics of a graduate such as personality, professionalism, self-confidence, good appearance, etiquettes, behavior, networking, communication skills, non-verbal behavior and other soft skills get them jobs very easily (Tharamaseelan, 2007). Schawbel (2010) stated that personal branding is the process by which the individuals differentiate themselves from the others and be at the forefront of others. A person can be distinguished by key factors such as his/her behavior,

personality, leadership, charisma, team working and interpersonal skills. Many young professionals lack training in vital 'soft skills' which lead to difficulty in building a personal brand (Towson, 2015). It is corroborated with the lack of exposure and not having proper mentorship. Lack of a personal brand compels young graduates to engage in an occupation after graduation, which does not meet their expectations.

The absence of a powerful personal brand, bars the chances of generating new opportunities for a person resulting the majority to settle for any job which comes their way even for a lower salary. Some remain unemployed for a long time. The disappointment can backlash as frustration, youth unrest and other forms of anti-social behaviors (Ariyawansa, 2008, p. 92). In the above circumstances, the concept of personal branding needs to be compulsorily, to be implemented amongst young graduates. Research conducted in the field of personal branding is insufficient as the previous surveys and researches have not given adequate attention to the practical challenges faced by graduates in conjunction with employment (Parmentier, Fischer, & Reuber, 2012). This study takes an approach to discuss the phenomenon of personal branding whilst focusing on the problems pertaining to personal branding of graduates. The ultimate objective of the current study is to assist fresh graduates in molding themselves to be "employment-worthy" in an attention.

The IT industry which is a growing industry in Sri Lanka with a contribution of 56.6 percent to the GDP, recording a positive growth rate of 4.5 percent during the second quarter of 2017 (Gunatatna, 2017) is a high demanding area for graduates. IT companies always look for the best personal characteristics of IT graduates compared to most of the other industries since clients of most of the Sri Lankan IT Companies are based in other countries. The state and private universities produce thousands of IT graduates every year thus, enhancing personal characteristics and personal branding skills of graduates to suit the demands of employers is important. Positive personal characteristics of a graduate is looked at very seriously when his/her personal branding is concerned. This enables the graduates to be employed with good perks and promotions in the future. Unemployment is alarming for graduates in Sri Lanka and it is a serious research problem that needs to be taken into consideration to understand whether there is an association between these personal characteristics and personal branding in reflection to the employability of graduates.

2. Literature Review

Personal Branding: The prevailing school of thought as to 'what is personal branding' is that it generally "entails capturing and promoting an individual's strengths and uniqueness to a target audience" (Sullaivan, Lair, & Cheney, 2005). However, personal branding is not about merely vending a graduate at a job interview or to a target audience. Young professionals can use their personal brands to enhance their recognition as experts in their fields, establish reputation and credibility, advance their careers, and build self-confidence by identifying their unique value proposition and then leveraging it across platforms with a consistent message and image to achieve a specific goal.

Elements of Personal Branding

Personal Appearance: Creating the best first impression is crucial for building one's personal brand which includes their clothing, hygiene, style and attractiveness. Research shows that it takes only six seconds to create an impression about a person (Weiss & Felderman, 2006). This personal appearance impacts a person facing a job interview, appearing at a conference, networking with business professionals etc.

Personality: Personality is defined as the combined characteristics of qualities that form an individual's distinct character (Montoya, 2002). Personality defines how well a person behaves, his/her etiquettes, mannerisms etc. In addition, it determines the values, goals, identity and behavior of a person. If graduates are well aware of their personality traits it is easy for them to approach corporate effectively and also it helps them to get their dream jobs.

Competencies: Having the best personality and good personal appearance alone does not help one to develop his/her personal branding. Skills, knowledge and abilities are very important to stand out from the rest and to gain competitive advantage. Competencies in personal branding include cognitive, business, communication and technical skills that enable the person to perform their job responsibilities (Labrecque et

al., 2011). When creating a personal branding strategy there are few areas a person should consider (Usrey & Sargent , 2013). These can be related to the IT graduates as follows:

The Strengths: The graduate should know what his /her strengths are and what he/she is known for. This can be in the areas of academic achievements, work experience, sports skills etc.

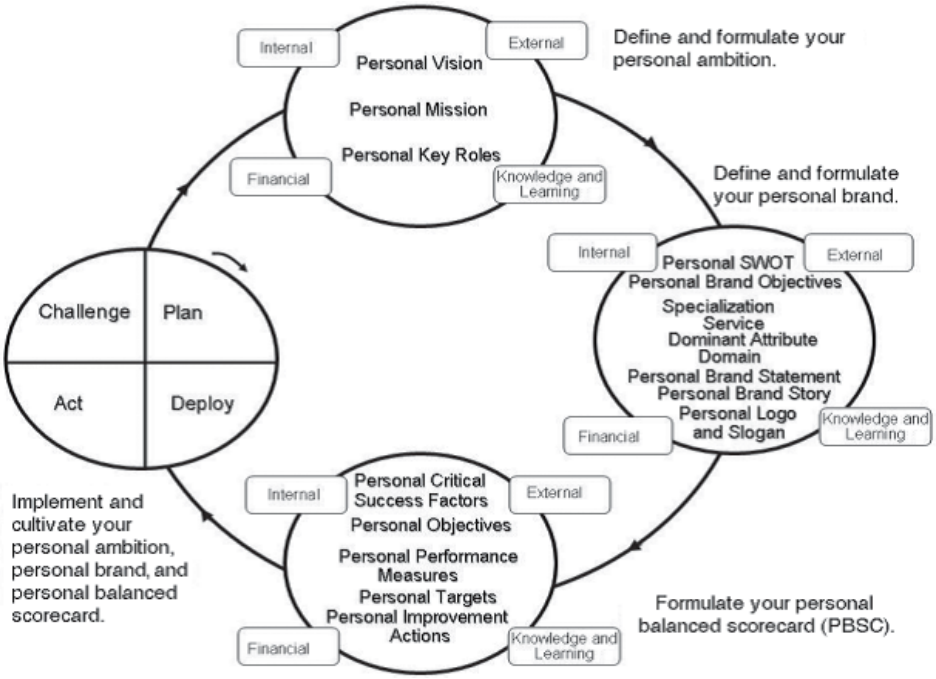
Passions: The areas the graduate is passionate about and what sets him/her apart from the other graduates. Passions include various elements of interest one might have.

Accomplishment: This determines what the accomplishments the graduate wants to achieve in his/her career and how he/she is planning to do it.

Success: How well the success can be defined and the elements of success.

Personal Branding Models: According to Authentic Personal Branding model of (Rampersad, 2011), personal brand of a person should reflect his/her true character and should be built on their strengths, values uniqueness and genius. As shown in the below figure this model consists of four wheels which are interrelated and need to turn in the right direction in order to get the large personal branding wheel moving and evolving in the right direction successfully.

Figure 1: Authentic personal branding model (Rampersad, 2011)



The main four phases of the authentic personal brand model are as follows;

Define and Formulate the Personal Ambition: This phase includes definition and the formulation of personal ambition of a young professional. It should incorporate the personal vision, mission and key roles of a graduate, linked to four perspectives which should be in balance; internal, external, knowledge and learning and financial which keep a balance between the personal brand and the lifestyle (Rampersad, 2011).

Define and Formulate the Personal Brand: This phase comprises defining and formulating an authentic and compelling personal brand. According to Rampersad (2011), one should conduct a SWOT analysis of him/herself initially. The results of this analysis define of one's lifestyle. This relates to the personal brand ambition and the personal brand objectives.

Formulate Personal Balance Scorecard: This stage includes developing and integrating a well-balanced action plan based on the personal ambition and the personal brand to achieve the personal brand objectives. This plan should be adhered into the four perspectives. According to Rampersad (2011) this process is essential to let the brand awareness of a person to grow gradually. In overall this model can be identified as a very informative personal branding model for a graduate to start up the personal branding process.

Implement and cultivate personal ambition, brand and Personal Balance Scorecard (PBSC): This phase includes implementing, maintaining and cultivating the personal ambition, brand and the PBSC effectively. To guide people in this process a unique learning cycle called the 'Plan, Deploy, Act, Challenge' cycle (PDAC) is integrated to this model which should be followed continuously. According to Rampersad (2011) this process is essential to let the brand awareness of a person to grow gradually. In overall this model can be identified as a very informative personal branding model for a graduate to start up the personal branding process. However, one shortcoming of this model is, it doesn't describe about the factors affecting the personal brand of a person and the indicators of those factors.

Factors Affecting Personal Branding of Graduates: The self-concept theory (the totality of believes, preferences, opinions and attitudes organized in a systematic way towards personal existence), identifies that people behave in multiple ways to enhance and maintain themselves (Hollenbeck & Kaikati, 2012). However, the three factors named personal brand identity, brand image and the brand positioning which is commonly known as personal characteristics are the key components of a personal brand in securing employability of a young graduate. For a successful personal brand, all three factors must be maintained in equally good condition. Therefore, it is essential that a graduate is mindful as to how it could affect the personal brand when seeking employment.

Personal Identity: The personal identity is one of the most important factors in building a powerful personal brand for a professional (Labrecque et al., 2011). It can be described as to how the target employers perceive a young professional's personal brand. The personal identity is what solidifies the objective of the personal brand of graduates. Hillgren et al. (2011) support this position as they state that the personal identity is what clarifies and stimulates the true cause and aim of a personal brand. The personal identity is like the concept of human identity (Shepherd, 2005). Hence the personal identity of a graduate is clearly indicated by his/her personality traits, authentic behavior, professionalism and self-efficacy.

Personal Image: The personal image is heavily based on its visibility, but it is not confined to the outward appearance or the presentation of a person. The personal image is reflected in non-verbal behavior, attitude and business etiquette (Labrecque et al., 2011; Schawbel, 2010) Relating the findings to the IT graduates, the personal brand image is the first impression of a graduate formed in the mind of an employer at the first point of contact. It is also the first perception conceived in the employers' mind about the graduate's personal brand itself (Labrecque et al., 2011). Therefore, graduates must pay extra attention to their personal brand image to maintain the personal image up to job market standards.

Personal Positioning: Once the personal identity is established and the corresponding personal image is projected to an audience, the personal brand needs to find its position within the society, market and audience. Personal positioning is a process to generate a desired personal brand reflecting the personal identity and personal image (Aaker, 2002) leading a person to "stand out". Personal positioning should be used to highlight positive attributes which are valuable for the employers by differentiating from the peers (Labrecque et al., 2011). Many indicators are found to be related to personal positioning such as networking, elevator pitch and impression management (Labrecque, et al., 2011).

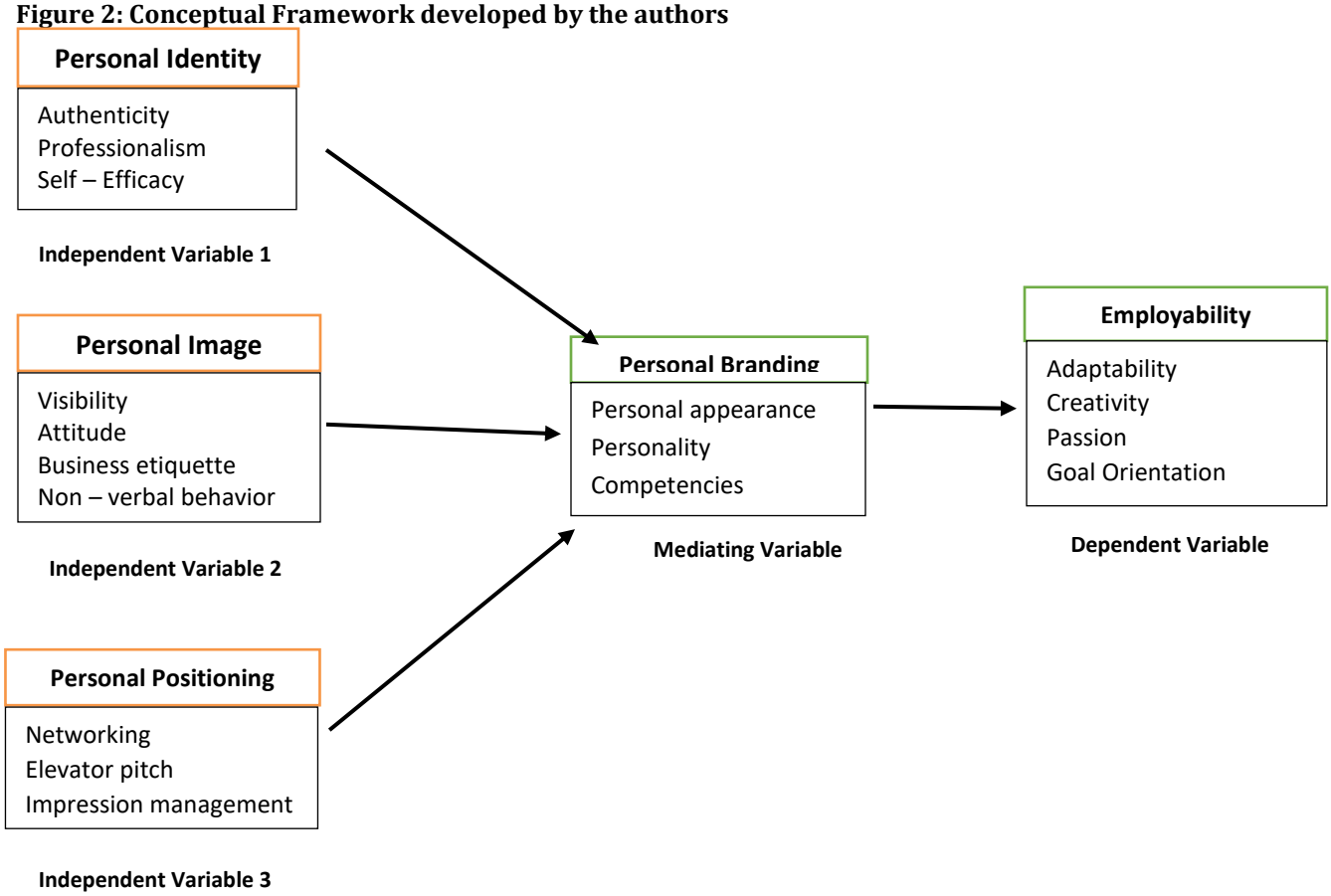
Aligning Personal Branding with Corporate Branding: In order to align the personal brand of an employee with the corporate brand, first of all the personal vision, mission and objectives of the employee should be matched to the corporate vision, mission and objectives. Therefore, finding a way to overlap personal and corporate goals is critical. This is needed because employees don't work with their full potential or expend energy on something they do not believe in. If there is a direct match between the interests of the employees and the company interests or if the employees' values are aligned with organization's values and beliefs, they will be engaged and work with greater commitment and dedication to meet company objectives. When the

personal brands of employees in the organization are compatible with corporate's brand and aligned in best interests of both parties, the outcomes will be high brand equity, brand loyalty for the corporate brand and happy stakeholders (Rampersad, 2011). Aligning personal brand with the corporate brand has an effective impact on the organizational bonding of the employees. This process energizers the employees of the organization and they make a useful and valuable contribution to the organization's performance. Therefore, it has become essential to get the optimal fit of employee personal brand and corporate brand to increase employee productivity, engagement, commitment, passion and love to the company (Rampersad, 2011).

3. Research Methodology

Conceptual Framework: The conceptual framework is the foundation on which the whole research is based on. It is a logically developed, defined and explained network of associations among the variables considered relevant to the problem domain. It is identified through processes such as observations, interviews and literature review. Therefore, from the university level and higher education level there are certain changes recommended. The Universities should include modules such as personal branding, professional practice and interpersonal skills in the university curriculum. They should make industrial placement compulsory for students in a way they will get one-year work experience before they pass out as IT graduates.

Figure 2: Conceptual Framework developed by the authors



Based on the literature, there are three independent variables that have a major influence on the employability through a mediating variable personal branding. According to the literature review three independent variables are identified such as personal identity, personal image and personal positioning. These three variables are considered critical for an IT graduate to build his/her personal brand in return to gain the employability in the corporate environment. Five hypotheses were formed using a deductive approach to test the relationship between the independent variable and the dependent variable. Moreover, two more hypotheses were formed testing the mediating effect on the relationship between the independent

variable and the dependent variables and the significance of the difference in the employability of graduates passing out from state and private sector universities.

Hypothesis 1
H1. A: Personal identity has a positive relationship with employability.
H1. O: Personal identity has no relationship with employability.

Hypothesis 2
H2. A: Personal image has a positive relationship with employability.
H2. O: Personal image has no relationship on employability.

Hypothesis 3
H3. A: Personal positioning has a positive relationship with employability.
H3. O: Personal positioning has no relationship on employability.

Hypothesis 4
H4. A: Personal branding mediates the relationship between the personal characteristics and the employability.
H4. O: Personal branding does not mediate the relationship between the personal characteristics and the employability.

Hypothesis 5
H5. A: There is a significant difference in the employability of the IT graduates passing out from the state and private sector universities.
H5.0: There is no significant difference in the employability of the IT graduates passing out from the state and private sector universities.

Research Approach and Methodology: Based on the Research Onion framework by Saunders, Lewis, & Thornhill (2013) this research follows a pragmatic philosophy where the research focuses on answering the research question "What is the impact of personal characteristics reflected through personal branding on the employability of IT graduates?". This research mainly follows a deductive approach thereby, testing the existing theory on personal branding with the follow up of interview findings. Hence, including an inductive approach with less emphasis compared to the deductive method of piloting a questionnaire among 300 IT graduates. The research strategy was mainly a survey with a cross-sectional time horizon as data was collected only once. The researcher has adopted a mixed method with more emphasis on quantitative data, where the study can be categorized as the explanatory mixed method according to Cresswell (2014). The questionnaire for the IT graduates consisted of questions testing the personal characteristics, personal branding and the employability, where questions were on the five-point Likert scale with answers ranging from 1 (strongly disagree) to 5 (Strongly agree). A high score for any question indicates a high level of each indicator tested. Findings from the quantitative analysis were followed up with semi-structured interviews with managers often IT companies. The target population for the quantitative study were the IT graduates who have passed out from the universities and are employed in their first job as graduates.

4. Findings

Reliability and Validity Testing of the Variables: As the initial step, the dimensions of personal characteristics were tested for uni-dimensiality by performing factor analysis. The results implied that the responses can be grouped into the three dimensions of personal characteristics; Personal Identity (PIN), Personal Image (PIM) and Personal Positioning (PPO). The questions under each dimension was coed with the abbreviation of the dimension and the question number, for example question 4 of personal identity as PIN4. The data was further tested for convergent validity, discriminant validity and the reliability.

Table 1: Rotated Component Matrix.

Rotated Component Matrix[a]

	Component		
	1	2	3
PIM5	.774		
PIM8	.752		
PIM6	.752		
PIM7	.714		
PIM4	.713		
PIM3	.712		
PIM1	.711		
PPO4		.780	
PPO5		.750	
PPO2		.693	
PPO3		.657	
PPO6		.618	
PPO1		.596	
PIN5			.745
PIN3			.731
PIN2			.599
PIN4			.550
PIN1			.546

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

The convergent validity of a construct can be ensured by having the Average Variance Explained (AVE) of the construct greater than 0.5 and Composite Reliability of each construct greater than 0.7. The discriminant validity can be verified by having the AVE of each latent construct greater than the highest squared correlation with any other latent construct (Hair, Christian, & Marco, 2011). Further, Kaiser – Meyer – Olkin measure of sampling adequacy (KMO) and Bartlett's test of Sphericity are two good techniques that are applied to test factorability of data. KMO values above 0.5 indicate acceptable levels of factorability of data. The reliability of the measurements can be accepted as good if the Cronbach's Alpha is greater than .07 (Sekeran & Bougie, 2016). The study results are shown in the tables 2 and 3 indicate that the independent, mediating and dependent variables were well within the parameters for reliability and validity.

Table 2: Results of Discriminant Validity Test (Researcher Constructed)

		Personal Identity	**Personal Image**	**Personal Positioning**
Personal Identity		AVE = 0.51		
Personal Image	Pearson Correlation Squared Correlation	0.583 0.34	AVE= 0.62	
Personal Positioning	Pearson Correlation Squared Correlation	0.596 0.355	0.711 0.506	AVE = 064

Table 3: Results of Convergent Validity Tests (Researcher Constructed)

Variable	Cronbach's alpha	KMO	Bartlett's test	AVE	CR
Rule of thumb	>0.7	>0.5	Sig.<0.05	>0.5	>0.7
Independent Variable					
Personal Identity	0.702	0.784	χ^2 = 299.61 Sig: .000	0.51	0.83
Personal Image	0.900	0.896	χ^2=1060.89 Sig: 0.000	0.62	0.92
Personal Positioning	0.858	0.882	χ^2 = 908.59 Sig: .000	0.64	0.91
Mediating Variable					
Personal Branding	0.839	0.820	X^2 = 685.95 Sig: .000	0.57	0.88
Dependent Variable					
Employability	0.795	0.840	X^2 = 538.10 Sig: .000	0.53	0.87

Analysis of personal characteristics and Personal Branding: The quantitative data collected through the questionnaire were compiled to calculate the average scores earned by each graduate for each of the variables tested in the study. The scores were analyzed based on the university type, as shown in table 3 below.

Table 4: Comparison of Personal Characteristics and Personal Branding Based on University Type (Researcher Constructed)

Variable	State University Graduates	Private University Graduates
Personal Positioning	3.02	3.65
Personal Image	3.48	4.06
Personal Identity	3.19	3.75
Personal Branding	3.30	3.85

The above results clearly indicate that Graduates passing out from private sector universities are stronger in personal characteristics and personal branding compared to the state sector IT graduates.

Testing of Hypotheses: Five hypotheses were formed in this research and the first three hypotheses were to test the relationship between the independent variable and the dependent variable. This was tested using the Person's correlation coefficient and regression coefficient. The fourth hypothesis was to test the mediating effect of personal branding on the relationship between personal characteristics and employability. Sobel test calculator results were used to test this hypothesis. The fifth hypothesis was to check the significance of the difference in the employability of the IT graduates passing out from the state and private sector universities and independent sample t-test is used to prove the fifth hypotheses.

Testing of Hypothesis 1, 2 and 3

Table 5: Results of Tested Hypotheses 1, 2 and 3(Researcher constructed)

Hypotheses	Variables Constructed	Pearson Correlation	Significance of Correlation at 0.1 sig level	Results of the Hypotheses
H1.A: H1.0:	Relationship between Personal Identity and Employability	0.610	Significant	H1.0 rejected
H2.A: H2.0:	Relationship between Personal Image and Employability	0.735	Significant	H2.0 rejected
H3.A: H3.0:	Relationship between Personal positioning and Employability	0.721	Significant	H3.0 rejected

From the above table it is proven that null hypothesis with respect to Hypotheses 1, 2 and 3 are rejected and the relationships are significant.
In addition to the above correlation test, a multiple regression model was conducted to understand more about the combined effect of the three independent variables (personal characteristics) on the dependent variable.

Table 6: Model Summary Results of Multiple Regression (Researcher constructed)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.800[a]	.640	.636	.41421

a. Predictors: (Constant), Personal identity, personal image, personal positioning. This multiple regression analysis clearly shows the significance of the influence of personal characteristics on the employability of Sri Lankan IT graduates. The results show that the coefficient of determination (R^2) is 0.640 (Adjusted R square = 0.636). Hence, it shows that 63% of the variation in employability is explained through variations in the personal characteristics of the IT graduates.

Table 7: The Regression Coefficients 00(Researcher constructed)
Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		**B**	**Std. Error**	**Beta**	**T**	**Sig.**
1	(Constant)	.934	.131		7.109	.000
	Personal Identity	.168	.042	.183	4.049	.000
	Personal Image	.336	.044	.391	7.559	.000
	Personal Positioning	.281	.044	.334	6.373	.000

a. Dependent Variable: Employability

The table shown above covers the independent variables of personal identity, personal image and personal positioning. The coefficient table above shows all three independent variables are significant at 0.05 significance level. Therefore, all of them have a significant impact on the employability. The multiple regression equation could be explained as follows: Employability = 0.934 + 0.168 (PIN Mean) + 0.336 (PIM Mean) + 0.281 (PPO Mean), This equation could be actually used in hiring IT graduates in IT companies where based on a questionnaire that is developed to check the personal characteristics can be given to the IT graduates and the mean of personal identity, personal image and personal positioning can be substituted to the equation given above to calculate the employability level of the IT graduate to be employed at the IT organization.

Testing of Hypothesis 4

Table 8: Results of Sobel Test for Mediation Effect (Researcher constructed)

	Sobel Test Statistics	p-value	Significance
Mediation of personal branding on personal identity and employability	9.529	0.000	Significant
Mediation of personal branding on personal image and employability	7.506	0.000	Significant
Mediation of personal branding on personal positioning and employability	8.283	0.000	Significant

The mediation effect was tested using the Sobel test. The alternative hypotheses were selected by rejecting the null hypotheses because of the Sobel test results have all p-values below the 0.05 threshold.

Testing of Hypothesis 5: The alternative hypotheses were selected in this test by rejecting the null hypotheses because in the independent sample t-test is indicating a significant difference between the means of employability of the two populations (state and private university graduates). Sig. (2 – tailed) = 0.000. Therefore, there is a significant difference in the employability of the IT graduates passing out from the state and private sector universities.

Qualitative study: Ten HR heads and recruitment managers were interviewed from 10 selected IT companies in Colombo for the qualitative study. The interviews were based on the importance of the personal characteristics (independent variables) such as personal identity, personal image and personal positioning in securing employability. Then the interviews also inquired about the effect of mediating variable personal branding on the independent and dependent variable relationship. The importance of these variables for the IT graduates in securing a job was analyzed separately and also the significance of the difference in the employability of the IT graduates of state and Private Sector Universities was also determined separately.

Findings on the Personal Identity: All the respondents (100%) agreed that personal identity is a very important factor for the IT graduates to secure employability in their respective IT companies. They all stated that personal identity footprint gives a considerable advantage not only for recruitment of the IT graduates but for the career progression in carrying up them in the organizational hierarchy. Respondents also stated that the right qualifications and experiences alone will not help the IT graduates to secure their jobs. Personal identity plays a major role in getting them their dream job in their favorite company. 30% of the respondents stated state university IT graduates are best in their personal identity where 70% of the respondents felt private university IT graduates are better.

Findings on the Personal Image: All respondents agreed that personal image expands a graduate's exposure in an organization and it helps IT graduates to secure their employment in a very positive way. The respondents stated that if the personal image is positive then the chances of the IT graduate getting exposed to various different job roles in the company is quite high. Further, the personal image also expands opportunities for their job rotation, job enlargement and job enrichment. Management is confident to give more responsibilities to an IT graduate who has a positive personal image. After the Curriculum Vitae, the next most important juncture for an employer to choose an employee is the few minutes that they get with the candidate in the form of an interview. Hence, it is of utmost importance that the candidate presents him / herself to the best of their ability. The employers are interested in the technical know-how of the candidate but at the same time they keep a close eye on the appearance, body language and attitude of the person especially if the company needs its employees to interact with external customers / stakeholders. Personal image in this case helps the candidate to secure his/her job and move up in the career ladder.

Findings on the Personal Positioning: Personal positioning comprises rate and willingness to network, mingling proficiency, convincing ability and public speaking ability. All the respondents (100%) agreed that personal positioning is an essential element for young IT graduates in gaining employability. Personal positioning helps the IT graduate to create a positioning statement in the employers' mind. Meeting new clients and creating the best business rapport is very important to success in the competitive IT market and an IT graduates who persuade a good personal positioning are likely to master this. Again 10% of the respondents considered that state university students are good in building their personal positioning and the rest 90% felt that private university students are better in building their personal positioning. Only 10% of the respondents considered that state university students are good in building their personal image and the rest 90% felt that private university students are better in building their personal image.

Findings on the Personal Branding: The mediating variable personal branding was considered as one of the most influential factors of employability by all the respondents (100%). All of them agreed the personal branding elements such as personal appearance, personality and competencies are key ingredients an IT graduate should hold to get employed at their respective IT companies. Although all the respondents consider personal branding is very important for IT graduates there are certain exceptions found in the interviews

where 60% of the respondents mentioned that the importance of the elements of personal branding may change according to a job role. The IT graduates who sit at the back office to develop programs may not consider much about their personal appearance or personality. Thus, those who face the clients need to be well equipped with those skills since they have to meet the customer and create a good first impression of their personal appearance and personality. 40% of the respondents stated state university students pose the best personal branding and 60% of the respondents agreed private university students pose the best personal branding.

5. Conclusion and Recommendations

This research attempted to identify the impact of personal characteristics and personal branding of a young IT graduate on employability. Based on the literature it was found personal identity, personal image and personal positioning have an impact on employability and personal branding connects these personal characteristics with the employability of an IT graduate. The researcher mainly proved these through a quantitative analysis which is supported by the qualitative findings. A structured questionnaire was piloted among 300 young IT graduated who are employed at twenty-five IT companies in Sri Lanka. The questionnaire was based on a five point likert scale on which respondents were expected to indicate their personal characteristics, personal branding choices and employability aspects. A quantitative analysis was done for the responses received using SPSS software. In this respect a factor analysis was conducted using a factor loading and a reliability and validity tests were done to determine the consistency and validity of the questionnaire to suit the purpose of the research. According to the quantitative analysis it was proven that IT graduates have considered all three personal characteristics (personal identity, personal image and personal positioning) as important and they acquire those personal characteristics. However, it was observed that private university IT graduates have these characteristics more than the state university IT graduates. Also, they rated themselves higher in personal branding compared to the state university IT graduates.

Focusing on the indicators of personal characteristics, it was observed that state university IT graduates have low social media credibility, less positive body language, poor understanding of protocols, less willingness to network and poor awareness about personal grooming. At the same time private IT graduates showed better results in all the characteristics compared to the state university graduates. They were higher in having good practice of work ethics, having a strong belief in people, better ability to change the behavior in others and strong communications skills. With respect to the employability characteristics private sector IT graduates showed a higher result compared to the state university students. State university IT graduates were low in thinking out of the box and the private university IT graduates were better at continuous learning. Moreover, the independent variables (personal characteristics of IT graduates) such as personal identity, Personal image and personal positioning had significant positive correlation with the dependent variable (employability) and all of them were able to predict employability to a greater extent. According to the results 63% of these personal characteristics were able to predict the employability of a young IT graduate. The following formula helped in predicting the employability of an IT graduate Employability = 0.934 + 0.168 (Mean of personal identity) + 0.336 (Mean of personal image) + 0.281 (Mean of personal positioning). A semi-structured interview was conducted with ten HR / Recruitment managers who are in charge of recruiting the young IT graduates to the respective IT companies. Since, there was no empirical research carried out on personal branding on IT graduates these findings were needed to support the results received by the quantitative methods.

All the interview respondents mentioned that personal identity, personal image and personal positioning are key personal characteristics they look for in an IT graduate before recruiting them into their organization. The respondents also mentioned private university IT graduates are more adaptable and creative compared to the state university IT graduates and hence are considered more employable. Further, state university IT graduates are more passionate and goal oriented compared to the private university IT graduates thus, comparatively based on the interview findings it was concluded that the employment probability based on the skills for state university IT graduates is 47.7% and 52.3% for private university IT graduates thus, private sector IT graduates are more employable compared to the state university IT graduates. This supports the quantitative research findings.

Recommendations: The main objective of this research study was to identify the personal characteristics and personal branding concepts that would enable the job employability of the young IT graduates. It was noted from both quantitative and qualitative analysis that these personal characteristics have a major influence in the employability. Thus, there are many shortcomings in this process. IT organizations look for IT graduates with excellent personal branding skills but the IT graduates lack certain skills which lead them to un-employability and also from the research it was concluded that private university IT graduates are stronger in their personal branding compared to state university graduates. Thus, to guide them' following recommendations are given to undergraduates, IT graduates and Universities. Undergraduates are considered as the next IT graduates who will be looking for employment in the IT companies. If they are not equipped with the personal characteristics and skills given in the personal branding framework above, it is more likely that they will not be employed in the IT companies. Therefore, they should give focus to more practical based learning, attend on-campus educational programs to improve knowledge and skills.

They should do other certifications apart from the academic modules to improve technical competencies, dedicate for continuous learning by attending workshops, seminars and training to improve skills, get engaged with paid/unpaid internships to improve competencies, professionalism, creativity, practice and adaptability, get engaged in clubs, associations, societies, overseas transferring programs, volunteering work to build self-efficacy, personality, and to build networks. Moreover, the undergraduate students should take part in networking events, seminars on personal branding and improve number of connections, build communication skills by enrolling in toastmaster's clubs, interactive clubs and literary associations and build online brand presence by engaging in social media channels and other digital mediums (online blogs, online videos, linked in and online networks). If the IT graduates are concerned that they should be aware of their skills, competencies, personality and personal characteristics, be aware of the personal characteristics that are necessary for the specific job role applied in the IT Company and compare the skills needed with the skills owned, they should improve the personal grooming aspects and power dressing techniques.

Networking is key in building the personal brand therefore, they should attend networking events, to build contacts. Furthermore, they should attend training, seminars and workshops on personal branding, management skills development and communication skills to improve the employability. As clearly mentioned in the first chapter, Sri Lanka is facing an issue in unemployment for quite a few years. Poor personal characteristics and personal branding lead to this scenario. From the interviews conducted it was noted that IT companies consider private university IT graduates are more employable than the state university IT graduates. This arrangement will help them to find employment opportunities in best IT companies. The universities should encourage undergraduates to take part in IT related local/global competitions such as National Best Quality Software Awards (NBQSA), Microsoft Imaging Cup, Student prenuer (Student Entre prenuer) of the year award, IEEE competitions etc. This will improve their competencies and their networks. Moreover, get the students into tech entrepreneurship ventures that will build their personal characteristics and personal branding and in return they will learn a lot from industry experts and be ready for employment.

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