

Managing Management Graduates' Give Back Intentions: An Empirical Study, Part II

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Abstract:

Purpose: The purpose of this paper is to discuss the role of alumni as a means of achieving self-sustainability and long term competitive advantage in management education sector. For the same, the study attempts to identify and prioritize the factors influencing alumni to contribute to their Alma mater and seeks a long term associations.

Methodology: Passed out graduates (alumni) of public Universities of North Eastern region of India were taken as sample for analysis that fulfils the objectives of the paper. The responses of the graduates were analysed for its reliability and data reduction using SPSS package software. The study further applied Grey Relational analysis method for prioritizing the explored factors for meaningful conclusions.

Findings: Based on the analysis, the study concludes that statements belonging to university image factor were ranked above all followed by the statements of perceived service quality as influencers of giving back intentions of the alumni.

Practical Implications: The study suggests a roadmap to determine which service quality dimension guide toward higher or lower level of graduates' overall satisfaction driving them toward giving back.

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I. INTRODUCTION

While the English as a medium of education introduced during Lord Macaulay's period has shaped the very contour of Indian education system, the impact of globalization has forced the Indian higher education to put emphasis on improving the quality on a priority basis (Sharma & Kaur, 2004). In Indian economy, higher education is considered as a critical component of social sectors. However the studies reveal that the increasingly competitive global environment and foreign investments have led this sector to rely more on market forces and private institutions than on public institutions and public

funding (Varghese, 2015). Probably, this is also because of the reason that globalization of economies around the world has created a competitive marketplace where only the best service providers have the chance to survive (Jain et al., 2011). As a result of the current scenario, higher education is experiencing market-oriented and commercial competition imposed by economic forces and competition forces (Williams, 1993; Seymour, 1992). There becomes a need of substantially transforming the professional education system of the country in order to inculcate practical knowledge so that the future generations becomes generators of employment for others rather than joining the job seeker's bay.

Gone are the days when education was relegated to the secondary position. Today education is a national agenda and is a catalytic tool that can transform the future of our youth and children. Increasingly, it is in this context organizations need to give more emphasis to quality aspects in order to be able to differentiate as well as sustain themselves in competition (Arokiasamy, 2012). Approximately half of India's 1.2 billion population are under the age of 26 years by and it is projected that by 2020 it is going to be the youngest country in the world with a median age of 29 years. Our government, to enhance this momentum, has promised to come out with a policy to meet the changing dynamics of population requirements revolving around quality education, innovation and research aiming to make India a knowledge super power by upgrading the students with necessary skills to eliminate the shortage of manpower in various industry verticals across the country. In a similar fashion, the universities and all other higher educational institutions are giving more emphasis on evaluating their students' perceptions over the educational service quality they deliver to them. This concern from the educational institutions is visible nowadays because of the reason that education has been classified as a marketable service following the high competition in the sector (Oldfield & Baron 2000). Let us agree to the basic tenets that there are five capabilities namely entrepreneurial spirit, creativity, technology, appreciative inquiry and moral leadership which are the corner stones on which the education process is built up. And if we delve a little more we realise that by developing our future citizens as lifelong learner only we can transform India from a developing to a developed nation.

In the present scenario, the higher education system and management education in particular, is approaching toward a situation of commercial competition, which got imposed by diverse economic forces across the globe (Seymour, 1992). Similar to the functionality and nature of corporate, nowadays, the academic institutions across the

country are in much needed requirement of continuous innovations, diversification of their system and structures. In addition to these, an educational service provider have got to be concerned not only with market share and return on their investments, but also toward understanding the perceptions of customers on service quality offered and their satisfaction. This will enhance their image in the minds of the customers and will help in attaining a sustainable competitive advantage over others, similar to commercial organizations (Chawla & Sharma, 2014). Today, in the view of students as customers (Kanji & Tambi, 1999), it is essential to recognize their expectations from the universities and fulfil them in time. This makes academic research important in improving the quality of educational services across the globe particularly in the developing countries like India. Our process of monitoring and evaluating especially the academic performance of schools and colleges need to be refurbished. More so, there is a genuine requirement of a plethora of nationally recognised agencies both in the private and public domain. We have the advantage and there is some experience through the use of establishment like National Assessment and Accreditation Council (NAAC) and it is doing a commendable job in terms of granting accreditation of our colleges and universities. This effort further need to be accelerated ultimately transforming into a symbiotic public private partnership. Let us not brush aside that the very theme of accreditation has to be grounded deep percolating to all the schools and colleges. The parameter and the measurement for monitoring the assessment could be based on rational of syllabus to meet the nation building development needs, pedagogy, imbibing and action learning criteria leading to development of acceptable employable skills, providing an impetus to value based education towards the evolution of refinement of human civilization.

Service quality has emerged as a strategic issue in the global competitive environment and it is now demanding top level attention from the universities

offering management programmes in India. It has been a serious concern following the rapid growth in Institutions imparting management programmes in India to cater the increasing demand of management professionals across industries. This quantitative growth of the institutions seems to have neglected the qualitative aspects of the programmes in the country. Many researchers have raised their concerns over this fact and concluded the very necessity of improving the quality of management educational services (Narang, 2011; Sahney et al, 2004). It has been highlighted that the present higher educational landscape including management education is very dynamic and is continuously growing competitive. To sustain in these challenging conditions the universities and other higher educational institutions need to maximize their efforts regarding improving their quality of educational services (Dehghan et al., 2014; Cheung et al., 2011). This will help them in being distinct from their competitors and enhancing their survival chances in the current competition.

It has been discussed so far that the strategy to consistently deliver superior educational service quality is a key for institutions to position themselves more effectively in the current competitive scenario. Also in the future, sustainability and prosperity of these institutions will majorly depend on their ambassadors, which will be their graduates. This study, therefore, is an in-depth investigation that seeks to comprehend the issues of service quality in management education setting of the region and its consequences on graduates' satisfaction and their future behavioural intentions. The motivation for this work is justified by lack of a universal instrument for assessing the service quality in management education in India and particularly in North-Eastern Region of India. In addition, this will help in understanding the satisfaction level of management graduates and their probable future behavioural intentions toward their alma mater. Although, it seems that the literature have abundant empirical studies on service quality, loyalty, student retention, and student satisfaction in general, there

exists very few numbers of studies relating specifically to the pass out management graduates (alumni) in India and particularly in NER. Hence, this study will attempt to explore the factors leading to management graduates' positive behavioural intentions so that strategies can be framed to persuade future favourable behavioural intentions like alumni giving and favourable communications from the graduates.

The present study has been conducted in three phases all together for a better generalization of the findings in decision making. This integrated attempt would enhance the applicability of these methods over their separate usage (Sahney, 2011). The first phase of the series has attempted to discover various dimensions influencing the alumni giving as a part of their positive behavioural intentions towards their alma mater by using modified SERVQUAL scale and then prioritized them using RIDIT analysis. The second phase will include induction of another algorithm known as Grey Relational Analysis (GRA) to rank the identified dimensions to verify its' robustness for decision making. This phase will attempt to conclude a list of dimensions influencing the alumni giving intentions among the management graduates' of Indian Universities. In the final phase, TOPSIS methodology will be applied in order to assess the ranking of the Universities (represented in the sample) based on these dimensions. The present paper is the second one of the series and is restricted to displaying the identified factors influencing the alumni giving and its prioritization using GRA method. Even though the present study is a part of a series, the paper attempts to include all the steps of data analysis for the sake of researchers who intend to know exclusively about the method used in this phase.

II. ALUMNI AS CONTRIBUTORS TO THEIR ALMA MATER

Today we are living in a boundary less global village and thus it is not surprising that the students with qualification would in a natural course enter in

industry stream from the college and halls of academia. Thus it is not irrelevant to assume that commerce and business of the future would also devote in significant levels of research. If we have to make this possible then we have to bolster an exciting environment of creativity to make this exercise relevant and stimulating. Hence there must be a whole hearted and full-fledged involvement of private industries in education and the government of India need to play the role of a dominant player to provide impetus and momentum to this valued intervention. However this exercise would remain incomplete without involvement of Alumni. Relying on the fact that Alumni are one of the important stakeholders, higher education institutions need to encourage long-term communications with their potential and actual alumnus, which in turn will act as a support for them (Pulley, 2013). For the holistic development of the learners, there is a need that the alumni share their inputs and distinct approaches which they gained from their rich experiences and expertise. To gain so, institutions need to encourage students' involvement in various campus activities while they are still studying (Steeper, 2009; Monks, 2003; Mann, 2007). These engagements will enhance their campus experiences and they will feel more satisfied, which then may help in developing future willingness to support their institutions (Sung & Yang, 2009). It has been strongly argued that satisfied alumni with their campus experiences possess greater possibilities toward alumni giving (Hoyt, 2004). In other words, the experience of students in their university campus becomes a very crucial segment of study to predict the future intentions of the alumni towards giving back to their alma mater and other favorable behaviors. It has been supported that a satisfied management graduate is more likely to develop a donating behaviour (Edgington & Schoenfeld, 2004) in future as compared to other program graduates (Bruce, 2007), because of its professional nature, skill-based approach in curriculum and value addition among the graduates (Baruch & Peiperl, 2000). These given facts build the basis for the present study to examine

and evaluate the management education quality and its predictability toward graduates' satisfaction and their favourable behavioral intentions including giving back intentions.

The term "alumni" is understood to be former students of a specific school, college or university (CASE, 2017). They are now considered as one of the crucial stakeholders in the higher education sector. Forced with the current phase of the competitive environment, higher education institutions around the globe, have shifted their focus on alumni in order to increase their fund base, image, and quality of education. The benefits of doing so are their improved competitive position as well as educational standards (Clotfelter, 2003; Heller, 2006; Weerts et al., 2010; Glover & Krotseng, 1992; Iskhakova et al., 2016).

In recent years, academic studies and research has been growing, concentrating on alumni and their contributions towards their alma mater (Iskhakova et al., 2016; McAlexander & Koenig, 2001; Osayawe & Taylor, 2009; Lee & Anantharaman, 2015; Svoboda & Harantova, 2015; Johnson et al., 2010; Baruch & Sang, 2012). This inclination towards alumni research has been triggered by various changing socio-economic conditions. For instance, the influence of globalization (Rubens, Russell & Perez, 2011) and competitive environment (Brennen & Dooley, 2005) in higher education. Also, decreasing higher education funding from government (Weerts & Ronca, 2008) and a state of 'war of talents' among universities (Melchoiri, 1988) are contributing toward the studies on alumni and their loyalty toward this alma mater.

Previous studies have strongly argued that higher education institutions should foster strong bonding and connection with their alumni in order to facilitate their survival chances and image building (Baruch & Sang, 2012). In addition to these, alumni can be a prominent alternative medium for generating funds for the institutions (Monks, 2003). Apart from their fundraising prospects, institutions may benefit in getting positive and valuable word of mouth, communication, shared skills and experience,

memberships of professional networks and so on (CASE, 2017).

Considering the extraordinary influence that an alumni can have on Business Management educational endeavour, it is important not to overlook their role and capability to the different aspects of building of a knowledge society for which India aspires for. More explicitly, the alumni can take cognizance of several aspects such as mindset, attitudes, and culture, as well as at the individual, institutional, systemic and societal levels. Even though it may look like a challenging proposition from the standpoint of execution, what we have so far not recognised is that there are a multiplicity of alumni in this country who can come forward willingly with their support if they are convinced that there is sincerity and honesty and an ethical approach to building a resplendent society. Let us agree that an alumni has infinite potential to inject several important ideas, many of them 'out of the-box' in their nature and several with a futuristic relevance providing multiple paths, spanning over a wide spectrum of Management educational endeavours.

III. METHODOLOGY

The research sample for the present study comprised of management graduates who have passed their MBA from the public universities of North eastern region of India during 2014, 2015 and 2016. It was made sure that all the respondents showed their willingness to contribute in the survey. In total eleven universities were considered for data collection. The graduates under study universe comprised from the batches of 2012-14, 2013-15 and 2014-16. The questionnaires were sent to the participants through e-mail along with a cover letter explaining the purpose of the study and assurance of the privacy of their information shared to the researcher. Finally, 352 out of 700 distributed e-questionnaires were received through Google document receiver with a response rate of 50.28%, which is acceptable for analysis (Nulty, 2008). All 352 responses were screened and 5 were found to be

non-usable and were excluded (Sekaran & Bougie, 2016). Finally, 347 usable filled up e-questionnaires were used for further analysis of the data fulfilling the minimum requirement of sample size between 100-500 observations (Hair, Black, Babin, Anderson & Tatham, 2010). The research instrument was divided into two sections, first included nine (9) questions about management graduates' socio-demographic profile and the second included thirty one questions referring to management graduates' perceived service quality (PSQ) and their behavioural intention items. After preliminary investigation of the data and cleaning procedures, the total items retained for further analysis got restricted to twenty three items. Further analysis were performed on these twenty three items for the relevant conclusions. Each Likert-type scale item comprised seven opinions ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), as 7-point likert scale is optimum and effective in studies focussed to social science and marketing domain (Schall, 2003). The questionnaire was pretested to ensure that the wordings, sequencing and length of questions and range of scale were proper or not.

IV. DATA ANALYSIS AND RESULTS

Cronbach alpha (α) was computed for reliability test of the items and overall α was found to be 0.913 (Table 1), indicating good consistency among items (Nunnally & Bernstein, 1994). Principal Components Analysis (PCA) was used selecting varimax rotation and Kaiser Normalization to get twenty one (23) elements (Table 5) culminated into five factors which represented 65.602 % of the explained variance (Table 2). All the five factors have shown more than 0.5 loading values of all the items and therefore all the five factors were maintained. The factors also showed high internal consistency as it showed acceptable score of Cronbach's alpha (α), which is used to test the factor reliability. The alpha coefficient ranges from 0.780 to 0.913 which is higher than the recommended threshold of 0.7 (Nunnally & Bernstein, 1994).

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
.913	23

Table 2: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.025	34.892	34.892	8.025	34.892	34.892	3.477	15.116	15.116
2	2.626	11.415	46.307	2.626	11.415	46.307	3.249	14.126	29.243
3	1.751	7.612	53.919	1.751	7.612	53.919	3.117	13.551	42.793
4	1.512	6.575	60.495	1.512	6.575	60.495	2.981	12.961	55.755
5	1.175	5.107	65.602	1.175	5.107	65.602	2.265	9.847	65.602

Extraction Method: Principal Component Analysis.

The individual Cronbach's alpha (Table 3) of the factor academic aspects (AA) is 0.913, infrastructure (IN) is 0.897, a placement (PL) is 0.824 and of industry collaborations (IC) is 0.780. Eigen values of all the factors are greater than or equal to 1.0 which facilitated in deciding the factors for analysis as recommended by Hair et al 2010. The communalities of the attributes presented in Table 1, are in the range of 0.427 to 0.784 indicating that all the items have an adequate amount of shared variance with other items (MacCallum, Widaman, Zhang & Hong, 1999).

Table 3: Reliability Statistics of Individual Variables

Variable	Cronbach's Alpha	N of Items
Perceived Value	.876	5
Perceived Service Quality	.735	4
University Image	.816	5
Behavioural Intention	.862	5
Holistic Development	.888	4

The present study utilizes the Bartlett's test and Kaiser-Meyer-Olkin (KMO) measure of sampling

adequacy with the intention to test and confirm the suitability of the sample data for exploratory factor analysis (EFA). The result of both the tests were satisfactory with the KMO score of 0.885 (Table 4) and score of Bartlett's test of Sphericity as $\chi^2=4411.252$, $df = 253$, $p < .000$ (Table 4). The result of KMO score in the present study was above 0.80 and hence it is supported that the variables are considerably interrelated and they share common factors (Kaiser, 1974). In addition to this, the Bartlett's test of sphericity confirms that the data can be proceeded for principal component analysis or in other words for structure detection (Field, 2009). The results of the two tests also fulfil the requirements of the factor analysis feasibility and hence, it shows that the data were suitable in all respect for factor analysis (Hair et al., 2010).

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.885
Bartlett's Test of Sphericity	Approx. Chi-Square	4411.252
	df	253
	Sig.	0.000

The five factors identified are as follows: Factor 1 – Perceived Value (PV), Factor 2 –Behavioural Intentions (BI), Factor 3 –Holistic Development (HD), Factor 4 – University Image (UI) and Perceived Service Quality (PSQ). Factor 1 consisted of five elements and explained 34.892 percent of the variance in the data with an Eigen value of 8.025. This factor represented items that were associated with overall value characteristics of management education in the university as perceived by the graduates.

Table 5: Rotated Component Matrix

Items	Component				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
PV04	.845				
PV02	.822				
PV05	.822				
PV03	.682				
PV01	.624				
BI04		.795			
BI02		.774			
BI01		.745			
BI05		.745			
BI03		.634			
HD04			.864		
HD03			.836		
HD02			.804		
HD01			.700		
UI02				.793	
UI03				.750	
UI04				.737	
UI01				.728	
UI05				.614	
PSQ03					.758
PSQ02					.756
PSQ01					.588
PSQ04					.538

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

Factor 2 also represented five items that described the behavioural intentions of the graduates for their university and this accounted for 11.415 percent of the variance in the data with an Eigen value of 2.626. Factor 3 explained 7.612 percent of the

variance with an Eigen value of 1.751 and addressed holistic development related queries of the programme. Factor 4 was related to the university image and reputation with variance of 6.575 percent in the data with an Eigen value of 1.512. At last, Factor 5 was related to the graduates' perception on service quality delivered by the university with variance of 5.107 percent in the data with an Eigen value of 1.175. Table 5, shows rotated component matrix for the data used in determining the constructs of management graduates' intentions on giving back to their alma mater. Generally, factor loading represents how much a factor explains to that particular variable. High loading indicates that the factor strongly influences the variables. A thumb rule of factor loading score >0.7 has a high impact on the variables (Hair et al., 2010). On giving a look on Table 5, it was found that among all factor loading scores, one variable from each of the perceived value and university image and two from perceived service quality factor is <0.7 , which needs immediate attention for improvements by the university authorities.

V. REGRESSION ANALYSIS

A regression analysis was performed in order to get a deeper insight on the relationship between the factors and the alumni intentions in the public university setting. The analysis was done using SPSS version 20, by selecting perceived value, holistic developments, university image and perceived service quality as independent variables and behavioural intentions as dependent variable. The dependent variable consisted five items relating to overall positive intentions toward giving back to the alma mater and for the ease of computation a mean was taken of the variable items. The results of the analysis are shown in Table 6 and Table 7.

Table 6: Regression Analysis Summary (a)
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
1	.666 ^a	.443	.413	.74641	.443	14.509	.000

a. Predictors: (Constant), HD04, UI04, PV01, PSQ01, UI05,

PSQ02, PSQ04, PV04, UI03, HD01, UI01, PV03, UI02, PSQ03, PV02, HD02, PV05, HD03
b. Dependent Variable: BI

Table 7: Regression Analysis Summary (b)
ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	145.497	18	8.083	14.509	.000 ^b
Residual	182.739	328	.557		
Total	328.237	346			

a. Dependent Variable: BI

b. Predictors: (Constant), HD04, UI04, PV01, PSQ01, UI05, PSQ02, PSQ04, PV04, UI03, HD01, UI01, PV03, UI02, PSQ03, PV02, HD02, PV05, HD03

The regression analysis shows that the relationship between Behavioural Intention (BI) and various factors are statistically significant ($p < 0.05$). Also, the adjusted R^2 value, 0.413, indicates that the relationship is statistically significant. The R^2 value also is 0.443 explaining 44.3% variance of the independent variables on the alumni giving (BI) variable. The explainability of the model is below 50%, but is acceptable because of the nature of the study which belongs to social sciences domain. It is also suggested that this variance maybe improved by including few more relevant factors and increasing the sample sizes. Due to these limitations the value of R^2 seems little low.

Prioritization of the factors leading to giving back

Grey system theory emerged as a system theory in 1980s following the shortcomings and inability of existing theories to respond comprehensively to the modern day problems (Liu & Lin, 2006; Liu et al., 2012). Early in 1982, Professor Julong Deng introduced the grey system theory, which was capable of effectively solving the problems with limited information, limited sample size, uncertainty in a system etc. This system was acknowledged to be suitable in solving complex problems having complicated interrelationships among the multi-factors and variables effectively through the

relational analysis (Wu, 2007; Moran et al., 2006). This result in obtaining a single grey relational grade, from very complicated multi-factor characteristics, to further get accurate view of the problem and performing comparisons (Berih et al., 2011). It has been strongly put forward that in the prevailing situation of management role, there are many practical decision-making situations which possess inadequate information and occur with uncertainty (Deng, 1982; Berih et al., 2011). Therefore, to deal with these situations, grey systems theory is extensively used for data analysis across research domains. The subsequent sections will compute the GRA for the collected sample data following the following algorithm:

Step 1: The very first step in GRA computation is to get the standard data series (X_0).

$$X_0 = (d_{01}, d_{02}, \dots, d_{0n})$$

Where n denotes the size of respondents

In common understanding, the standard data series X_0 is comprised of n values that represent the responses which are the most favoured ones.

Step 2: the second step includes getting the comparison data series (X_i).

$$X_i = (d_{i1}, d_{i2}, \dots, d_{in})$$

Where $i = 1, \dots, k$ and k displays the size of scale items.

And therefore, there will be k number of comparison data series (X_i) comprising n values.

Step 3: Next step involves computation of the difference data series (Δ_i).

$$\Delta_i = (|d_{01} - d_{i1}|, |d_{02} - d_{i2}|, \dots, |d_{0n} - d_{in}|)$$

Step 4: At this juncture of the GRA procedure, we try to discover the overall maximum value Δ_{max} and minimum value Δ_{min} in the data series.

Step 5: The next step involves the computation of grey relational coefficient $\{\gamma_i(j)\}$, representing the j^{th} data point in the i^{th} difference data series.

$$\Upsilon_i(j) = \frac{\Delta_{min} + \rho \Delta_{max}}{\Delta_i(j) + \rho \Delta_{max}}$$

Where $\Delta_i(j)$ represents the j^{th} value in Δ_i difference data series and ρ is a coefficient with value normally set to 0.5. It is employed to balance the effect of Δ_{max} as it behaves as an extreme value in the data series.

Step 6: Finally, grey relational grade (Γ) needs to be computed for every difference data series. Assuming that the data points resemble same weights, then grey relational grade for the i^{th} item of the scale (Γ_i) will be computed as:

$$\Gamma_i = 1/m \sum_{n=1}^m \Upsilon_i(n)$$

The extent of Γ_i value denotes the standardised deviation of the i^{th} data series from original to reference data series. In simple words, if the value of grey relational grade (Γ) of an item of the scale is high then it will mean that all the respondents have strongly supported a particular dimension.

After getting the values of Γ and sorting either in ascending or in descending order, the final ranking results are obtained.

Table 8: Difference data series of BI

$\Delta 1$	$\Delta 2$	$\Delta 3$	Δx	$\Delta 6$	$\Delta 7$	Δx	$\Delta 10$	Δx	$\Delta 12$	$\Delta 13$	Δx	$\Delta 18$
4	3	3	-	0	0	-	1	-	0	1	-	4
4	1	1	-	1	0	-	0	-	0	0	-	0
6	1	6	-	0	1	-	1	-	1	1	-	3
1	1	1	-	0	1	-	1	-	1	1	-	4
4	1	1	-	1	1	-	1	-	1	1	-	0
4	4	4	-	1	1	-	1	-	1	1	-	4
3	3	6	-	0	0	-	1	-	1	1	-	0
4	1	1	-	0	1	-	1	-	1	1	-	4
6	1	1	-	0	4	-	1	-	1	0	-	1
4	4	4	-	0	1	-	1	-	1	1	-	4
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
6	4	3	-	0	1	-	1	-	1	0	-	1
6	3	3	-	1	1	-	0	-	0	0	-	0
3	3	3	-	1	3	-	1	-	0	1	-	3
3	3	3	-	1	3	-	1	-	0	1	-	3
1	1	1	-	1	0	-	1	-	1	1	-	1
0	1	0	-	0	0	-	4	-	1	1	-	1
0	0	1	-	3	0	-	0	-	1	0	-	0
1	1	1	-	3	0	-	0	-	1	0	-	0
0	0	0	-	1	1	-	0	-	0	0	-	1
4	1	1	-	0	0	-	0	-	0	0	-	0
0	0	3	-	0	0	-	0	-	1	1	-	6
0	0	3	-	0	0	-	0	-	1	1	-	6
4	1	1	-	0	0	-	0	-	0	0	-	0
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
3	1	3	-	3	3	-	1	-	0	3	-	1

1	1	4	-	1	1	-	1	-	1	1	-	4
1	0	1	-	3	3	-	3	-	1	1	-	1
4	3	3	-	3	3	-	1	-	1	1	-	3
3	1	3	-	3	1	-	1	-	3	4	-	0
4	1	1	-	1	1	-	1	-	1	1	-	0
3	1	3	-	3	1	-	0	-	0	1	-	0
3	4	1	-	1	1	-	0	-	0	0	-	0
4	4	4	-	3	1	-	1	-	0	1	-	1
3	3	3	-	1	1	-	0	-	0	1	-	6
4	3	4	-	6	0	-	0	-	0	0	-	0
1	3	3	-	1	1	-	1	-	1	0	-	1
1	0	0	-	0	0	-	0	-	0	1	-	1
0	1	1	-	1	0	-	1	-	0	1	-	1
1	1	1	-	0	1	-	3	-	1	1	-	1
3	4	4	-	0	1	-	0	-	0	1	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	-	0	1	-	0	-	0	0	-	1
0	0	0	-	0	0	-	0	-	0	0	-	1
0	0	0	-	1	1	-	0	-	0	0	-	1
0	0	0	-	1	1	-	1	-	0	1	-	1
1	1	1	-	1	1	-	1	-	1	1	-	1
0	0	0	-	0	1	-	3	-	3	1	-	3
0	0	0	-	0	0	-	0	-	0	0	-	0

Source: Author's Compilation

Table 9: Grey Relational Grade for BI

Y1	Y2	Y3	Y4	Y5	Y8	Y9	Y14	Y15	Y16	Y17	Y18
0.43	0.50	0.50	0.43	0.33	-	-	1.00	0.50	0.50	0.43	0.43
0.43	0.75	0.75	0.75	0.75	-	-	1.00	1.00	1.00	1.00	1.00
0.33	0.75	0.33	1.00	0.75	-	-	0.75	0.50	0.50	0.50	0.50
0.75	0.75	0.75	1.00	0.75	-	-	0.75	0.50	0.50	0.50	0.43
0.43	0.75	0.75	0.75	0.75	-	-	1.00	0.75	0.75	1.00	1.00
0.43	0.43	0.43	0.43	0.43	-	-	1.00	0.43	0.43	0.43	0.43
0.50	0.50	0.33	0.75	0.75	-	-	1.00	1.00	0.75	0.75	1.00
0.43	0.75	0.75	0.75	0.43	-	-	1.00	0.43	0.43	0.43	0.43
0.33	0.75	0.75	0.75	0.75	-	-	1.00	0.60	0.75	1.00	0.75
0.43	0.43	0.43	0.43	0.43	-	-	0.75	0.43	0.43	0.43	0.43
0.43	0.75	0.33	0.75	0.75	-	-	1.00	0.43	0.43	1.00	0.75
-	-	-	-	-	-	-	-	-	-	-	-
0.75	0.75	0.75	0.75	0.75	-	-	1.00	0.75	0.50	0.50	0.50
0.75	0.50	0.50	0.50	0.50	-	-	0.75	0.75	0.75	0.50	0.50
0.75	1.00	1.00	1.00	0.75	-	-	1.00	1.00	1.00	0.75	1.00

1.00	1.00	0.75	1.00	0.75	-	-	1.00	1.00	1.00	0.50	0.50
0.75	0.75	0.75	0.75	0.75	-	-	0.75	0.75	0.50	1.00	0.75
0.75	0.75	0.75	1.00	0.75	-	-	1.00	0.75	0.75	0.75	1.00
1.00	1.00	0.50	0.75	1.00	-	-	1.00	0.75	1.00	0.75	1.00
1.00	0.75	0.75	0.75	0.75	-	-	1.00	1.00	0.75	0.50	0.50
0.50	0.75	0.50	0.50	0.75	-	-	0.75	0.75	0.75	1.00	0.75
0.43	0.43	0.43	0.43	0.75	-	-	0.75	0.75	0.75	1.00	0.75
0.75	0.75	0.50	0.50	0.75	-	-	0.50	0.60	0.50	0.50	0.50
-	-	-	-	-	-	-	-	-	-	-	-
0.75	0.75	0.75	0.75	0.75	-	-	0.75	0.75	0.75	1.00	0.75
1.00	1.00	1.00	1.00	1.00	-	-	1.00	0.75	0.75	1.00	0.75
1.00	1.00	1.00	1.00	1.00	-	-	1.00	0.75	0.75	1.00	0.75
1.00	1.00	1.00	1.00	1.00	-	-	0.75	0.75	0.75	1.00	0.75
1.00	1.00	1.00	1.00	1.00	-	-	1.00	0.75	1.00	1.00	0.75
1.00	1.00	1.00	1.00	1.00	-	-	0.75	0.75	0.75	1.00	0.75
1.00	1.00	1.00	1.00	1.00	-	-	1.00	0.75	0.75	1.00	0.75
1.00	1.00	1.00	0.75	0.75	-	-	0.75	0.75	0.75	1.00	0.75
0.75	0.75	0.75	0.75	0.75	-	-	0.75	1.00	0.75	1.00	0.75
1.00	1.00	1.00	0.75	1.00	-	-	0.75	0.75	0.75	0.50	0.50
1.00	1.00	1.00	1.00	1.00	-	-	1.00	0.75	1.00	0.75	1.00

Source: Author's Compilation

Table 10: The GRA scores and ranks of BI items

Variable No.	Variable Code	Grey Score	Lower Bound	Upper Bound	Priority Ranking
1	PV01	0.6749	0.5646	0.7852	18
2	PV02	0.7240	0.6220	0.8260	11
3	PV03	0.6942	0.5917	0.7967	17
4	PV04	0.7091	0.6069	0.8113	15
5	PV05	0.7150	0.6087	0.8213	13
6	PSQ01	0.7769	0.6833	0.8705	7
7	PSQ02	0.7495	0.6660	0.8329	9
8	PSQ03	0.7319	0.6414	0.8223	10
9	PSQ04	0.7828	0.6860	0.8797	6
10	UI01	0.7959	0.7173	0.8744	4
11	UI02	0.8417	0.7668	0.9167	1
12	UI03	0.8294	0.7475	0.9113	2
13	UI04	0.8138	0.7353	0.8922	3

14	UI05	0.7918	0.7102	0.8734	5
15	HD01	0.7055	0.6133	0.7978	16
16	HD02	0.7173	0.6208	0.8139	12
17	HD03	0.7609	0.6470	0.8749	8
18	HD04	0.7125	0.6117	0.8132	14

Source: Author's Compilation

From the GRA ranking analysis (Table 10), it was found that out of all the factors influencing alumni giving, University Image item (UI02) – ‘My University has a good reputation’, is of the highest priority item followed by (UI03)– ‘My University has a better image than other Universities’. The third, fourth and fifth priority preference items also emerged to be from the University Image factor making it the most desirable factor for encouraging the alumni giving back intentions. From other factors, Perceived Service Quality item (PSQ04) ranked as sixth item saying – ‘The University has good industry collaborations’ and item (PSQ01) ranked seventh stating – ‘My University have good academic credentials and resources’. Interestingly, in the era of technological developments, the item came in top 10 among the eighteen items in total was found to be from Holistic Development factor (HD03) stating – ‘My University facilitates spiritual development’. The results of RIDIT priority index shows that University Image and service quality is the most important and significant dimension in the case of alumni's positive intentions toward giving back to their alma mater particularly in management education in the public universities of North Eastern region of India. Another inference become very important that, graduates (prior students) do not give importance on their investments like tuition fees and other financial expenditure when it comes to give back.

Further, the lowest priority ranking among the items was found to be (PV01) – ‘The University provides best academic exposure’ from the Perceived Value dimension. The result clearly shows that the lowest three items (PV01, PV03 and HD01) belongs to the

Perceived Value and Holistic Development dimensions. All these three items more over indicates the same output as perceived by the management graduates and that is the overall academic learning and the degree from the University. This means that the university academic services are inadequate and needs to be considered for improvements. The study shows that the students are more focussed on the reputation of the University to get inclined toward extending any sort of giving back. This becomes a challenging task for the universities and in particular the public universities, to balance the programme of study between academic excellences facilitating the strength of a good alumni network.

Comparison of the RIDIT and GRA rankings for the management graduates' give back intentions

To order to establish the RIDIT ranking observed in the first phase of this study and to make a conclusive judgment about the management graduates' give back intentions, the present study made use of Grey relation analysis technique. Through Grey analysis it was found that a very minute difference is visible in the set of ranking of the BI items related to the give back intentions of management graduates represented in the sample as presented in the table below (see Table 11). Items labelled PV05 and HD02 were ranked twelfth (12th) and thirteenth (13th) respectively in RIDIT score and ranking but stood thirteenth (13th) and twelfth (12th) respectively in GRA score and ranking. All other challenges were positioned in the same ranks by both the techniques, which confirm the RIDIT ranking of the items considered for measuring management graduates' give back intentions. A positive correlation (0.998) is confirmed between the outcomes of both the techniques as sixteen out of the total eighteen BI items are of same rankings (see Table 11). Further,

there is no significant difference found with rest of the ranks.

Table 11: Summary of sorted comparative scores and rankings for challenges

RIDIT Score	RIDIT Ranking	Variable	GRA Ranking	GRA Score
0.6150	1	UI02	1	0.8417
0.5996	2	UI03	2	0.8294
0.5758	3	UI04	3	0.8138
0.5518	4	UI01	4	0.7959
0.5480	5	UI05	5	0.7918
0.5430	6	PSQ04	6	0.7828
0.5335	7	PSQ01	7	0.7769
0.5225	8	HD03	8	0.7609
0.4901	9	PSQ02	9	0.7495
0.4712	10	PSQ03	10	0.7319
0.4661	11	PV02	11	0.7240
0.4561	12	PV05	13	0.7150
0.4553	13	HD02	12	0.7173
0.4504	14	HD04	14	0.7125
0.4483	15	PV04	15	0.7091
0.4358	16	HD01	16	0.7055
0.4288	17	PV03	17	0.6942
0.4085	18	PV01	18	0.6749

Source: Author's Compilation

VI. DISCUSSION

The present study fundamentally revolves around the issues of behavioural intentions in management education with special reference to the management graduates from public universities of north eastern region of India. Based on the fact that, alumni are crucial stakeholders in the higher education setting, their positive intentions toward their alma mater becomes more important. An alumni can be a walking encyclopaedia on all aspects of Management education which can truly be a great asset. In the Indian management education sector there exists various factors that influence the graduates' behavioural intentions that can be interpreted as a loyalty behaviour of the graduates. Loyalty in this commercialized world is what every enterprise thriving for. Therefore, it is imperative to identify and classify those factors in order to

highlight the most important one requiring instant attention. The empirical results of the present study presents an evidence that management graduates' positive intentions can reliably be measured with eighteen items loaded on four quality dimensions as Perceived Value (PV), Perceived Service Quality (PSQ), University Image (UI) and Holistic Development (HD). In addition to this, the study also confirms the multidimensional nature of behavioural intentions in higher education particularly in management education.

The study contributes in proposing an appropriate method, the Grey Relational Analysis (GRA) methodology, to assess and prioritize the dimensions to manage superior performance in the management education setting in the public universities of NER. Prioritization helps in better decision making by university managers in identifying the best practices among all explored that can be adopted to improve the overall performance of the university. Hence, an independent grey relational analysis was done on the BI dimensions. It was very interesting to note that the items with the two highest values (implying that individuals place the most importance on these items) were the two items (UI02 and UI03) in the factor related to University Image. On the same note the items (PV01 and PV03) with least importance zone of graduates' radar falls in the factor related to Perceived Value. There is also an approximate similarity between other rankings of items and their cohesiveness and belongingness toward one factor. This necessarily means the groupings of the variables being done by factor analysis under each construct in a way justifies their rankings being done by grey relational analysis.

The present study would like to open the gates for academic research to focus on more behavioural intentions dimensions, so that the current service quality literature can be substantiated with their relevant outcome. Positive behavioural intentions as an outcome is the most sought demand in this cut-throat competition in the higher education sector. The present study tried to substantiate the literature with four factors leading to influence positive

behavioural intentions and particularly giving back intentions.

VII. LIMITATIONS OF THE STUDY AND SCOPE FOR FURTHER RESEARCH

Even though the present study makes significant contributions to the literature of management graduates' behavioural intentions, it has few limitations. First, the data for this study was collected from management graduates of eleven north eastern public universities of India. Therefore, the results and findings cannot be generalised in as it is basis. In future, the researchers should attempt to extend the geographical area including more locations in India, and increasing the size of samples to get more insight toward generalizing the findings of the present study. Second, the study proposed four primary factors influencing management graduates' behavioural intentions, which may not be pertinent and generic for other programmes of higher educational sector as well as other service industry verticals. Future studies may consider adding or modifying the primary dimensions of BI to measure the educational service quality. Also the future researchers should consider adding or modifying the items constituting the dimensions to get more comprehensive conclusions as the items used in the present study are specific to management graduates of public universities of NER. The future studies should consider different prioritizing techniques to rank the items and the dimensions of the perceived service quality in higher education sector. Future research should be considered replicating the present study in different cultural and demographical contexts which will serve the purpose necessary for generalising the findings of this study. The study also suggests for more studies in the similar fashion to explore more factors and develop a comprehensive BI model for the sector.

Let us agree that quality Management education must lead to accomplishment and contentment, promote constructive welfare activities that ultimately leads to greatest benefit to the greatest number of people. The prime focus of this initiative

should be to fortify the ignited minds for more meaningful and satisfying lives and work roles must be dotted with economic prosperity. The aim and purpose of management school education must therefore envisage to be both an excitement and concerted effort to which all students must have access. Let us ensure that we have standardised educational pattern of Business Management educational curriculum that would enhance creation of greater opportunities for individual employment.

Managerial Implications

There are some managerial implications for the university managers/decision makers that can be drawn from the present study. First, the study suggests a roadmap to determine which service quality dimension guide toward higher or lower level of graduates' overall satisfaction driving them toward giving back. They should also concentrate on the items constituting the dimensions for a better improvement plans facilitating positive intentions in future. Second, the study put forward a direction for the university managers/decision makers to formulate an effective strategy to gain competitive advantage over others. Third implication of the study is the suggestion to have regular surveys and students/graduates interactions in order to understand and monitor the implications of service quality program on the future behavioural intentions of the graduates. Active meetings/programs will enhance the relationship between the alumni and the alma mater and will strengthen the bonding between the two. This regular exercise will augment the chances of alumni giving back in future.

Qualified Alumni members who wish to volunteer as remedial instructors or as one-on-one tutors - as a service to their communities and to the nation - must be welcomed. If every member of alumnus could commit to mentor and coach one student, it would change the country's landscape very quickly.

Therefore, there will be a great need to focus on multidisciplinary approach and 21st century competencies for future work roles. This is where the alumni can play an integral role more as a corner

stone to build the bridge between halls of the academics to the corridors of the corporate world. To conclude, the 21st century capabilities necessary for the employment landscape of the future to which an alumni can contribute - such as critical thinking, communication, problem solving, creativity, cultural literacy, global outlook, teamwork, ethical reasoning, and social responsibility - will not only help to develop budding Managers of tomorrow but also outstanding citizens and communities.

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