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Editorial Comment

Social science research endeavours are typically post-positivistic in outlook and in the interpretation of empirical findings. The use of mixed methods, both quantitative and qualitative is a social research phenomenological attempt to be multi perspective. This late twentieth century move towards a post-positivistic view of things highlights the fallibility and revisability of socially constructed concepts, theories, etc., away from the dogmatic objectivity of certainty in scientific/empirical, action research.

In the process, a natural selection theory of knowledge survival emerges, with knowledge evolving through a process of variation, selection and retention.

To use a different metaphor, researchers go to the city and the valley to collect empirical data and then to the mountain (ivory tower?) to think, reflect and conceptualise/design frameworks (propositions, thesis, etc) that will guide action. These research outcomes constitute guardrails to ensure the choice of the most efficient, relevant, effective route to reach the chosen destination. Learning by research thus reinforces learning by thinking to help us pragmatically determine what works in a given environment, guides us in the prediction and control of future actions and in the process create and develop skills mastery and continual improvement towards best practices. Creatively, these desired outcomes amount to the realisation of imagined possibilities and define an inter-subjectively agreed better future.

We invite you to reflectively read those articles in this issue in this spirit of continuing conversation and contact the authors directly through their email addresses listed at the end of this volume.

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“Who owns the future? This is the question at the heart of every stock market.”

- John Landgraf

Efficiency of Stock Index Futures Market in India: An Empirical Investigation

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Abstract

The role of futures markets in providing an efficient price discovery mechanism has been an area of extensive empirical research. However, there is a dearth of studies on the market efficiency of stock index futures market in India.In this paper, we analysed the efficiency of the nifty futures market at National Stock Exchange (NSE). Daily futures price series was constructed from near-month futures contract prices obtained from NSE for the sample period. The various parametric and non-parametric tests were applied on Nifty 50 future prices to test the efficiency of the stock index futures market at NSE, India. We concluded that nifty futures price series were co-integrated and possessed long run equilibrium. VEC restriction results indicated the unbiasedness condition was met. Thus, we inferred that the nifty futures market at NSE was informationally efficient.

Keywords: Efficiency, Nifty Index, Futures Market, Cointegration

Introduction

The role of futures markets in providing an efficient price discovery mechanism has been an area of extensive empirical research. The existence of price discovery and market efficiency is the centrepiece of market microstructure design and of utmost importance for the practitioners, regulators and academicians. Price discovery refers to the process through which financial markets converge and reach the efficient equilibrium price. The essence of the price discovery function of futures market hinges on whether new information is reflected first in changed futures price or in changed spot price. In a perfectly efficient and frictionless market, futures price should move concurrently with the underlying spot price without any lead or lag in price movements across markets. Futures price should be an unbiased estimator of the future spot price at the expiration date.

According to Fama (1970), the concept of efficient market is concerned with the adjustment of security prices to the relevant information. An efficiently functioning domestic stock market can better position a country's competitiveness in global markets. India's gross domestic savings (GDS) as a percentage of Gross Domestic Product (GDP) has remained above 30 per cent since 2004. It is projected that national savings in India will reach US$ 1,272 billion by 2019. India's equity market turnover has also increased significantly in recent years. "The annual turnover value in the National Stock Exchange (NSE) witnessed a CAGR of 19.13 per cent between FY96 and FY17 to reach US$ 790 billion".

Considerable empirical research has been conducted on price discovery and lead-lag relationship between spot and futures prices for developed countries like the US, the UK, Australia, Japan, and New Zealand. In India, most of the studies have examined the effect of the introduction of stock index futures on the volatility of index spot market (Choi et al., 1994; Gulen & Mayhew, 2000; Thenmozhi, 2002; Gupta & Kumar, 2002). So, there is hardly any existence of such studies which analyse the efficiency of stock index futures market in the Indian context. Moreover, two diametrically opposite views have emerged from available studies. On one hand, Gupta and Yang (2011) and Singh (2012) show that the Indian equity markets have become more efficient in the recent years while on the other hand, Nisar and Hanif (2011) and Arora (2013) conclude that there is no long term equilibrium between the spot and futures market

i.e. the markets are considered to be inefficient. It is evident from literature that there are mixed and contradictory findings, so the scope of further study arises.Thus, we are motivated to take up this study. The objective of the study is to empirically investigate the efficiency of nifty futures market at NSE.

Review of Literature

Poshakwale (1996) studied the efficiency of the emerging futures markets. He reported the day of the week effect and that the stock market is not efficient in its weak form. The day of the week effect observed on the BSE posed interesting buy and hold strategy issues. Antoniou et al. (1997) investigated the efficiency in the emerging markets. They found that exchange was characterised by non-linear behaviour and inefficient pricing in the initial years and then, there was encouraged participation, improved information quality in the later years.

Gupta and Basu (2007) conducted a test for the weak form of efficiency on NSE and BSE from 1991 to 2006. They concluded that the hypothesis of weak form was rejected as there was no evidence of auto-correlation in these markets. Gupta and Singh (2009) studied the efficiency of information that disseminated in the Indian equity futures markets. Daily log returns of various indices and stock futures had been found to be non-normal and they responded asymmetrically to the informational shocks. They also found that there was a leverage effect as traders assigned more weightage to negative or bad news as compared to positive news.

Nisar and Hanif (2011) employed runs test, serial correlation, unit root and variance ratio test to examine the weak form of efficient market hypothesis on the four major stock exchanges of South Asia - India, Pakistan, Bangladesh and Sri Lanka. They concluded that none of the four major stock markets of South-Asia followed the random walk and hence all these markets were not the weak form of efficient market. Gupta and Yang (2011) concluded that in recent years, the equity markets in India had become more efficient, & investors who sought to diversify their investments internationally should allocate their investments into the stock market of India.

Singh (2012) tested the weak form efficiency of the Indian Stock markets during

the selected period and the effect of the sub-prime crisis on the informational efficiency of the Indian stock market. In this study, he concluded that the random walk hypothesis was rejected. However, the weak form of efficiency had increased post the sub-prime crisis. Ford et al. (2012) examined the stock exchange futures market in Malaysia. They concluded that the beta-asset pricing model provided an excellent framework to explain the predictability.

Muravyev et al. (2012) focussed on the events when the option-implied stock price was inconsistent with the actual stock prices. The result showed that there was no significant discovery of prices in the futures market. Arora (2013) verified the weak form of efficient market hypothesis as well as the random walk theory using the Indian Stock Market index. The result series was characterised by linear and non-linear dependences and there was a high degree of volatility. She concluded that the Indian Stock Market was not efficient in the weak form.

Palamalai and Kalaivani (2015) studied the weak-form efficiency of Indian stock markets using both parametric and nonparametric tests. The results showed the absence of the weak-form efficiency and random walk hypothesis in the case of all sectoral indices of NSE and BSE along with the CNX NIFTY and BSE SENSEX. Thus, trading strategies could be formulated by investors to gain abnormal returns in the Indian stock markets.

Pandey and Samanta (2016) examined the random walk hypothesis to determine the validity of weak-form efficiency for the Nifty index in India. The results revealed that the Anderson-Darling Normality test rejected the normal distribution of the Indian Stock Market, because they were positively skewed and leptokurtic. They supported previous studies that Indian stock markets were weak-form inefficient. Parthsarathy (2016) concluded that there was no evidence of evolving market efficiency in the Indian market. Hence, it was not weak-form efficient and investors could make abnormal profits by analysing past prices.

Cao et al. (2016) examined four popular indices - Nikkei 225 Index, MSCI Taiwan Index, CNX Nifty Index and the FTSE China A50 Index traded in SGX and compared them with their home market trading. They concluded that it was possible for the price discovery process to be occurring in a foreign country's exchange from the evidence of

Nifty Index and Nikkei Index and the markets were efficient as one market was truly leading another.

From the literature, it is evident that there were few studies on index futures efficiency with reference to the Indian stock market. Thus, to fill up this research gap we aimed to analyse the Nifty futures market efficiency in India.

Research Methodology

Data source and Period of study

This data on nifty futures (near month contract) & daily spot prices was collected from the website of National Stock Exchange (NSE) of India for the sample period 1st Jan 2015 - 31st May 2017. Daily futures price series was constructed from near month futures contract prices. Here, we used natural logarithmic series of futures prices (FP) and spot prices (SP). Returns were calculated using continuous compounding concept as shown in equation 1.

$$r = \ln\left({}^{P_1}/_{P_0}\right) * 100 \qquad \text{..... (1)}$$

Techniques used for analysis

Descriptive Statistics and Test for Normality

Descriptive statistics give the mean, median, mode, standard deviation, variance, kurtosis and skewness of Nifty 50 return series. In this skewness and kurtosis should be equal to zero for normal distribution. Further, we used the Jarque-Bera test of normality based on the OLS residuals. The null hypothesis of this test is that residuals are normally distributed.

Run Test

This is another approach to test the randomness of a data series. The null hypothesis states that successive prices changes are independent, i.e., returns are normally distributed. On the basis of the run test, if null hypothesis is accepted at 5% level of significance then the random walk theory holds.

Unit Root Test-ADF Test

Augmented Dickey Fuller (ADF) test is the most commonly used unit root test (Pandey and Samanta, 2016; Palamalai and Kalaivani, 2015).Thus, this study uses ADF test to analyse the unit root properties of the given series. The null hypothesis is that the given series are non-stationary. If the given series are stationary on first differencing, then they are said be an integrated series of first order' i.e., I (1). If the given series are found to be non-stationary, we conduct the Johansen's Cointegration test.

Johansen's Cointegration test

Cointegration and unbiasedness are two important conditions for futures market efficiency. Two series are said to be cointegrated if there is long run equilibrium between them. Here, we have employed Johansen's cointegration test to analyse cointegration. If both the futures price and spot price series are I (1), *Johansen's cointegration* tests can be conducted. Consider a general k^{th} order VAR (Vector Autoregressive) model:

$$\Delta Y_t = \mu + \Pi Y_{t-1} + \sum_{i=1}^{k-1} \Gamma_i \Delta Y_{t-1} + \varepsilon_t \quad \text{..... (2)}$$

Where Y_t is the vector to be tested for cointegration and $\Delta Y_t = Y_t - Y_{t-1}$ and other symbols have their usual meaning. There are two likelihood ratios to test for cointegration under Johansen's cointegration approach. These statistics are trace λ_{trace}, and max eigen value, λ_{max}.

VEC restrictions

The presence of cointegration between the spot and futures price series is a necessary (but not sufficient) condition for market efficiency. The market efficiency hypotheses can be tested by imposing restrictions on the cointegration vector. To test unbiasedness, we have used test of Vector Error Correction (VEC) Restriction for the cointegrating relation given as expression (3)

$$B(r,1) * LSP_t + B(r,2) * LFP_t \quad \text{..... (3)}$$

Empirical Findings

Descriptive and Jarque-Bera Statistics

The results of Descriptive statistics for Nifty 50 spot and futures series are shown in Table 1. Both the markets are equally volatile as the spot and the futures prices are almost same. The distributions are non-normal as the values of skewness and kurtosis are non-zero. The return series of Nifty 50 spot and futures prices are negatively skewed. Also the returns are leptokurtic in nature. From Table 1, we can see that the probability values for JB test are zeros. Hence, the null hypothesis for residual normality is rejected under study implying that the Indian stock markets are inefficient in weak form.

Run Test

The results of the run test are presented in Table 2. Here, the *p*-value for index futures and spot return series are 0.510 and 0.411 respectively. We can say that null hypothesis is accepted at 5 percent level of significance as Z value lies between -1.96 to +1.96 i.e. random walk theory holds for Nifty 50 futures and spot return series. Thus, we can say that return series are random and the Nifty 50 futures and spot markets are efficient.

Unit Root Test- ADF

Figure 1 shows that movements in the index futures and spot prices are upward trending. This indicates that the given series may be non-stationary. However, their returns graphs show that the return series may be stationary (see Figure 2 & 3). To test it statistically, we employ Augmented Dickey - Fuller (ADF) test in the all forms viz. 'intercept', 'trend and intercept' and 'none' form. The results in table 3 show that spot price and futures price series are non-stationary as the computed value of test-statistic is less than the given critical values. So, the null hypothesis of unit root (non-stationarity) is accepted at 5% level of significance. However, their return series are found to be stationary. Thus, the given series are stationary on first differences series, i.e.', the series are I(1).

Johansen's Cointegration Test

The presence of cointegration between the spot and futures price series is a necessary condition for market efficiency. Here, we have employed Johansen's cointegration test.

Tables 4 shows the results of Johansen's cointegration test applied on LSP and LFP. It suggests that there is one cointegrating relation between the two series. It shows the results for λ_{trace} and λ_{max} statistics. Examining the trace test, we can see that the null hypothesis of r = 0 is rejected at 5% significance level as the λ_{trace} statistics 56.84 considerably exceeds the critical value (15.49). However, in the second row, the λ_{trace} statistics is considerably less than the critical value (3.8414). Similarly in the max test, the λ_{max} statistics 55.36 considerably exceeds the critical value (14.26). However, in the second row, the λ_{max} statistics is considerably less than the critical value (3.8414). So the null hypothesis of at most one cointegrating relation cannot be rejected. Thus overall Johansen's test results support the hypothesis that the spot and futures prices of *index* are cointegrated and they have a long run equilibrium relationship.

Vector Error Correction (VEC) Restriction

The presence of cointegration between the spot and futures price series is a necessary (but not sufficient) condition for market efficiency. To test unbiasedness, we have used test of Vector Error Correction (VEC) Restriction for the cointegrating relation given as expression (3). In Table 5, the results show a *p*-value of 0.000 for the test. So, the restriction of B(1,2)=0 is not supported by the data. Thus, we conclude that the cointegrated relation must contain LFP providing the evidence of unbiasedness of futures market of *index*. Since the conditions i.e. cointegration and unbiasedness are met, the index futures market in India is efficient in weak form.

Concluding Remarks and Research Implication

In this paper, we analysed the efficiency of Nifty futures market at NSE for the sample period 1st Jan 2015 - 31st May 2017. The results of ADF test showed that both the series were I (1), i.e., on levels these were non-stationary while their return series were stationary (first difference). From the result of Johansen's Cointegration test, we concluded that Nifty futures and spot series were cointegrated and possessed a long run equilibrium with each other. VEC restriction results indicated the unbiasedness condition was met. Thus, we inferred that the Nifty futures market was informationally efficient. The results of this study are useful to retail investors, portfolio managers,

fund houses and regulators of index futures market. In future, the study can be for a longer period or for high frequency data to get more robust results.

Figure 1: Futures and Spot Price co-movements

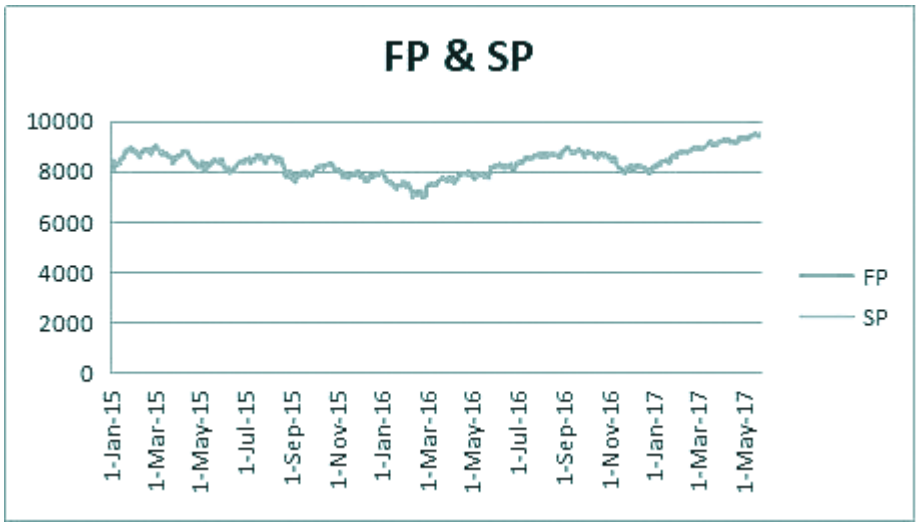

Figure 2: Futures Prices Return movements

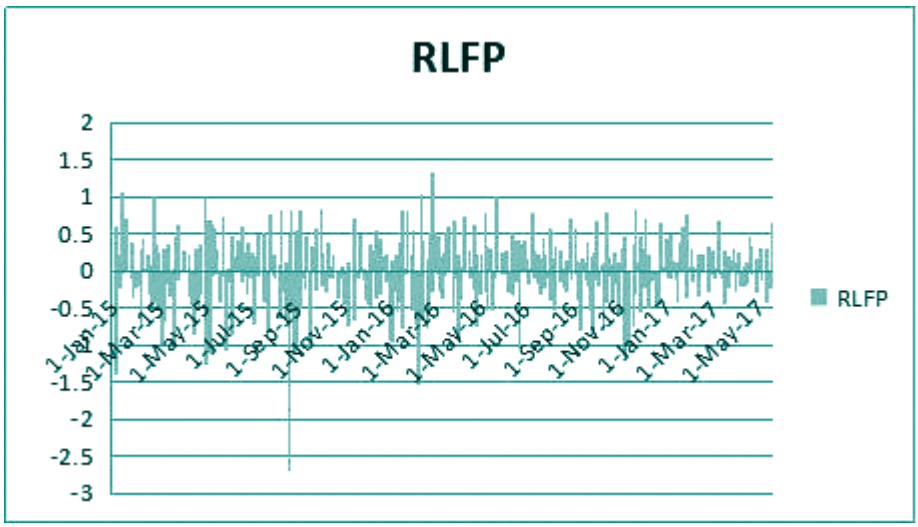

Figure 3: Spot Prices Return movements

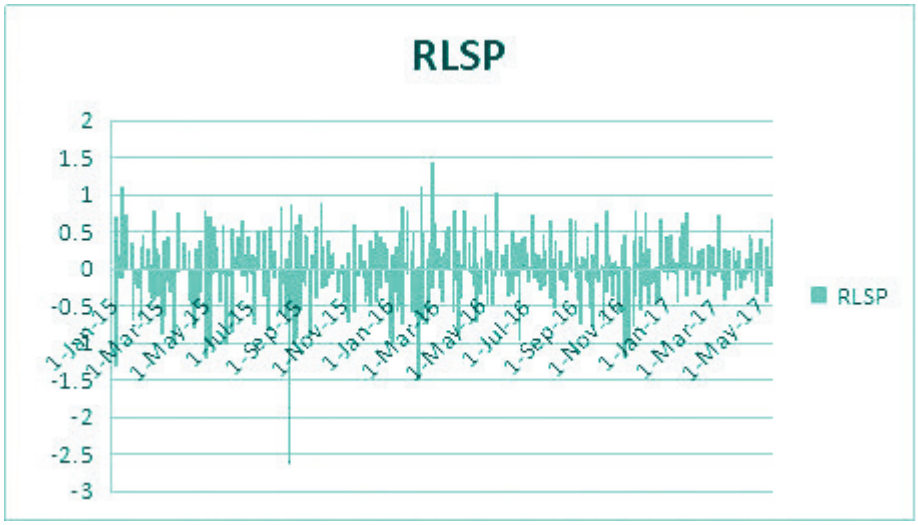

Table 1: Statistics Summary

Descriptive	RLSP	RLFP
Mean	0.010123	0.009598
Std. Dev.	0.406324	0.411040
Skewness	-0.648318	-0.740838
Kurtosis	6.511473	6.676325
J B Prob.	0.000000	0.000000

Source: Author's Computation

Table 2: Run Test

	Return of LFP	Return of LSP
Test Value[a]	0.0222084115	0.0099576645
Total Cases	592	592
Number of Runs	289	287
Z	-0.658	-0.823
Asymp. Sig. (2-tailed)	0.510	0.411
a. Median		

Source: Author's Computation

Table 3: Augmented Dickey Fuller Test for Spot Price and Future Price Series

Price	Model Form	Critical Values @ 5%	Test Statistics	*p*-value
LFP	Intercept	-2.866204	-1.210723	0.6714
	Trend and Intercept	-3.417428	-1.552046	0.8105
	None	-1.941359	0.559734	0.8369
RFP	Intercept	-2.866212	-23.58160	0.0000
	Trend and Intercept	-3.417441	-23.61183	0.0000
	None	-1.941360	-23.59149	0.0000
LSP	Intercept	-2.866204	-1.169376	0.6891
	Trend and Intercept	-3.417428	-1.511942	0.8248
	None	-1.941359	0.598087	0.8453
RSP	Intercept	-2.866212	-23.01438	0.0000
	Trend and Intercept	-3.417441	-23.04196	0.0000
	None	-1.941360	-23.02273	0.0000

Source: Author's Computation

Table 4: Johansen Cointegration Test Results

Hypothesised No of CE(s)	Eigen Value	λ_{trace} Statistics	Prob. For Trace Test	λ_{max} Statistics	Prob for Max Eigen value Test
r = 0 (None)	0.089861	56.84582 (15.4947)	0.0000	55.36472 (14.26460)	0.0000
r ≤ 1 (at most 1)	0.002516	1.481096 (3.8414)	0.2236	1.481096 (3.84147)	0.2236
Note: The critical values have been shown in parentheses.					

Source: Author's Computation

Table 5: Test of VEC Restriction

Cointegration Restrictions: B(1,2)=0		
LR test for binding restrictions (rank = 1)		Probability
Chi-square(1)	72.81059	0.000000

Source: Author's Computation

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“An investment in knowledge pays the best interest.”

- Benjamin Franklin

Strategic Circles for Knowledge Management: A New Model

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Abstract

Organisations all over the world look for flexible solutions to meet the key challenges they face in the contemporary business environment. Knowledge Management (KM), as a modern administrative concept, provides remedies. However, in the application of KM, organisations face various obstacles. This study seeks to develop a strategic implementable knowledge management framework. Thirty three (33) public enterprises were examined on five (5) primary variables of KM Strategy - strategic management applications, the ability to administrate KM, KM requirements, perspectives of KM applications, and influence of KMS implementation on an organisation's ability to encounter the latest management challenges. The inferred interpretations, through an incremental methodology and linkage with previous studies, led to "The Strategic Circles for Knowledge Management Model (SCKM)" or (PAD/ 9 in 9) that combined strategic and knowledge management dimensions as a modern administrative trend.

Keywords: Knowledge, Knowledge Management (KM), Knowledge Management Strategy (KMS), Strategic Circles for Knowledge Management (SCKM)

Introduction

Knowledge Management, as a modern administrative development, can enhance an organisation's competitive and survival abilities. However, its effective application remains an obstacle. Many of the KM models adopted did not provide clarity on their application as a developmental strategy in a sustained and realistic way. This study therefore seeks to introduce a model combining the strategic and practical dimensions, mainly by clarifying knowledge management and its strategic character followed by the application of the model. The model was developed based on a literature search of knowledge management studies. The output of this study is the Strategic Circles for Knowledge Management Model (9×9 - PAD).

Knowledge Management

Knowledge management, as a scientific field of study, emerged at the end of the 1980's as a new administrative concept (Dalkir,2005). Knowledge management is defined as "planning, organising, controlling, coordinating, and creating knowledge and intellectual capital aspects, processes, capabilities, personal and organisational abilities in order to gain the maximum influence in competitiveness and sustainability, exploitation, dissemination and investment in knowledge, and availing necessary facilities (Wiig, 2002). Other concepts closely linked with it include intellectual capital, knowledge community, knowledge economy, and learning organisation. The importance of knowledge management stems from the fact that all types of organisations need knowledge for their survival, development, and cultural leadership to enhance organisational learning and achieve organisational competitiveness (Cho & Korte, 2014). Nonaka and Takeuchi (1995) stated that the main factor for the industrial supremacy of Japan was its ability to invest in knowledge.

Knowledge management is influenced by two groups of forces:

1. **The driving forces:** This group includes the external and internal forces that push organisations towards knowledge management initiatives to maintain survival and continuity (Rahman & et al, 2015; Newman, 2015).

2. **The resistance forces:** These obstacles include what was urged by a team characterised with isolation within the organisation, revealed upon implementation;

making it provide a non-specific competitive value (Mciver & et al,2016).

Various scholars have provided several conceptions about the life cycle of knowledge management. Some scholars have classified the life cycle into four stages (Fernandez & Saherwal, 2010), and others into seven to eight stages (Bukowitz & Williams, 2009; Pradabpech & et al, 2015). Other scholars described the life cycle of knowledge management as six functions of knowledge management, namely, the 6Cs, which are Creation, Capture, Codification, Classification, Communication, and Capitalisation (Al-Kebsi, 2009).

Several components should be included in a project to build knowledge management in an organisation. Calabrese (2010) presented this as four principles - organisation, leadership, technology, and learning. Debowski, 2006 and Al-Malkawi, 2007, suggested five basic required components, The first is Human Resource, covering all activities and processes related to the different stages of knowledge management. This resource is called Knowledge Workers (KW) (Pasher & Ronen,2011; Weinberg, 2015). The second is the Technical Structure, the necessary infrastructure for building knowledge management in organisations (Kavitha& et al:2015). Thirdly, the Organisational Structure which encompasses all organisational components representing the environment on which the knowledge management is established and implemented. The fourth component, Cultural Organisation, includes the depth of cultural influence on various knowledge management processes and values associated with its success (Anantatmula, 2013). Fifth is sustainable Strategic Commitment, which refers to the senior management's commitment to support knowledge management efforts across the organisation.

Knowledge management can also be viewed from three main established perspectives (Wiig, 1994; Igor, 2010):

First: Knowledge Management Mechanisms, which depend on the use of technology and technical equipment to achieve standardisation of tasks, processes, and its consistent optimal performance. The assumption is that achieving effective access to various informational resources in an organisation is facilitated by technical applications. These mechanisms include 1) The knowledge transfer mode perspective (focussing on the technical methods and transformation ways, 2) the knowledge assets building perspective (based on discovering and development of variety knowledge

through the technical applications, and 3) the knowledge assets management perspective, involving the technical building of procedures and investment operations of knowledge.

Second: The Humanitarian perspective, the cultural and behavioural knowledge management aspects, where knowledge management is seen as a deep-rooted organisational issue in which the techniques represent only its apparent or tangible sides (Newman, 2015). The assumption here is of the need for constant changes in behaviours and organisational culture in response to the contingencies of the environment. Here, the focus is on operations more than technology. Three sub-perspectives come under this category. 1) The core competence perspective focusing on the strengthening and building creative behaviour in the organisation, 2) the organisational culture perspective, based on deployment and building of knowledge management culture (Weinberg, 2015); and 3) the organisational learning perspective which aims to build an educated organisation, by concentrating on a variety of organisational learning behaviours.

Third: The Knowledge Management Systems perspective which provides a holistic view of the various key factors in an organisation, involving a critical analytical perception of its cognitive problems. Primarily, organisations focus on knowledge management to achieve sustainable results. This involves looking to total quality for improving products through holistic organisational processes; reengineering to re-build various organisational processes on the basis of rules and concepts of knowledge management; and an intelligent-acting operation perspective to ensure the intelligent and effective use of knowledge to enhance fundamental organisational capabilities.

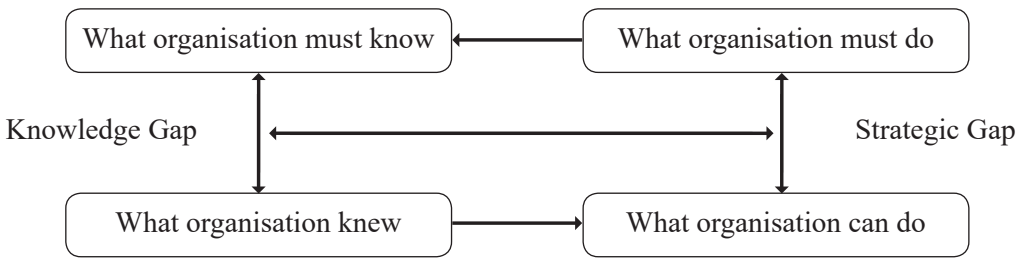
The Strategic Nature of Knowledge Management

Knowledge management is best implemented by considering its strategic dimension in terms of comprehensiveness, impact, and time extent. The principle of "permanent strategic commitment" is a fundamental requirement, given that the twenty-first century is a period of accelerated knowledge growth requiring strategic responses. (Fitzory & Hulbert 2005). Pasher & Ronen (2001) stated that an organisation's knowledge management needs a strategic dimension to integrate its various organisational systems. This necessitates the creation of an integrated and clear vision of various activities resulting from strategic thinking and strategic planning (Srikantaiah & Koenig,2008). Laudon (2000) said that knowledge as a

strategic asset, requires a unique management and strategic perspective to achieve success (Igore,2010). The need to link knowledge management with the strategic form of the organisations is widely acknowledged (Dalker,2005;Hislop,2013). Two components are critical (Rao, 2005; Davenport, 2005):

First: Strategic Analysis of Knowledge Gap: Analysis of the difference between the current knowledge of an organisation and the supposed knowledge of the strategic analysis, leads to the identification of knowledge types to be developed and the features of the necessary methods. See Figure 1.

Figure 1: Strategic Analysis of Knowledge Gap



Reference: Dalkir (2005: 256)

Second: Knowledge Management Strategists: Internal parties (Knowledge strategists) work with external environmental parties (Knowledge professionals) to build organisational knowledge. External environmental parties include-'customers' who are a source of knowledge for the development of products and services and 'suppliers' who provide knowledge advantage regarding the integration of the organisation's services and products with others. The competitors are an important source of information to help an organisation protect knowledge by making it difficult for others to imitate and by rooting it in its organisational culture. Partners provide ready and quick and relevant knowledge.

The most important knowledge management strategies associated with the components and nature of knowledge management are the following (Alzeyadat, 2008: 144):

First: Codification Strategy versus Personalisation Strategy: Codification Strategy uses digital techniques to document and build-up the knowledge management cycle in

the organisation. In contrast, the personal strategy is based on the interaction between people and exchange of experiences and knowledge between them by various means, including computer technology. Usually, organisations deploy both types of strategies, sometimes giving priority to one or the other.

Second: Supply Strategy versus Demand Strategy: A supply strategy tends to conduct the publication and distribution of knowledge through participation and various publishing tools mechanisms. On the other hand, a demand strategy focuses on creative learning and knowledge mining by acquirement and production tools. It may be difficult in many cases to separate these two strategies. The trend is now to push for the development of an integrated strategy of both types.

The Strategic Circles of Knowledge Management Model (PAD -9 by 9)

The analytical study carried out so far led to the identification of the following key variables, which will define the KM Model:

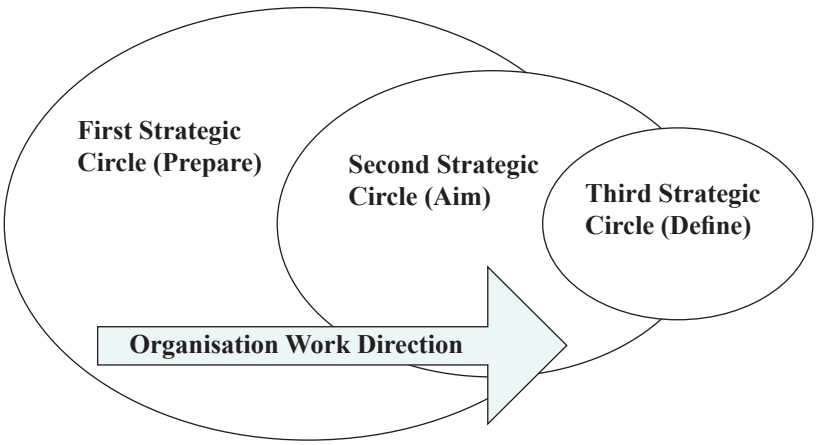
1. The extent of the organisation's application to strategic management,
2. The degree of their ability to administrate KM,
3. The extent of existing KM requirements,
4. The perspectives of KM applications more suitable for organisations,
5. The influence of strategy implementation in knowledge management on the organisation's ability to surmount management challenges (face acute competition, manage change, optimise resource utilisation, implement total quality measures, and keeping up with globalisation pressures).

The study population consisted of thirty-three (33) public enterprise organisations in Riyadh, Saudi Arabia studied during 2013-2014. A “Mixed Research Methods” was adopted, incorporating both quantitative and qualitative approaches. The data collected by interviews was to gauge both the intellectual capital and organisational readiness to manage knowledge. The interviews were guided by ASTD’s (American Society for Training and Development) well-known Info Line Tri-Scale Questions (Alzeyadat, 2008). The “Knowledge Management Assessment Tool (KMAT), developed by collaboration between Arthur Anderson Company and The American Productivity & Quality Centre, was also used. It included quintuple scale questions (Anderson, 1996). The study applied content analysis to dissect the organisations’ websites and their

official documents. One hundred and ninety-seven (197) employees were interviewed for this research project.

The result of the data analysis and their linkage with literature or previous studies, led to the structuring of a strategic prototype conception, "The Strategic Circles for Knowledge Management Model".

Figure 2: Framework of The Strategic Circles for Knowledge Management Model (SCKM)



Source: Researcher

The model captures the sequential steps involving the structure of knowledge management strategy in the form of a cognitive map. This knowledge map may ultimately lead to a detailed formulation of knowledge management. The entire process of knowledge map requires three successive levels to characterise the general framework of the model as illustrated in Figure 2.

At the third level, the organisational framework was conceptualised into nine major options, each panning out into another nine sub choices. The organisation may have a total of eighty-one (81) available knowledge management strategy choices. They provide a framework for management to make appropriate decisions by selecting the most suitable choice among the major and sub-choices available.

Components of Circles Model

First Circle: Preparatory Strategy (Prepare):

This stage aims to raise the readiness of the organisation to an exact level, which guarantees initiation of the project for knowledge management by the confirmation of the achievement of four elements:

First: The existence of suitable strategic principles for construction of the knowledge management project, investigation of the application of strategic planning by the organisation, and the existence of a comprehensive strategic plan for all activities. This forms a base for launching the knowledge management project.

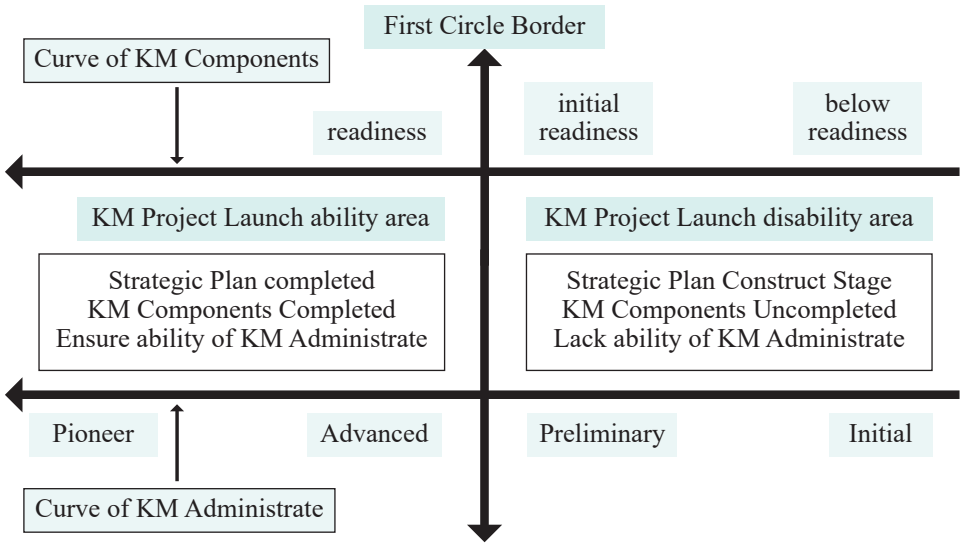
Second: Availability of the fundamentals of knowledge management which includes organisational, human, cultural and technical resources. The Knowledge Management Readiness Assessment tool (An ASTD Infoline Job Aid) can be used to classify an organisation at one of three levels: Below the readiness stage level (20-39), Initial level for readiness, (40-49) and Readiness level (50-60).

Third: Ensure the organisation's ability to administrate the project of knowledge management, through applying the developed Knowledge Management Assessment Tool (KMAT). This tool was constructed by the Arthur Anderson Foundation in cooperation with the APQC (American Productivity & Quality Centre). The KMAT scale of 40 points identify the organisational status on the curve of managing knowledge according to the following classification: (1-9) Initial level that needs improvement, (10-19) Preliminary level that indicates moving in the correct direction, (20-30) Advanced level, (31-40) Pioneering level.

Fourth: Achieve the ability to strategically link the knowledge management initiative and the strategic dimensions of the organisation.

Completing the first circle, the Prepare stage of the model, ensures the existence of the foundations of a strategic view to the knowledge management project.

Figure 3: First level of model (Preparatory Circle)



Source: Researcher

Second Circle: Comprehensive Strategy (Aim):

The second circle, Aim, targets to integratively connect the knowledge management project with the strategic plan of the organisation. See Figure 4. The various organisational elements and capabilities to be considered are the leadership support, the need for knowledge management, the priority of knowledge management, available funding, and the level of acceptable risk.

An organisation can choose among three types of strategies, mentioned by Wiig (1994) for the construction of knowledge management, namely (Alzyadat, 2008: 143):

First: Prudence and Caution Strategy (Wait): This approach helps the organisations with limited resources and the urgent need for knowledge management at the same time. It is useful in improving and supporting its competitive position as well as to reduce the risks. The organisations apply this strategy in their overall activity to achieve a stable growth, by focusing on improving production efficiency, and if it is suitable, if the conditions are not favourable in the future, and when the organisations are seeking to reduce goals on a temporary basis and rearrange its affairs (Ghurab, 1997: 325).

Second: Progressive Growth Strategy: It reflects the periodical building of knowledge management in a gradual way. It is applied in organisations with limited

resources, so this strategy is characterised by lack of risk but suffers from a lack of accruing benefits as well. The organisations seek to apply this strategy to activities and the knowledge aspect, to achieve a performance level, which is consistent with environmental transformation.

Third: Effective Strategy: This involves the wider application of strategic knowledge management by innovative and effective management to evaluate and renew the organisation. Its successful application helps to strengthen the competitive position of the organisation, achieve high returns, and enhance organisational ability to handle risks in the medium term.

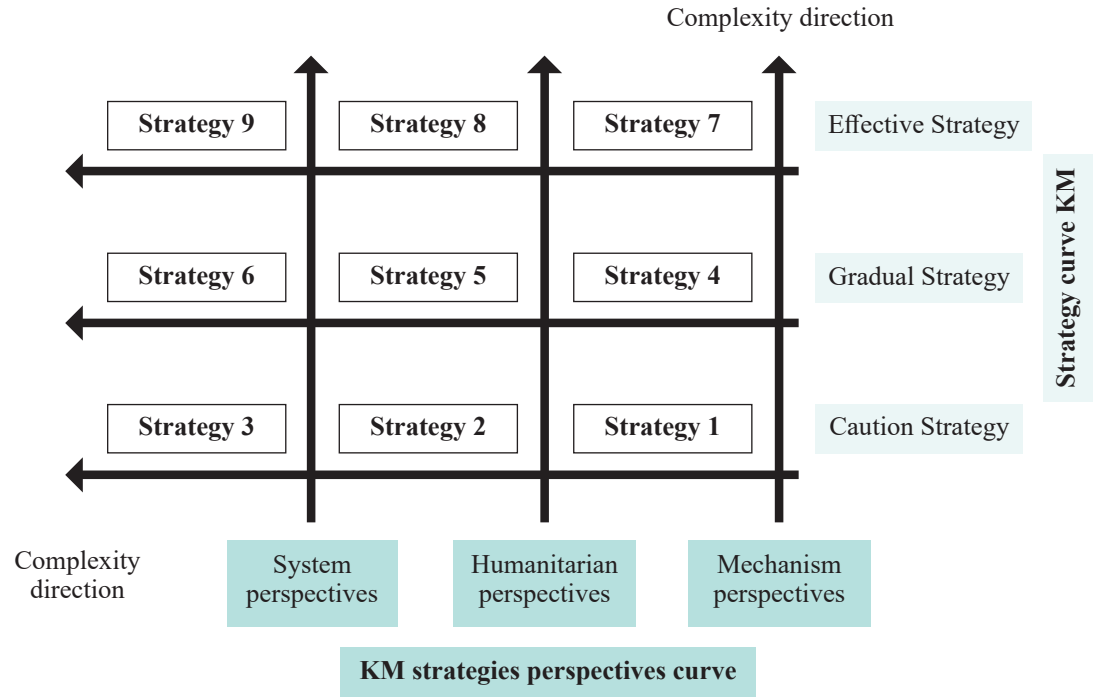
It guides strategic choice based on the results of the knowledge gap analysis, helping to build up the organisation to the overall perspective management of appropriate knowledge, based on the following:

1. Automated or Technical Perspectives: It depends on technical resources and includes Transfer Knowledge Perspective, Knowledge Assets Management Perspective, and Knowledge Construction Perspectives.

2. Humanitarian Perspectives: It is based on the two elements, behaviour and culture, and includes Learning Organisation Perspective, Culture Organisation Perspective, and Re-engineering Perspective.

3. Systemic Perspectives: It is based on Totalitarianism Theory for all the organisation's resources and includes Overall Quality Perspective, Intelligence-based Operation Perspective, and Merit Cure Perspective.

Figure 4: Second level of Model (Comprehensive Circle)



Source: Researcher

Thus, alignment is achieved by the perspectives and selected strategies to determine the comprehensive strategic path of the KM project, resulting from the process of intersection or merging of nine strategies representing the options for the organisation to conduct the KM project. Within this range, a decision is taken about the appropriate strategy for the organisation. In this step, the strategic organisation destination is clear for preparation of the application of the last circle of the model.

Third Circle: Central Strategy (Define):

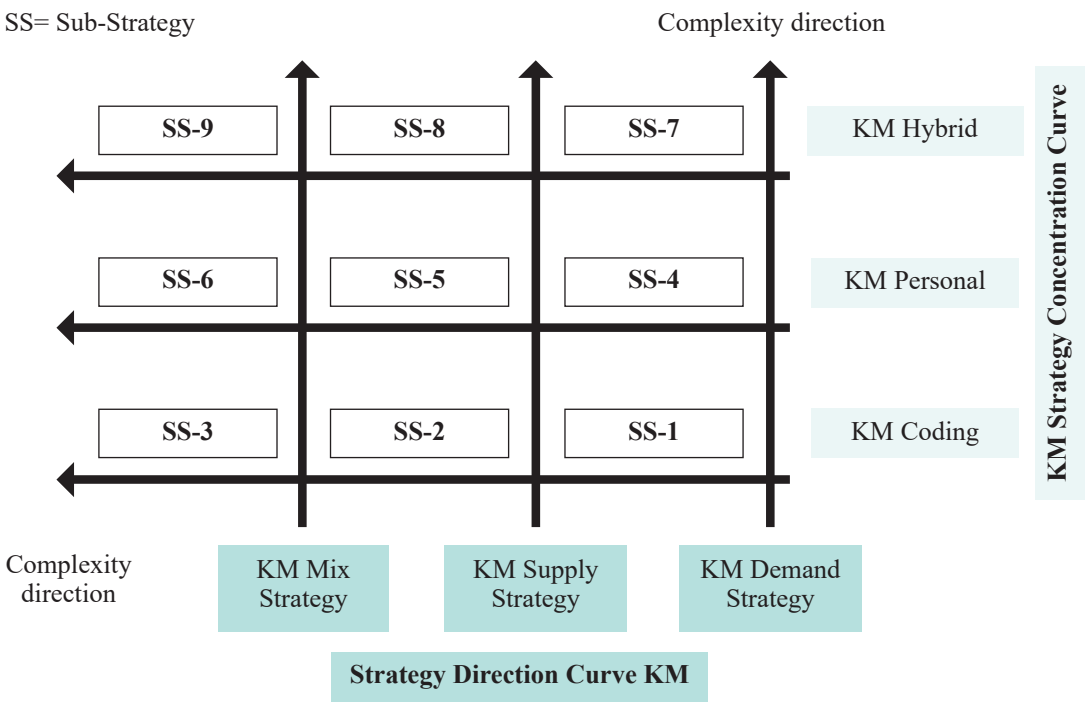
The final executive level of KM Strategy consists of two foci: concentration of KM Strategy and its direction. This comprises various factors relevant to the organisation's field activities, the extent of the holdings of knowledge assets, goals of knowledge management project, types of targeted knowledge, and its direction. Three different sub-strategies are identified:

1. KM Coding Strategy: It is based more on the technical aspect and explicit knowledge. It depends on various applications of technology.

2. KM Personalisation Strategy: It is fundamentally based on the humanitarian dimension of knowledge. It is focused on intangible and tacit knowledge and depends on their applications in the context of the interactions between people.

3. KM Hybrid Strategy: It is based on both human and technical dimensions, and involves both types of knowledge, implicit and tangible and the integration between the applications based on individuals and groups or based on technology.

Figure 5: Third level of Model (Define Circle)



Source: Researcher

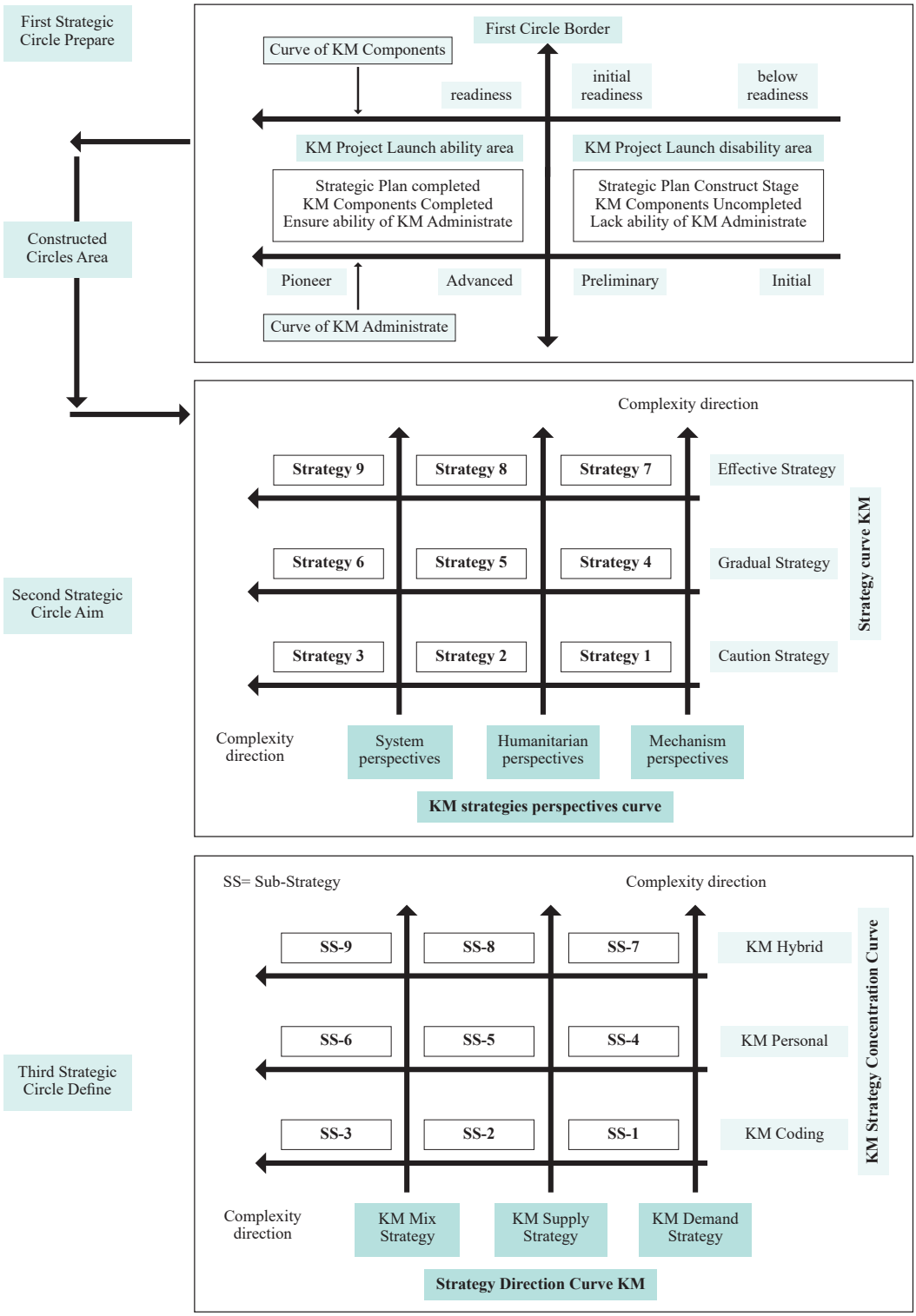
The results of the combination of the various strategies mentioned above are nine different strategies, depicted in Figure 5. After this, determining the direction of the cognitive focus and operations is conducted by choosing from among three strategies:

1. Cognitive Demand Strategy: It is based on attracting knowledge from inside and outside the organisation, which is focused on the import operations through acquiring and obtaining knowledge rather than knowledge sharing.

2. Cognitive Supply Strategy: It is based on introducing knowledge from outside and within parts of the organisation, which means focusing on knowledge export through interpolation, production, sharing, and distribution processes.

3. Integration Strategy: It depends on both supply and demand, which can be directed outside or inside, involves exports and imports of knowledge, focusing on the knowledge management processes.

Figure 6: SCKM model (PAD- 9 by 9)



Source: Researcher

After determining the central strategies, the organisation at this stage has eighty-one (81) different strategies as seen in Figure 6. This provides the organisation with multi-strategy options from which top management can determine the overall strategic combinations appropriate to the organisation's needs and compatible with the vision and resources.

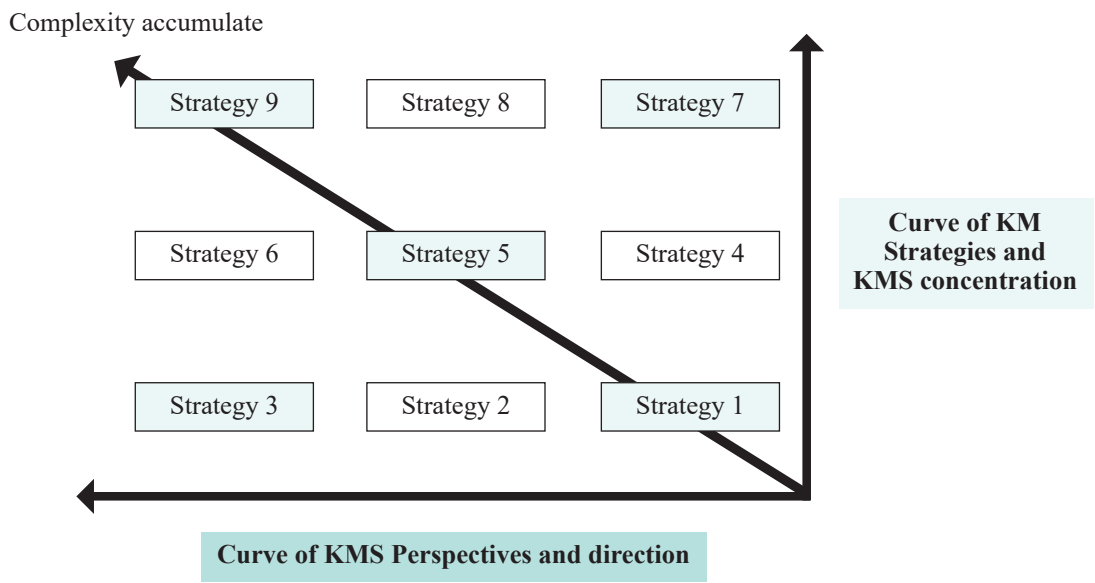
The SCKM model, with its three strategic circles (Prepare, Aim, Define) helps an organisation develop a clear vision and a direct way of choosing more than one mixed knowledge management central strategy appropriate to its time-space situationality.

Complexity Levels of the Model

The model offers a clear indication of the complexity of knowledge management needed by the organisation, both at the macro and micro strategic circles, as seen in Figure 7, below:

First: The figure represents the complexity levels of the SCKM model, whether based on the comprehensiveness of the intersection of the KMS curve with the strategies perspectives curve or partially-based on the intersection of KMS concentration curve with its direction curve.

Figure 7: SCKM Model Complexity Levels



Source: Researcher

Second: There are five main levels representing the main points of complexity in knowledge management strategies, namely:

1. The simple level represents the choice of a wait strategy with the mechanism perspective within the comprehensive strategy circle while representing a coding strategy of choice with the strategy based on demand within a partial strategy circle (Strategy 1 box).

2. The medium level shows the average level of complexity and the central region. The three main options are represented in boxes (no. 3.5.7) of the major or subsidiary. This level suits the organisations that have sufficient expertise in knowledge management and possess those requirements.

3. The high level represents the top of the model regarding the complexity of the building and the application of KMS in both circles process, shown in the option of the box (no. 9) macro or micro. It even includes the intersection of effective strategy with systemic perspective on the holistic level and the intersection of the mixed strategy with the hybrid on the micro level.

4. The remaining two levels can be attached to the three main levels. Boxes (no. 2-4) are closer to a simple level but more complicated, while boxes (no. 6-8) are closer to the top advanced level but at a relatively lower level of complexity.

The Strategic Circles KM Model Evaluation

A review of existing knowledge management models showed that they largely focus on the conceptual clarification of knowledge management rather than describing methods of implementation or practice. They lack the strategic perspective of knowledge management.

This proposed model seeks to create an exemplary roadmap, so that any organisation can learn to practise knowledge management strategically and perspectively, to construct strategic plans, applicable to its organisational settings. The model provides both gradual and multiple choices to the decision maker, allowing comparisons among vast numbers of knowledge management specific strategies, and guiding implementation of options in linked phases.

However, the Strategic Circles for Knowledge Management Model (SCKM) may need further development and assessment to facilitate application.

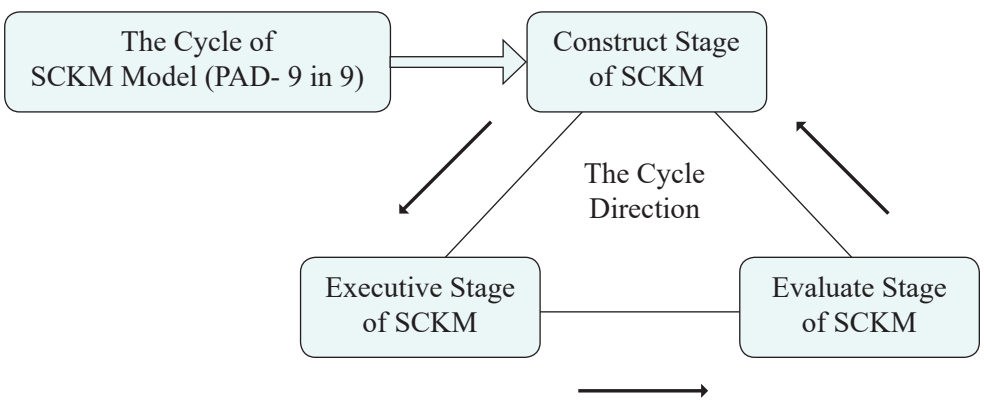
Recommendations

First: An organisation can start building its knowledge management strategy, using "The Strategic Circles for Knowledge Management Model (PAD)," by completing the following steps:

1. Prepare the organisation to cross the first strategic circle (Preparatory Circle)
2. Guide it through the second strategic circle (Entirety Circle), in conformity with an appropriate knowledge management strategic perspective
3. Implement the third strategic circle applications (Central Circle)
4. Completing this strategic scheme for the knowledge management project is essential as a first step, to be followed by the execution, assessment, and constant revision of the said project as illustrated in Figure 8 below

Second: This SCKM model adds on to existing scientific studies regarding the above area of expertise at both international and national level. Its' emphasis on the significance of knowledge management, the need for knowledge management at its various levels, will hopefully contribute to a practical implementation that takes into consideration the needs and strategic perspectives of existing organisations operating in different environments.

Figure 8: SCKM Model Cycle



Source: Researcher

Conclusion

The Strategic Circles for Knowledge Management Model **(PAD- 9 in 9)** is the result of the integration of the theoretical, academic, practical, and effective implementation perspectives of knowledge management. It is offered as a first and developing model that provides a roadmap with applicable steps to access the application of abundant knowledge from a strategic dimension.

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“Good governance with good intentions is the hallmark of our government. Implementation with integrity is our core passion.”

- Narendra Modi

Good Governance in Nigeria: Impetus for National Development & Integration

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Abstract

The purpose of governance in any society entailed the provision of common good for all the citizens irrespective of caste, creed or socio-economic background. This paper examined the nexus between good governance and national development, including national integration in Nigeria. The study argued for the significance of good governance to the attainment of national objectives and its developmental drive. Explanations were provided on why good governance was highly imperative for national development. The study adopted cluster sampling techniques, where a total number of 120 questionnaires were distributed and 105 returned. Data collected were presented and analysed using the SPSS software package. The study found that since Nigeria's return to the democratic system of governance; there had been sustained progress in adherence to the ideals and tenets of good governance. The study also revealed an intrinsic relationship between observance of good governance principles, mutual coexistence and accelerated development. This paper concluded with the contention that for there to be development in all sectors of the economy, the tenet of good governance must be upheld and entrenched in the body polity.

Keywords: Accountability, Corruption, Development, Rule of Law, Transparency

Introduction

Governments all over the world faced challenges of service delivery to improve the socio-economic conditions of their entire citizenry. Good governance was seen as a significant pillar in the consideration of a state's ability to conform to universally acceptable standards (Uddin, 2010). Rotberg (2004) in a UN (2007) report which also emphasised that governance was deemed "good" when it allocated and managed resources to respond to collective problems. A state should be assessed on both the quality and quantity of public goods provided to its citizens. Governance involved the process of decision-making and implementation. How this was carried out could invite judgment about how a particular country, city or agency was being governed or should be governed. It revealed the relationship between the state and citizens, and drastic measures to ensure a stable political and viable socioeconomic environment (Ademola, 2009:218). For the purpose of this paper, good governance was conceived to mean the process of exercising political, economic and administrative authority, especially over a state. In the view of the United Nation Development Programme (2010), good governance entailed the exercise of political, economic and administrative authority to manage a nation's affairs and covered the complex mechanisms, processes and institutions through which citizens and groups articulated their interests, exercised their legal rights and obligations, and mediated their differences. Governance meant the way those with power used that power **(**Peter & ADB, 2012).

Prior to Nigeria's return to a democratic system of governance in 1999, successive military rule violated citizens' rights and the ill-feelings generated were seen to thwart the country's drive toward accelerated growth and development. Good governance remained an innovative idea of democratic governance which found expression in the detailed provisions of the 1999 constitution as amended. This incorporated the fundamental objective and directive principle of state policy inherent in good governance. It assumed the reducible criteria for assessment of the government under the 1999 constitution, due to the negative effect of military rule, the activities of the civil society and the pressures of international financial institutions such as the World Bank, IMF and UNDP.

Literature Review

Obaidullah (2001) maintained that the conceptual analysis of the term "good governance" was ingrained in the position of the following ancient philosophers namely: Aristotle, Thomas Hobbes, John Locke, and Jean-Jacques Rousseau. He pointed out that this concept could be traced back to the ancient Greek period and essentially captured in Aristotle's fundamental statement that "the state came into existence for the sake of mere life, but continued for the sake of good life". Good life began with the guarantee of the protection of life, property for all, the underlying conditions of the origin of state, which Thomas Hobbes, John Locke, and Jean-Jacques Rousseau indicated in their "social contract" theories. In the words of John Locke, government shall govern "so long as they can protect the interest of the people or the trust the people have place on them.

The World Bank (1993) saw good governance as involving unassailable public sector management (efficiency, effectiveness and economy), accountability, exchange and free flow of information (transparency), and a legal framework for development (justice, respect for human rights and liberties). The Overseas Development Administration of UK (now the Department for International development) saw it in terms of four key components: legitimacy (governments should have the consent of the governed); accountability (ensuring transparency, being answerable for actions and media freedom); competence (effective policymaking, implementation and service delivery); and respect for law and safeguard of human right. Uddin (2010) rightly observed that good governance was an indispensable precondition for development. Ogundiya (2010) observed the development challenges confronting Nigeria could basically be attributed to the crisis of governance: the failure to provide proper, fair and equitable allocation of resources for the achievement of the end or purpose of state, which was the promotion of the common good. Ladipo's (2002) similarly emphasised that "the underlying litany of Africa's development problems is a crisis of governance. Both Ostrom (1993 & Olowu (2002), reiterated the centrality of accountability and transparency as essential ingredients for effective, efficient functioning of all organisations, particularly governmental organisations in a democratically governed state. This required internal and external mechanisms to be established to enforce strict adherence to the tenet of good governance.

As a summary, it could be stated that there was wide agreement on the link between the nature of governance (good or bad) and the socio-economic and political development of the country.

Statement of the Research Problem

Despite its huge resources and capabilities, Nigeria had been a laggard in terms of social, political and economic developments and was in the league of the poorest nations in the world. Widespread poverty, political instability, corruption, poor health care services, high level of illiteracy, unemployment and human rights violations continued to characterise Nigeria's state and economy. This could legitimately be attributed to the failure of the government to provide basic amenities for all citizens, thus adversely affecting their economic and social well-being. Ogundiya (2010) suggested several factors to explain the development tragedy in Nigeria. These included the colonial legacy, bureaucratic and political corruption, poor labour discipline, globalisation and unfavourable international environment, unpatriotic followers, and bad leadership. However, arguably, the most valid argument for the failure of successive governments was the lack of good governance, in terms of efficient and effective service delivery and the provision of an enabling environment for all citizens to actualise their potentials. The 2014 report published by Transparency International (TI) ranked Nigeria the 136th most corrupt country in the world and the 3rd most corrupt country in West Africa, after Guinea and Guinea Bissau. Similarly, Nigeria was ranked 144th in the Global corruption index 2013, 139th in 2012 and 143rd in 2011 and 2014. Rasheed (1996) in Yahaya (2006) raised serious concern when he noted that the lack of accountability, unethical behaviours and corrupt practices had been so pervasive that it had become institutionalised norms of behavior in Nigeria in particular, and Africa in general. The former Nigerian President, Chief Olusegun Obasanjo (2003:3), alluding to this concern, stated:

> "Nigerians have too long been feeling short-changed by the quality of public service. Our public offices have too long been showcases of the combined evils of inefficiency and corruption, whilst being impediments for effective implementation of government policies. Nigerians deserve better. And, we will ensure they get what is better".

In 2012, the Acting Inspector-General of Police, Mohammed Abubakar, while explaining the intrinsic relationship between good governance and national security remarked that:

> "Peace will continue to elude Nigeria until politicians at all levels are prepared to provide good governance to the citizens. We are aware of the contributory factors responsible for crime and criminality in this country."

One of the factors, according to IGP, was the high level of poverty and unemployment that had hitherto widened the gap between the rich and the poor in the country. There was high level of poverty, high level of unemployment and a wide gap between those who have and those who do not have and this gap kept on widening every day. …The implication of that was the rich could not sleep in their houses or rode their best of cars."

Research Questions

Arising from the problem stated above, the study put forward the following questions:

1) What has been the perceived relationship between good governance and National Development?
2) How can adoption of the tenets of good governance promote delivery of democratic dividends and promote national integration?

Research Objectives

The main thrust of this research entailed a vivid examination of the landmark significance of good governance in the drive to facilitate national development. The specific objectives included:

1) To examine the relationship between good governance and national development.
2) To analyse how observance good governance principles could enhance national integration.
3) To recommend ways in which adherence to the tenet of good governance principles could promote participatory governance, hence national development.

Research Hypothesis

This study proposed two null hypotheses which would be tested by primary data and either rejected or accepted:

1) Observance of good governance principles in Nigeria has not facilitated anticipated national development.
2) Adoption of good governance principles has failed to promote participatory governance, in essence, national integration.

Scope of the Study

Because of the constraints of time and resources, the geographical coverage of the study was limited to (3) three local governments within Ilorin metropolis (Kwara State Capital Ilorin). The study's thematic areas were restricted to government, issue of accountability, transparency, rule of law, independent of judiciary, openness in the conduct of government businesses, participatory democracy, human right and the nexus between good governance and national development. This period was chosen because that was when the county had eight years of democratic rule .

Significance of the Study

A research of this nature was borne out of the keen interest in the problem under study: issue of responsive governance, service delivery, improvement in the living conditions of the Nigerian populace, and the desire to contribute to the frontier of knowledge, break new ground in the field of public administration and management/ governance. The debate on good governance has ensued to strengthen democratic development in the emerging democracies. A review of existing literature on public sector governance in developing countries and Nigeria in particular, reveals that little or no study have taken into cognisance the relationship between nature / style of governance on socio-economic well-being of the Nigerian populace. Therefore, it is this knowledge gap, meagre public sector governance literature (democratic governance that national development is still missing, most especially in Nigeria). Also, this study

was conceived to establish the nexus between good governance and rapid socio-economic development, because Nigeria like any other developing country is battling with what scholars term a "crisis of governance". The general perception is that, if transparency, accountability, openness, rules of law and mechanism for strengthening democratic governance exist, good governance will surely be the outputs.

Methodology

This research employed both quantitative and qualitative research techniques to collect and analyse data to ascertain the significant impact of upholding good governance principles on the socio-economic well-being of Nigeria citizens and on national development.

Methods of Data Collection: There were two main sources of the data collected-primary data through the aid of structured questionnaires and augmented by secondary data collected gathered from books, journals, internet, newspapers, book of proceedings and other sources.

Sampling Procedure: Cluster sampling techniques was used. A sample of 120 individuals, interest groups, academia, and notable politicians were selected to receive the questionnaires. 105 (87.5%) completed and usable questionnaires were received.

Method of Data Analysis: Primary data collected were collated and analyzed with the use of Statistical Product and Service Solutions (SPSS).

Theoretical Framework

The New Public Management Theory became prominent in 1980. (Sharma, Sadana &Harpreet 2012:45, & Ibietan, 2013:54). It was conceived as a global reform initiative and had its characteristics rooted in private sector frameworks of competitiveness, entrepreneurism and customer satisfaction. Gumede & Dipholo (2014) saw the New Public Management as a depiction of a managerial culture that emphasised the centrality of the citizens or customer as well as accountability for results. Gumede & Dipholo (2014) pointed out that these elements of the New Public Management philosophy shored up or acted as pillars of good governance.

The following discussion covers the results analysis, hypothesis testing and discussion of findings.

Analysis of Responses on the basis of Popular Participation, Accountability, Transparency and Openness in the conduct of Business of Governance

Breakdown of the results obtained revealed a significant relationship between the promotion of democratic principles, and improved communication between government and the governed. People were now more conscious about politics and public policy through social medial platforms hence leading to improved political participation and inclusive governance. As shown in **Table 1 (See Appendix)**, 11.4% strongly agreed and 87.6% agreed that, there was an established intrinsic relationship between democracy and improved communication between the government and the citizens. 1.0% disagreed with the statement. In like manner, report obtained from the survey showed that the majority 23.8% strongly agreed and 69.5% agreed, implying that the majority of the respondents acceded to the assertion that Nigeria's return to a democratic system of government and her adherence to democratic practices had provided vast opportunities for citizens to participate in the decision-making process **(See Appendixes, Table 2 & 3)**. Analysis of the result on availability of adequate institutional and policy framework for accountability by public officials indicated 27.6% strongly agreed and 71.4% agreed while only 1.0% held a contrary view **(See Appendix, Table 4)**. This implied that, there existed institutional mechanisms to regulate the conduct of public officials entrusted with public resources to curtail abuse and excesses.

Data collected and analysed on the manner or procedures for the conduct of government business recently showed considerable improvements (paradigm shift) because 30.5% strongly agreed, and 47.6% agreed that government activities, policies and programmes were now more open for public criticism, while 21.9% held a dissenting view **(See Appendix, Table 5)**. The importance of public criticism to the growth and development of democratic governance could not be underplayed because of its' inherent potential to facilitate good governance. In this sense, a careful dissection of respondents' view on the level of public officials' adherence and compliance with laid down rules and regulation in the year under review suggested that only 21.9% strongly agreed, 20.0% agreed and while of those holding a dissenting view, 30.5%

strongly disagreed, and 26.7% disagreed. 1.0% remained undecided. The result showed a blatant non-compliance with rules and regulation, contradicting one of the tenets of good governance.

Analysis of the data on citizens' access to unfettered information and involvement in governance suggested that 22.9% and 70.5% agreed there was improved access to information and involvement in governance respectively, while 1.9% strongly disagreed, 2.9% disagreed and only 1.9% was undecided (**See Appendixes, Table 6, 7 & 8)**.

Measurement of Perception on Rule of Law and Independence of Judiciary

The views expressed by respondents on citizens' confidence in the impartiality of the courts suggested that 68.6% expressed confidence in the ability of the court to deliver judgment with fairness, objectivity and without prejudice, while 31.4% disagreed with this assertion. On the result of the level of government institutions' adherence to the rule of law principle, 21.9% strongly agreed, 72.4% agreed, while 6% expressed a divergent view. Concerning justice administration without political interference, 61% indicated strong disagreement, and only 39% of the respondents agreed. Respondents also shared their opinion on citizens' obedience to constituted authority as they overwhelmingly agreed (9.5% strongly agreed, 89.5% agreed) on loyalty of citizens to constituted authority, with only an insignificant 1.0% disagreeing. **(See Appendixes, Table 9, 10, 11 & 12).**

Measurement on Respondents View on Human Right and Anti-Corruption

Analysis of data from the field survey showed that 2.9% strongly agreed and 89.5% agreed that since the enthronement of democracy, there had been a drastic reduction in the number of arbitrarily arrests and detentions, while 1.9% expressed a contrary view and 1.9% was undecided. On citizens' opportunity to exercise their fundamental human right as enshrined in the constitution, the result showed 30.5% strongly agreed, 64.8% agreed, 1.0% disagreed and 1.0% was undecided. In the same vein, the data analysis indicated that 28.6% and 69.5% of the respondents agreed that there was respect for the rights of the accused in the anti-corruption crusade **(See Appendixes, Table 13, 14 & 15).** Data analysis also showed 25.7% strongly

agreed, and 67.6% agreed that democracy had promoted respect for citizens' rights. On the positive impact of the anti-corruption war on the economy, 2.9% strongly agreed, 60.0% agreed and 32.4% held divergent view, while 4.8% was undecided **(See Appendixes, Table 16, 17, 18 & 19)**.

Analysis of Respondents Perception on the Nexus between Good Governance and National Development

Views expressed and analysed from the field survey on the adherence to the principle of good governance and poverty reduction showed that 31.4% strongly agreed and 65.7% agreed that strict adherence to this principle would boost the poverty reduction drive. 1.9% was undecided, while only 1.0% held a dissenting view,. Also, the majority - 12.4% and 84.8% - of respondents consented that upholding the tenet of good governance would facilitate citizens' improved access to basic amenities. Respondent also held similar views on the reduction in the mismanagement of public resources through adherence to the principle of good governance. Similarly, 63.8% and 35.2% of the respondents averred that transparency and accountability in governance was capable of promoting national development, while only 1.0% held a dissenting view (**See Appendixes, Table 20, 21, 22, 23 & 24).**

Results of Hypotheses Testing & Findings

$H0_1$: The observance of good governance principle in Nigeria has not enhanced national development. Data presented and the analysis (Table 24) of results obtained from opinion measurement contradicted the above proposition. The study therefore, rejected this hypothesis. This implied that observance of good governance principle had facilitated national development.

$H0_2$: Adoption of tenet good governance has failed to promote participatory governance and hence, national integration. Analysis of the data (Table 22) indicated an intrinsic relationship between strict adherence to good governance principle, inclusive governance and national integration. This hypothesis was rejected.

The study found:

1) Adherence to the tenet of good governance had drastically reduced tendencies for corruption, mismanagement of resource and in turn, improved the service delivery capacity of governmental institutions.

2) Significant improvements in the observance of good governance principles (most especially in areas of participation, representation, citizen's involvement in decision making process) facilitated inclusive governance and national development.
3) Respondents believed that there was a greater fear of corrupt practices and other sharp practices because the government authorities were serious in their determination to fight corruption.

Conclusion

Strict adherence to good corporate, economic and political governance is central to national progress, because growth and development cannot be achieved in the absence of good governance. Any effort to reduce poverty must start with and build upon good governance. This is in line with what appeared to be a worldwide and concerted effort at monitoring governance.

Daniel's (2015) study on worldwide Governance Indicators covered 213 countries over the 1996-2014 period. It concluded that overall, the world continued to underperform on governance. Over the past decade, many countries improved significantly on such dimensions of governance as the rule of law and voice and accountability. Other countries experienced marked deteriorations, or saw short-lived improvements that were later reversed. A significant number saw no marked change. Much remains to be done and sustained and serious efforts have to be pursued if good governance was to take hold and national development objectives were to be achieved.

Appendices

Table 1: Democracy has Facilitate Improved Communication between Citizens Government

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	12	11.4	11.4	11.4
Agree	92	87.6	87.6	99.0
Disagree	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 2: Citizens now have more Opportunity to participate in Decision -Making Process

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	25	23.8	23.8	23.8
Agree	73	69.5	69.5	93.3
Disagree	7	6.7	6.7	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 3: Free Flow of Information has Enhanced Participation & Inclusive Governance

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	29	27.6	27.6	27.6
Agree	75	71.4	71.4	99.0
Disagree	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 4: Government Accountable for Public Resources

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	29	27.6	27.6	27.6
Agree	75	71.4	71.4	99.0
Undecided	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 5: Government Activities & Policies are more Open for Criticism

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	32	30.5	30.5	30.5
Agree	50	47.6	47.6	78.1
Strongly Disagree	23	21.9	21.9	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 6: Citizens have Access to Unfettered & Reliable Information

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	24	22.9	22.9	22.9
Agree	74	70.5	70.5	93.3
Strongly Disagree	2	1.9	1.9	95.2
Disagree	3	2.9	2.9	98.1
Undecided	2	1.9	1.9	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 7: Improved Citizen's Involvement in Governance

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	3	2.9	2.9	2.9
Agree	99	94.3	94.3	97.1
Strongly Disagree	1	1.0	1.0	98.1
Disagree	2	1.9	1.9	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 8: Public Officials Adherence to Rules & Regulation in Conduct of Government Business

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	23	21.9	21.9	21.9
Agree	21	20.0	20.0	41.9
Strongly Disagree	32	30.5	30.5	72.4
Disagree	28	26.7	26.7	99.0
Undecided	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 9: Citizens Confidence in the Impartiality of the Course

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	28	26.7	26.7	26.7
Agree	44	41.9	41.9	68.6
Strongly Disagree	31	29.5	29.5	98.1
Undecided	2	1.9	1.9	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 10: Government Institutions Adherence to Rule of Law Principles

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	23	21.9	21.9	21.9
Agree	76	72.4	72.4	94.3
Strongly Disagree	1	1.0	1.0	95.2
Disagree	3	2.9	2.9	98.1
Undecided	2	1.9	1.9	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 11: Justice Administration without Political Interference

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	33	31.4	31.4	31.4
Agree	8	7.6	7.6	39.0
Strongly Disagree	59	56.2	56.2	95.2
Disagree	4	3.8	3.8	99.0
Undecided	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 12: Citizens Obedience to Constituted Authority

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	10	9.5	9.5	9.5
Agree	94	89.5	89.5	99.0
Disagree	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 13: Reduction in Arbitrary Arrest and Detention

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	3	2.9	2.9	2.9
Agree	94	89.5	89.5	92.4
Strongly Disagree	4	3.8	3.8	96.2
Disagree	2	1.9	1.9	98.1
Undecided	2	1.9	1.9	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 14: Citizens have Opportunity to Exercise their Fundamental Human Rights

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	32	30.5	30.5	30.5
Agree	68	64.8	64.8	95.2
Strongly Disagree	2	1.9	1.9	97.1
Disagree	1	1.0	1.0	98.1
Undecided	1	1.0	1.0	99.0
22	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 15: Respect for Rights of Accused in the Anti-Corruption War

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	30	28.6	28.6	28.6
Agree	73	69.5	69.5	98.1
Strongly Disagree	1	1.0	1.0	99.0
Disagree	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 16: Democracy has Promoted Respect for Citizens Right

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	27	25.7	25.7	25.7
Agree	71	67.6	67.6	93.3
Strongly Disagree	6	5.7	5.7	99.0
Disagree	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 17: Government have Strong Commitment to Reduce Corruption in the Public Service

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	36	34.3	34.3	34.3
Agree	67	63.8	63.8	98.1
Strongly Disagree	1	1.0	1.0	99.0
Disagree	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 18: Government Anti-Corruption Crusade has not made Positive Effect on the Economy

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	3	2.9	2.9	2.9
Strongly Disagree	63	60.0	60.0	95.2
Disagree	34	32.4	32.4	35.2
Undecided	5	4.8	4.8	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 19: Anti-Corruption Drive has Strengthened Service Delivery Capacity of Government

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	39	37.1	37.1	37.1
Agree	11	10.5	10.5	47.6
Strongly Disagree	2	1.9	1.9	49.5
Disagree	1	1.0	1.0	50.5
Undecided	52	49.5	49.5	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 20: Adherence to the Good Governance Principle capable of Reducing Poverty

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	33	31.4	31.4	31.4
Agree	69	65.7	65.7	97.1
Disagree	1	1.0	1.0	98.1
Undecided	2	1.9	1.9	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 21: Upholding Good Governance Principle will Facilitates Citizen's Access to Basic Amenities

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	13	12.4	12.4	12.4
Agree	89	84.8	84.8	97.1
Strongly Disagree	3	2.9	2.9	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 22: Observance of Good Governance Principle has Promoted National Integration

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	6	5.7	5.7	5.7
Agree	92	87.6	87.6	93.3
Strongly Disagree	1	1.0	1.0	94.3
Disagree	5	4.8	4.8	99.0
Undecided	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 23: Good Governance is capable of Reducing Mismanagement of Public Resources

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	29	27.6	27.6	27.6
Agree	76	72.4	72.4	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

Table 24: Accountability and Transparency promotes National Development

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	67	63.8	63.8	63.8
Agree	37	35.2	35.2	99.0
Strongly Disagree	1	1.0	1.0	**100.0**
Total	**105**	**100.0**	**100.0**	

Source: Survey Research (SPSS Output) 2016.

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“Education is the foundation upon which we build our future.”

- Christine Gregoire

Sustainability of Autonomous Business Schools in India: A Conceptual Framework

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Abstract

Reputational ranking of business schools published by authentic sources is a crucial factor determining the image of institutions. Such rankings are significant from the academia and industry perspective. To a great extent, the choice of an institution by prospective students depends on such rankings. Rankings provide the basis of comparison between institutions, which in their attempt to be better than their competitors, enable them to devise their policies and strategies accordingly.

This paper presents the underlying factors influencing the sustainability of autonomous business schools providing higher education in India. The parameters undertaken in the recent management ranking released by National Institutional Ranking Framework (NIRF), and approved by the Ministry of Human Resource Development, Government of India have been considered. Correlation and hierarchical cluster analysis was carried out on the data obtained from different cohorts and homogenous groups. The analysis led the authors to propose a model that would assist business schools in assessing their sustainability as quality management institutions in India.

Keywords: Sustainability, Ranking, Business Schools, National Institutional Ranking Framework (NIRF), Skill Development, Economic Impact, Brand Value, Consumer Behavior, Model, Entrepreneur, MSME, Technology Convergence, Cloud, Big Data.

Introduction

Higher education contributes to the sustainable economic development of a nation. It is aimed towards providing access, equity and quality education to aspirants and involves various stakeholders. Over the years, the higher education sector in India has seen the mushrooming of business schools, making the selection of a management institution a tough decision for prospective students. It is here that the various rankings of business schools and management institutions aid in helping students make informed choices. An improvement in the ranking of a management institution gets reflected in the number and quality of student applications (Monks and Ehrenberg, 1999). Industry pays appropriate attention to business school rankings as they provide some groundwork for recruitment from these management institutions. This study focuses on the elite ranking- National Institutional Ranking Framework (NIRF), approved by the Ministry of Human Resource Development, using the most recent release in April 2017 (NIRF, 2017).

As a nation transitions from a protected economy to a market economy, the demand for management education surges (Kraft & Vodopoviec, 2003). In response to this increased demand, there is a corresponding increase in the number of business school offering courses in business management. The Government of India (GOI), on the recommendation of the Central Advisory Board of Education (CABE) set up the All India Council for Technical Education (AICTE) in 1945. It was primarily aimed at stimulating, coordinating and controlling the provisions of educational facilities and industrial development. Later, in 1954, a Board of Management Studies was set up under AICTE to formulate standards and promote management education. With the increase in demand for business education, the number of seats in AICTE approved institutions has been on the increase (Refer Exhibit 1).

Exhibit 1: Variation of Intake in AICTE approved Institutions (UG/ PG/ Diploma/ Post Diploma)

Year	Management Intake
2007-2008	121,867
2008-2009	149,555
2009-2010	179,561
2010-2011	277,811
2011-2012	352,571
2012-2013	385,008
2013-2014	364,816
2014-2015	365,352
2015-2016	350,161
2016-2017	329,273

Source: Approval Process Handbook (2017 - 2018)

With the increase in the number of management schools and students intake, a study of the parameters influencing the rankings of various management institutions was deemed informative. Rankings have given greater visibility to many business schools in India. Using the management rankings released by NIRF, our study evaluates the various parameters under different cohorts using correlation and hierarchical cluster analysis. We then suggest the most significant factors that contribute towards higher rankings. Business schools may find this analysis useful in helping them to formulate strategies for their future existence and growth.

Theoretical Evidence

Prospective students choose an institution based on factors that include advice from family and friends, graduation outcomes in terms of placement opportunities, course fee, infrastructural facilities, the reputation of the institution in general, and the course in particular (Hossler & Gallagher, 1987; Kallio, 1995; Lipman Hearne, 2006; Perna, 2006). In addition, they may turn to the various forms of readily available evaluations and comparisons of such institutions. These may include rankings, accreditation, ratings and benchmarks, college guides and typology (Vught et al. 2005, 2008; Nazarko et al. 2009; Hazelkom 2012; Nazarko, Kužmicz 2013). Rankings

form a useful tool, providing the informative details of comparing institutions across similar parameters.

Rankings are increasingly accepted as an instrument for undertaking quality assurance (Sadlak, 2006). They are also instrumental in students' decision making regarding the choice of a higher education institution (Bhandari, 2006; Federkil, 2002; Filinov & Ruchkina, 2002; Vaughn, 2002). In their study, McDonough et al. (1998) found that 11 per cent of their undergraduate students refer to commercially available rankings when making a school choice. Roberts and Thomson (2007) found that applicants seeking admission to top universities were more likely to use the ranking tables.

Rankings affect the decision making and planning process of educational institutions. The behaviour of institutions is influenced by rankings (OECD, 2006). As ranking results are interpreted as an institution's performance indicator, they affect the adoption of institutional policies and strategies (Marginson, 2007). This stimulates competition in the higher education sector (Sadlak, 2007). Thus, rankings considerably influence the higher education sector (Liu, Cheng 2005; Thakur 2007; Clarke 2007; Kehm, Stensaker 2009; Marginson, Van der Wende 2009).

Ranking indicators and weights have been examined by various researchers (Clarke, 2004; Dill & Soo, 2005; Usher & Savino, 2006; Van Dyke, 2005). Rankings released by Financial Times and Forbes are based on teaching, salary of graduating students and certain other indicators. Siemens, Burton, Jensen, & Mendoza (2005) and Tracy & Waldfogel (1997) have found strong correlations among research, teaching, rankings and faculty research productivity.

A number of studies rank the institutions accordingly to their research output in terms of publication in management journals (Kalaitzidakis, Mamuneas, and Stengos, 2003; Mudambi et al., 2008; Yu & Gao, 2010). In their study, Mudambi et al. (2008) ranked the top 130 Asia Pacific business schools by their publication productivity. Kalaitzidakis et al. (2003) and Coupe (2003) ranked the world's top 100 institutions by their publications in a list of international economic journals. Mudambi, Peng, & Weng (2008) emphasise that knowledge creation and knowledge dissemination are

the two important responsibilities aligned with higher educational institutions all around the world. Achieving research excellence is a desirable aim for management institutions and is measurable in terms of publications in scientific journals (Mudambi et al., 2008). This has led to the emergence of a focus towards scientific research and academic publication (Au, 2007). Peng and Zhou (2006) state that the main output of management research is publication in leading management journals. It is used as a key indicator of the institution's academic reputation. Some ranking studies do not lay emphasis on the quality of publications but focus on the number of publications only (Mudambi et al., 2008). However, apart from the number of publications, the quality of publications is significantly important for the ranking process (Yu & Gao, 2010). The publication counts reflect the quantity output (Xu et al., 2008) and publication citations reflect the quality output (Peng & Zhou, 2006) of institutions.

We propose a model that would assist business schools in assessing their sustainability as a management institution. This may have multi-fold outcomes benefiting business schools, providing transparency in the ranking mechanism and better performance in the broader canvas of economic growth.

Research Methodology

The study adopts the management ranking recently released on April 4, 2017 by the National Institutional Ranking Framework (NIRF) and approved by the Ministry of Human Resource Development, India. This elite ranking is seen as a major step towards improving the quality of education delivered in the country. Out of the 3,600 higher educational institutions participating in this prestigious ranking, 50 institutions under the management category were ranked. The broad parameters employed were "Teaching", "Learning and Resources", "Research and Professional Practices", "Graduation Outcomes", "Outreach and Inclusivity", and "Perception". (refer Annexure A). Each of these was further subdivided into 20 sub-cohorts to assess institutions in a comprehensive manner. (Refer Exhibit 2).

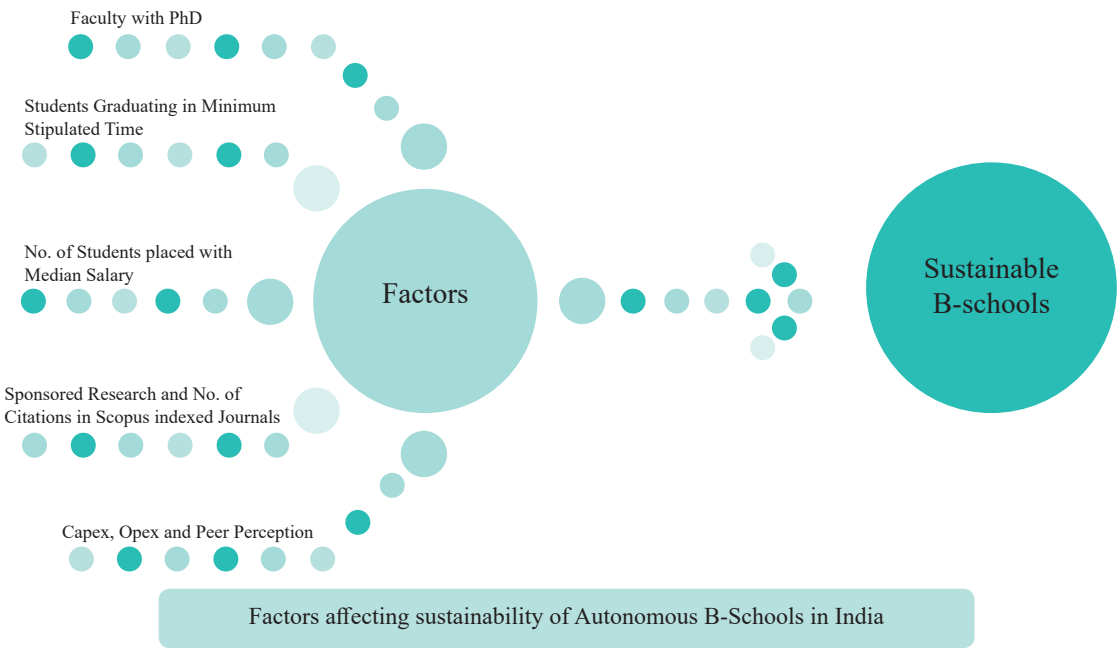
Exhibit 2: Evaluation parameters

S.No	Parameter
1	Faculty details
1.1	Number of faculty members with Ph.D. qualification
1.2	Total no. of faculty members
1.3	Number of women faculty member
2	Student details
2.1	Approved intake of all years of duration
2.2	Number of male students studying in all years of programme
2.3	Number of female students studying in all years of programme
2.4	Total number of students studying in all years of programme
2.5	Number of students from within state
2.6	Number of students from outside state
2.7	Number of students from outside country
2.8	Number of students from economically backward class
2.9	Number of students from socially challenged category
3	Placement and higher studies
3.1	Number of students placed through campus placement
3.2	Number of students selected for higher studies
3.3	Median salary of placed graduates (in Rupees)
4	Financial resources and its utilization (2015-16) (in Rupees)
4.1	Annual capital expenditure (2015-16) (in Rupees)
4.2	Annual operational expenditure (2015-16) (in Rupees)
4.3	Total annual expenditure
5	Publication details-Web of Science
5.1	Publications
5.2	Citations
5.3	Top 25% highly cited papers
6	Publication details- Scopus
6.1	Publications
6.2	Citations
6.3	Top 25% highly cited paper
7	Sponsored Research and Consultancy 2015-16 (in Rupees)
7.1	Sponsored Research project details 2015-16 (in Rupees)
7.2	Consultancy Project details 2015-16 (in Rupees)
8	Perception details
8.1	Peer perception
8.2	Employer perception
8.3	Public perception

Source: NIRF, 2017

The study uses correlation and hierarchical cluster analysis to examine the performance of the top 50 institutions as ranked by NIRF. All the parameters and their respective sub-cohorts were analysed and homogeneous groups were created using dendrograms through hierarchical clustering. Initially, we analysed faculty parameters of all the 50 B-schools and universities. Then, we analysed all the parameters related to students' intake and their respective placements in terms of median salary after graduating in a stipulated timeframe. Further analysis of financial resources and its utilisation provided certain insights, in the form of capex and opex utilisation and their impact. We also looked at revenue from sponsored research projects and consultancy assignments. Research and publications in refereed journals of repute were also considered. Finally, perception details from peer, employer and public perspectives were studied. The impact of each individual parameter over institutional rankings was then established.

Figure 2: Factors affecting sustainability of autonomous business schools in India



Research Findings

The ranking data obtained from NIRF (refer Annexure B) was analysed under different cohorts using hierarchical cluster analysis. Through this, we identified the homogeneous groups and the following results regarding ranking of an institute or university B-school were found while correlating various factors revealed in the NIRF report.

Initially, we applied cluster analysis over faculty details including "number of faculty members with Ph.D. qualifications", "total number of faculty members" and "number of female faculty members". The results show that the ranking of any institution is significantly dependent on the number of faculty members with Ph.D. in that institution rather than the other two factors. Although the results reflected that the "total number of faculty members" and "number of women faculty members" have a negative implications over the ranking, they also reflected that ranking is independent of the gender of a faculty member.

The analysis of student details showed that the intake of students from a socially challenged category has less significant impact apart from any other dimension in that cohort. Whereas, "number of students from outside country", "number of students graduating in minimum stipulated time" and "number of students admitted in first year' reflected no significance.

Another factor which affected performance the most was the placement outcome of PG students. It was found that the "median salary of placed student" has most significant impact over the ranking of institutions. Whereas, "approved intake of all years of duration", "number of students from within state", "number of students placed through campus placements" and "number of students admitted in first year" had a negative impact over the ranking process.

Research and Publication is another factor having a significant influence over the ranking performance of institutions. Sponsored research plays a vital role and has a positive impact over ranking. Citations in Scopus indexed journals also have a significant and positive impact.

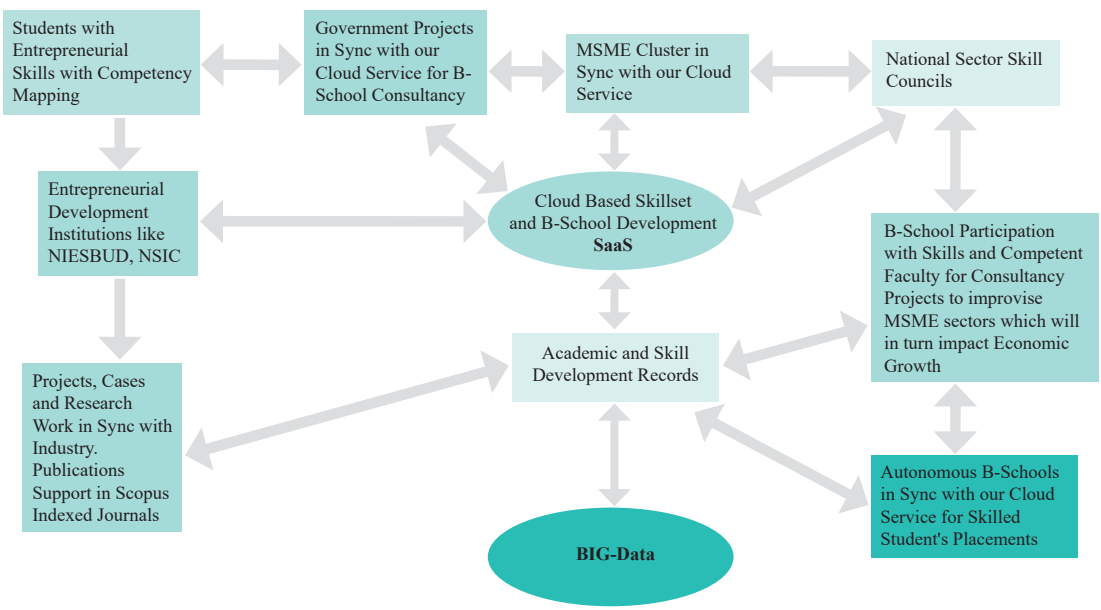
Finally, we carried out cluster analysis on the expenditure part of the institutes. "Annual capital expenditure" and "annual operational expenditure" were found significant, but "total annual expenditure" had negative effect over rankings.

Lastly, we concluded our study with an analysis of perceptions and found that "peer perception" was significant and "employer perception' had negative impact.

Suggestive Model (conceptual framework)

On the basis of our research findings, we propose a conceptual framework (Fig-3) as technological convergence for sustainable autonomous B-Schools.

Figure 3: Conceptual model for improvising educational framework in autonomous business schools in India



Conceptual Model for Improvising Education Framework @ Autonomous B-Schools in India

This model suggests that all the activities of B-schools should be in coherence with the economic development of India. Such a suggested technical model can point

the way to the resolution of most of the issues B-schools face. Following the directions and suggested workflow may lead to improvements not only in their ranking but may increase their business and economic impact on the upcoming generations as well. The suggested model emphasises skills development not only of students but also of the faculty involved in this process. The cluster analysis carried out in this research work provided various important insights regarding both the positive and negative impacts of the various factors associated with the entities over the ranking of any B-School.

Now, as per the above model suggested we need to create a cohesive environment and optimised elastic supply chain model amongst evolving MSME (Micro, Small and Medium Enterprises) clusters and autonomous B-Schools for consultancy projects. The initial amount may be less as per the capacity of MSME, but, in long run, they will pay as an experience for getting better consultancy projects. The next stage of the same could be joint research facilities and case development from these consultancy projects. This will create brand building not only for the MSME sector but also for the institutes involved. Scopus-indexed journals always welcome a research paper based on primary research rather than on secondary research. This effort could help out not only in skills development, but also provide research opportunities for faculty members to complete their respective research work and publish quality research papers. The increased numbers of faculty with Ph.Ds. will help upgrade the ranking of the institution. Secondly, consultancy projects will provide experiential learning opportunities (learning by doing) to the students involved in these live projects. This will increase the employability of such graduates. Our SaaS based model will keep track of each and every activity and all the entities involved in these processes. The coherence could support economic growth as well as provide transparency in ranking for sustainable autonomous B-schools. We believe it is critical for B-schools to work towards their sustainability, and our suggested technology-based conceptual model can provide B-schools an edge to face competition from the existing placeholders.

Conclusion

Business school rankings are important, as they can directly impact an institution's economic endeavors for sustainability and help it to remain competitive. Such ranking provides comparative information to various stakeholders; prospective students use

the information to guide them in their choice of institutions; employers when recruiting staff; government agencies when framing policies for financing higher education and institutions; all in all, providing empirical data for stakeholders to make informed choices.

Our study has helped us to identify a few significant parameters that business schools need to take note of to increase the likelihood that they will be in the league of top institutions in India. These factors are related to developing individual space in sponsored research and consultancy projects; enhancing the perception index and diversifying the sources of their students' intake across states and countries. B-schools should also learn from the correlation between the number of faculty with Ph.Ds and revenue generation from sponsored research projects and industry connectedness. Presently, most of the mediocre business schools have low visibility in publication details and citations. Obviously, they need to improve by making their business schools become fertile ground for generating ideas through research and publications. Another important aspect revealed by the study is that the number of faculty members does not contribute towards up scaling the rank of an institution. So, business schools must review their faculty hiring practices towards a preference for candidates with doctoral qualification. Entrepreneurial activities and involvement of MSME sectors could develop the required skillsets for providing such consultancies. Student participation in such activities will go a long way towards helping students become industry-ready.

The educational landscape in India needs a transitional change. Many business schools graduates remain unemployed, because they lack adequate relevant skills and competencies which market and industry need. Mediocre business schools formed a homogeneous group with graduates earning low median salary (measured in terms of graduation outcomes). If India's growing youth population is to be productively engaged and contribute to the nation's economic prosperity, they must be equipped with industry-relevant skills that will help them get well-regarded, well-paying jobs and satisfying careers. It is here that India's aspiration of creating world class internationally ranked institutions becomes of paramount importance.

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Annexure A : Ranking Parameters and Weightages (Management)

Sr. No.	Parameter	Marks	Weightage
1	Teaching, Learning and Resources (TLR)	100	0.30
	A. Student strength including Doctoral Students (SS): 20 Marks B. Faculty-Student Ratio with emphasis on permanent Faculty (FSR): 30 Marks C. Combined Matric for Faculty with Ph.D. (or equivalent) and Experience (FQE): 20 Marks D. Financial Resources and their utilization (FRU): 30 Marks		
2	Research and Professional Practice (RP)	100	0.30
	A. Combined Matric for Publications (PU): 30 Marks B. Combined Matric for quality of publications (QP): 40 Marks C. IPR and Patents: Filed, Published, Granted and Licensed (IPR): 15 Marks D. Footprint of Projects, Professional Practice and Executive Development Programs (FPPP): 15 Marks		
3	Graduation Outcomes (GO)	100	0.20
	A. Combined Matric for Placement, Higher Studies and Entrepreneurship (GPHE): 40 Marks B. Metric for University Examinations (GUE): 15 Marks C. Median Salary (GMS): 20 Marks D. Metric for Graduating Students admitted into Top Universities (GTOP): 15 Marks E. Metric for number of Ph.D. Students graduated (GPHD): 10 Marks		
4	Outreach and Inclusivity (OI)	100	0.10
	A. Percent students from other states/countries (Region Diversity RD): 30 Marks B. Percentage of Women (Women Diversity WD): 25 Marks C. Economically and Socially Challenged Students (ESCS): 25 Marks D. Facilities for Physically challenged students (PCS): 20 Marks		
5	Perception (PR)	100	0.10
	A. Peer Perception: Employers and Research Inventors (PREMP): 25 Marks B. Peer Perception: academic Peers (PRACD): 25 Marks C. Public Perception (PRPUB): 25 Marks D. Competitiveness (PRCMP): 25 Marks		

Source: Discipline-wise methodology for India Rankings 2017, Ranking of Higher Educational Institutions on performance, National Institute Ranking Framework, Ministry of Human Resource Development, Government of India.
Retrieved from https://www.nirfindia.org/Docs/Management.pdf (accessed on April 17, 2017)

Annexure B: Ranking of Higher Educational Institutions (Management)

Name of Institution	Score	Rank
Indian Institute of Management Ahmedabad	78.96	1
Indian Institute of Management Bangalore	78.82	2
Indian Institute of Management Calcutta	76.6	3
Indian Institute of Management Lucknow	71.58	4
Indian Institute of Management Kozhikode	65.41	5
Indian Institute of Technology Delhi	64.51	6
Indian Institute of Technology Kharagpur	63.12	7
Indian Institute of Technology Roorkee	62.46	8
Indian Institute of Management Indore	59.59	10
National Institute of Industrial Engineering, Mumbai	55.74	12
Indian Institute of Management Raipur	54.8	14
Indian Institute of Management Udaipur	53.77	15
Management Development Institute	53.12	16
Vellore Institute of Technology	51.83	17
S. P. Jain Institute of Management & Research	51.42	18
Indian Institute of Management Rohtak	51.16	19
Indian Institute of Management Kashipur	51.07	20
Rajiv Gandhi Indian Institute of Management	50.44	21
Kalinga Institute of Industrial Technology	50.43	22
Anna University	49.81	23
Institute of Management Technology, Ghaziabad	48.77	24
Indian Institute of Management Ranchi	48.7	25
PSG College of Technology	48.32	26
International Management Institute	48.23	27
Banaras Hindu University	47.96	28
Institute of Rural Management Anand	47.83	29
Indian Institute of Foreign Trade	46.79	30
Nirma University	45.81	31
Indian Institute of Forest Management	44.96	32
Xavier University	44.85	33
Narsee Monjee Institute of Management Studies -Mumbai	44.81	34
Guru Gobind Singh Indraprastha University	44.51	35
Fore School of Management	44.51	35
Goa Institute of Management	44.06	37
Institute for Financial Management and Research	43.6	38

Tezpur University	43.29	39
Bharati Vidyapeeth?s Institute of Management and Entrepreneurship Development	42.85	40
K.J. Somaiya Institute of Management Studies & Reserach	42.17	41
Sri Krishna College of Engineering and Technology	42.08	42
Jaipuria Institute of Management, Noida	41.92	43
Shanmugha Arts Science Technology & Research Academy (SASTRA)	41.9	44
Birla Institute of Management Technology	41.76	45
Prin. L.N. Welingkar Institute of Management Development & Research	41.27	46
MIT School of Telecom Management	40.94	47
Atal Bihari Vajpayee Indian Institute of Information Technology and Management	40.51	48
International Management Institute, Kolkata	40.4	49
Xavier Institute of Management & Entrepreneurship	40.07	50

Source: Compiled from India Rankings 2017 and 2016, Ranking of Higher Educational Institutions on performance, National Institute Ranking Framework, Ministry of Human Resource Development, Government of India. Retrieved from https://www.nirfindia.org/ManagementRanking.html (accessed on April 17, 2017)

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Guide for Authors Submitting Articles to Singapore Management Journal

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