



Evaluating the implications of STAKEHOLDER'S role towards sustainability of higher education

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ABSTRACT

This paper aims to evaluate the relationship between academic optimism and sustainability of higher education. The intervening role of extra role behavior and internal branding is also examined. The data was collected from higher education institutions via randomly selected sample. A confirmatory factor analysis was carried out to evaluate the model fit and reliability, validity and internal consistency of the measures were evaluated. Further, hierarchical regression analysis was used to test the direct and indirect relationship among the hypothesised constructs. The regression analysis results supported a positive relationship between academic optimism and sustainability of higher education through internal branding and extra role behavior. Internal branding and extra role behavior positively mediated the linkage between academic optimism and sustainability in higher education. The study contributes to the practice as it helps academicians, practitioners, and professionals working in higher education institutions in their decision making.

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1. Introduction

Studies on sustainability of higher education institutions have seen a dramatic increase in the last decade (Leal Filho et al., 2015; Punjaisri et al., 2009; Lozano et al., 2013; Wals, 2014; Barth, 2013). Where on one hand, studies provided competencies to define sustainability of higher education (Barth et al., 2007), while on the other hand, some considered stakeholders perspective and relevance towards it (Wright and Wilton, 2012). Considering the latter perspective, Wright (2010) provided that effectiveness of sustainable development initiatives depends on how leaders and important stakeholders in the institution perceive sustainability. Emphasising on integrating role of all major stakeholders, the author specified sustainability as an outcome achieved through a

combined efforts and belief of all stakeholders. Adding to this, different international declarations were made to avail sustainable development practices in educational institutions (Wals, 2014). These sustainable development policies and activities made it easier for the universities/institutions to work towards successful implementation (Wright and Wilton, 2012).

Among the most dominating teachers behavior that had impact on student's achievement was propounded as teachers' 'academic optimism' (Srivastava and Dhar, 2017). By definition, Hoy et al. (2006) stated it to be a latent term playing important role towards students' achievement and effectiveness. Different studies till date has explored the variable and showed it as instrumental to influence individual behaviours (Chang, 2011; Sezgin and Erdogan, 2015; Anderson et al., 2018). They showed teachers' higher sense of academic optimism as motivating factor to go beyond their in-role activities and stimulate individual efforts towards effective management of campuses (Srivastava and Dhar, 2017, 2016). However, a very few studies explored the effect of academic optimism towards organisational variables. Similarly, as teachers are important

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stakeholder in institutions, evaluation of its effect on organisational variables like sustainability in higher education becomes relevant. Thus, we presume that by integrating collective sense of efficacy, faculty trust and academic emphasis towards academic excellence, academic optimism can help teachers to work towards institutional success (Hoy et al., 2006) and further help the university to become a “sustainable university”.

Extending individual perspective towards sustainability of organisational brand, studies stated that employees perform well and effectively serve their clients and customers when they relate themselves with the organisation (Terglav et al., 2016; Whisman, 2009). In line, Punjaisri et al. (2009) showed the concept of exhibiting behavior in concurrence with brand promise as internal branding. This helps employees to build a strong and positive brand image before the customers (Dean et al., 2016). Similarly, Srivastava and Dhar (2016) showed that when employees stay committed to the organisation, they attempt to go beyond their limits i.e. exhibit extra role behavior. Thus, we consider that positive internal branding and extra role behavior can stimulate employees to work productively and serve the students well in an organisation (Terglav et al., 2016; Podsakoff et al., 2009). This can further help organisation to convert employee's perception and commitment to sustainable development of the organisation.

However, in this line, although key stakeholders are recognised towards achieving institutional success, specific role of teaching professionals towards developing sustainability of higher education was not fully emphasised (Ryan et al., 2010; Wright and Horst, 2013; Barth et al., 2014). Researchers lagged to consider and evaluate how and to what degree teachers' perception and behavior have impact on sustainability of higher education. Further, Quantitative study to explore the relationship of teacher's behavior towards sustainability in education has been less emphasised in the past studies. Most of the studies were conducted in western perspective and context, which differs in terms of understanding, belief and structure of higher education institutions in developing nations. Thus, this study primarily aims to examine the teacher's role in improving the sustainability in education.

This study has following contribution towards the ongoing research: first, teachers' role towards sustainability of higher education is less documented, which requires more exploration for better generalisation of results. Therefore, effect of teachers' behavior was examined on sustainability of higher education. Second, most of the studies were conceptual and qualitative in nature conducted on examining practices and policies for sustainability of higher education. Therefore, more quantitative studies are required to explore the effect of employee's perception of self and others in connection to sustainability of an organisation. Thus, this study fills this gap and addresses the relationship empirically between academic optimism and sustainability of higher education. Next, it explores the relationship between academic optimism and extra role behavior with intervening role of internal branding, which as per the knowledge of the researcher has not been documented. Similarly, brand management perspective has yet to be addressed in connection to academic optimism till date. Next, connection between internal branding and individual behavior has been examined towards individual productivity and organisational success. Only a few studies were directed to analyse the effect of internal branding on sustainability of organisations. Thus, this study puts forth the effect of internal branding on sustainability of higher education. Fourth, based on social identity theory, studies examined how individual identification with organisational values helps them to deliver organisational brand promises. However, the degrees to which individual identification with organisation values, policies and practices enable organisational sustainability are scarce.

Therefore, in this study we aim to examine the relationship of academic optimism with sustainability of higher education. Further the intervening role of extra role behavior and internal branding as factors that can link academic optimism to sustainability of higher education.

2. Background literature

In developing nation's professional and technical universities, sustainability of higher education institution has become a major issue. On one hand, they are fighting to get better ranking at national and international ranking agencies (Stack, 2016); they are managing ever changing workforce compositions on the other hand. Rankings are considered as keyway to attract prospective candidates for admissions while encourage national and international collaborations (Hazelkorn, 2016). Institutions fight to gain higher rankings to establish them self and market them (Rao and Ramesh, 2018). However, mostly they forget that their brand would get them rankings only when they have stable and committed work force.

In order to survive in the competition for sustainability, institutions have been utilising marketing approaches to attract high quality applicants for faculty positions (Özçelik, 2015; Chapleo, 2015). Highest commission pays, supporting work environment, and learning oriented students are major marketing ways which tends to attract new talents into the profession. However, due to less attention towards employee commitment and loyalty, poor human resource policies and lack of team building initiatives, institutions also face higher attrition rates (Sutcher et al., 2016; Lauder et al., 2015). Similarly, due to imbalance between demand and supply of quality teaching professionals, candidates change jobs frequently in an aim to get more market benefits (Aragon, 2016). Due to this, the institutions have new workforce composition mostly in every term. New work force, new team and new expectations inject a new wave in the university. Since new faculties bring new wave of knowledge and expertise, it might create an environment of fear and insecurity for the existing or experienced faculties (Perumal, 2015). The fear to lose the job due to inclusion of new faculty reduces the sense of belongingness to their universities.

Similarly, sense of increased competition affects their intention to support them and work in a team. On the other way, the new joiners find it hard to contemplate to the brand they work with. It becomes difficult for new teachers to meet the brand promises (Dean et al., 2016). This might be due to lack of understanding and poor communication channel. What institutions promise to their prospective students are not properly communicated to their internal staff members, which again creates a huge gap between what teachers understand and what they are expected to deliver. All these factors restrict effective expression of internal branding in teaching and learning sessions. Also, lack of understanding leads to lack of commitment towards institutions. When they find it hard to understand their role expectations, they lose their efficacy in self and students along with their institutions (Srivastava and Dhar, 2017). In addition to this, as most institutions aim to just fill the seats, they ignore quality measurement and evaluation of students for admissions. This again reduces teachers aim to teach well, as they presume students not interested in learning and knowledge gaining, thus causing low level of academic optimism.

Further, when teachers' contribution as an important stakeholder is ignored, this leaves teachers with low efficacy to perform. Lower commitment to perform influences their behavior towards universities and thus brings a bad name for the institution. teachers not only restore from going beyond their call of duty (i.e. extra role behavior) to support student learning, the feeling of less important

forces teachers to say wrong words for the institution, hampering the brand image of the institution. As brand image is the key to sustainability of any institution, this aspect needs to be resolved (Shephard and Furnari, 2013).

Thus, keeping all these arguments, we presume that this study is relevant to evaluate how teachers' own perspective affects overall sustainability in higher education.

2.1. Sustainability of higher education

Sustainability of higher educational institution has drawn the attention of scholars in the last decade (Lozano et al., 2013; Wright, 2010; Wals, 2014; Tilbury, 2011; Barth, 2013). Theoretically, education for sustainability refers to development of such strategies that can enable development of core curriculum, pedagogy and co-curricular activities to allow development of values skill and knowledge among students who can contribute to sustainable development (Holm et al., 2015). Velazquez et al. (2006) showed the sustainability plans fail due to less awareness, focus on self-interest, less administrative support, fewer opportunity to communicate and inform each other, refusal to learn to change and profit orientation. Similarly, Barth et al. (2007) emphasised that, if conventional style of discipline based approach is adopted, which emphasise on teaching knowledge by isolating it from practical understanding, and then it is not probable to confine the composite aspect of the concept of sustainability and its implications.

2.2. Academic optimism

Academic optimism refers to an integrated theory defined by three sub factors namely, collective efficacy (teacher's belief in self and others to focus on academic excellence at workplace), academic emphasis (degree to which the institutional environment emphasises on making academic achievement as a central purpose of the institution) and faculty trust towards clients (teachers' trust in their students and their parents that they will behave in a kind, dependable, capable, and truthful and open manner) (Srivastava and Dhar, 2016, 2017). This sub lines the factors that influences an educational institution and provide a way to growth (Hoy et al., 2006; Chang, 2011). In other words, academic optimism indicates optimistic purview of employee towards an institutions academic excellence and its effect on the environment (Sezgin and Erdogan, 2015; Anderson et al., 2018). Basically focusing on internal environment, academic optimism, based on Hoy et al. (2006) findings explains teachers belief in self and their colleagues and team to work towards academic excellence, teachers' trust in their students to work towards effective learning through being humble, benevolent and easy going and finally they look forward to their institution to have academic emphasis for effective student achievement in the future.

2.3. Extra role behavior

Teachers' extra role behavior (EXB) is demarcated as teachers' intentions to go beyond their job description and supporting others in the form of helping behavior and vocal behavior to benefit the educational institution at large (Srivastava, 2017; Podsakoff et al., 2009). Although, this is not considered as a part of performance appraisals, EXB is a voluntary behavior. Being voluntary behavior, it is derived from intrinsic motivation Extra role behavior also motivates individual to take extra work responsibilities, if they sense it useful, productive and beneficial to the organisation (Srivastava and Dhar, 2017). In addition to this, individuals exhibiting extra role behavior tend to defend their organisation and protect it against future troubles. It also comprises protective behavior to safeguard

institution from illegal and unfair activities (Bolino et al., 2015). Such behavior can provide an environment of support and trust in the institution (Belogolovsky, and Somech, 2010). Therefore, extra role behavior can enable demonstration of behavior favourable to business efficacy and productivity.

2.4. Internal branding

Internal branding refers to a process through which brand committed behavior is exhibited by the employees (Punjaisri et al., 2009). Every employee is important to organisation. When they deal with customers, they represent their organisational brand. Due to this scholars emphasise that employees need to accept and understand the organisational brand and brand values (Terglav et al., 2016; Whisman, 2009). This helps them to understand what they need to do to maintain the brand image in front of the customers. In other words, internal branding refers to the strategic steps taken to provide and ensure intellectual and emotional employee buy-in (Punjaisri et al., 2009). It reinforces and motivates employees to exhibit brand accepted behavior, deliver brand promise to customers and remain committed to the brand inside the organisation. Whisman (2009) considered internal branding as intangible asset for university success. Effective internal branding helps in developing social identity among employees and reciprocates positive work behavior in exchange (Löhndorf and Diamantopoulos, 2014).

3. Theoretical foundation

3.1. Social identity theory

Social identity theory implies that individual derive their identity based on their psychological membership in various social groups. It enables development of self concept in an individual based on knowledge of their participation in a social group, the values and emotional relevance related to the membership (Löhndorf and Diamantopoulos, 2014). The more an individual accepts a group membership, the more they tend to exhibit group congruent behavior. In this line, employees working in an organisation tend to exhibit behavior relevant and committed to their organisational value and identity. They have feeling on oneness and belongingness with the organisation. Further, Social identity theory argues that in order to ensure self continuity and positive self esteem in an organisation, individual exhibit organisational value based consistent behavior. This give them a sense of belongingness and sense of own social identity (Willets and Clarke, 2014).

4. Hypothesis development

4.1. Academic optimism and sustainability of higher education

Academic optimism (AO) as an individual attribute helps in deriving students' achievement. Segregated into three interlinked factors, academic optimism comprises academic emphasis, collective sense of efficacy and trust towards students and their parents. Hoy et al. (2006) stated that AO can stimulate students' achievement and their learning efficacy. Similarly, individual and collective efficacy can give confidence to work towards institutional success (Jugert et al., 2016). Srivastava (2017) showed that individual positive sense of collective efficacy enables them to work better in the favour of the organisation. Further, Srivastava and Dhar (2016) showed that employee's commitment to institutional success can help them reciprocate positive work behavior. In line with, Chang (2011) showed that employee's behavior towards clients is friendly and effective, when they trust them. The higher the level of

trust, the higher will be their intentions to serve the clients. Supporting this [Elder et al. \(2016\)](#) also showed that individual optimism and efficacy can stimulate effective implementation of policies and practices in the organisation towards sustainable goals. In line with, social identity theory also showed that individual develops perception based on how they identify the group and group environment. Summed up with their desire for self definition with the group, individual tend to align their identity to that of organisations'. This furthers individual's commitment towards institution brand and values and thus can propel sustainability of higher education ([Willets and Clarke, 2014](#)).

Thus, based on these, we assume that AO as an integrated term might also influence sustainability of higher education.

H1. Academic optimism positively impacts sustainability of higher education

4.2. Academic optimism, internal branding and extra role behavior

Similarly, when teachers have higher efficacy on their colleagues towards academic excellence, trust their students to be benevolent and helpful and believe their institution to be emphasising on academic quality; this helps them to relate themselves with the institution ([Srivastava and Dhar, 2016](#)). In other words, higher AO improves the chances that employees develop their identity in relation to organisation. As academic optimism enables teachers to have faith in organisational values, policies and practices, it tends to stimulate them to exhibit behavior consistent with core characteristics of the organisation. This can stimulate a sense of relation of self identity to brand identity, thus encouraging their commitment towards brand image of the institution. This would motivate them to exhibit behavior in tune with brand promises towards students i.e. internal branding. Such behavior can be observed in teacher-students interactions, where teacher represents the institution.

Internal branding helps employees to exhibit brand accepted behavior ([Punjaisri et al., 2009](#)). This is possible when employees relate their own values with that of the organisation. Employees accept the brand promises and serves customer better ([Terglav et al., 2016](#)). With respect to higher education, students also act as young consumers. They are the clients for the teachers to serve ([Grissom et al., 2017](#)). Internal branding has been considered as a key predictor of individual voluntary behavior aimed towards benefit of the organisation. [Asha and Jyothi \(2013\)](#), showed positive and significant effect of internal branding on organisational citizenship behavior. Further, acknowledging extra role behavior as a reciprocal behavior via social identity theory, [Burmman et al. \(2009\)](#) also showed internal branding as predicting individual commitment towards organisational values and brand. Individual commitment towards brand stimulates them to go beyond their in-role expectations and serve the customers. [Papasolomou and Vrontis \(2006\)](#), showing brand loyalty as an outcome of internal branding and demonstrated that employees loyal to brand of the organisation tend to exhibit extra role behavior and help colleagues and customers.

H2. Internal branding mediates the linkage between academic optimism and extra role behavior

4.3. Academic optimism and extra role behavior

Academic optimism in an educational institution leads to teacher's positive work behavior. [Srivastava \(2017\)](#) stated that when teachers are achievement oriented academically, have higher efficacy in their team members for academic excellence and believe

that the students and their parents will remain reliable, open and helpful towards the smoother learning process, then the teachers tend to exhibit extra role behavior ([Duyar et al., 2015](#)). Consistent with social exchange theory, teachers' AO can not only encourage them to stay committed to their organisation, but also go beyond their in-role duties and benefit the organisation. [Srivastava and Dhar \(2017\)](#) showed that academic optimism affects extra role behavior to ensure students learning. They showed extra role behavior is key tool for faculty members to ensure a cordial environment in the institution. Therefore, extending this belief, we presume that as and when academic optimism will enable students to learn better and provide faculty to learn and improve together towards academic achievement, it can encourage them to exhibit EXB towards students and their colleagues, superior and subordinates. Such positive environment can then enable institution to have a coordinating environment at workplace and thus can provide better sustainability.

H3. Extra role behavior mediates the linkage between internal branding and sustainability of higher education

4.4. Internal branding, extra role behavior and sustainability of higher education

Internal branding and extra role behavior has been documented in service industry literature ([Terglav et al., 2016](#); [Srivastava and Dhar, 2017](#)). Scholars have shown that when individual identify themselves with their organisation, they tend to exhibit voluntary behaviors like extra role behavior. Consistent with social identity theory, the effect of internal branding on extra role behavior grounds on the desire to protect, support and improve the organisation ([Punjaisri et al., 2009](#); [Matanda and Ndubisi, 2013](#)). Therefore, we can assume that when teachers involve in internal branding, they intend to participate in brand development of their institution and proactively engage in their behavior. This positive behavior nurtures and builds the institutional brand before the students and clients.

In addition to this, when employees do not restrict them self within in-role responsibilities and extend their help and support to organisation, it helps organisation to sustain in the long run. Organisational sustainability of an educational institution can only be ensured when it has a performance oriented culture ([Shiel and Williams, 2015](#)). Any short run illegal or unfair activities for the sake of survival in education system will surely hinder the sustainability of the institution. Therefore, institutions need to focus on encouraging faculties to exhibit positive behavior like extra role behavior, which could help the sustainability of higher educational institution ([Norton et al., 2014](#)). In line with, institutions are required to take all the stakeholders together and direct them to provide brand consistent behavior, it helps them to maintain their brand in the market. Further, such brand consistent behavior can help students to trust their institution brand promises. In other words, it can be said that employees evaluation of organisation's commitment towards them and trust in the fairness of activities, motivates individuals to reciprocate positively. This is reflected in their behavior and contributions towards organisational sustainability. However, low level of belief among employees can cause sustainability competencies and practices negatively. Based on the above discussion we hypothesize (see [Fig. 1](#)).

H4. Internal branding positively mediates between academic optimism and sustainability of higher education

H5. Extra role behavior positively mediates between academic optimism and sustainability of higher education

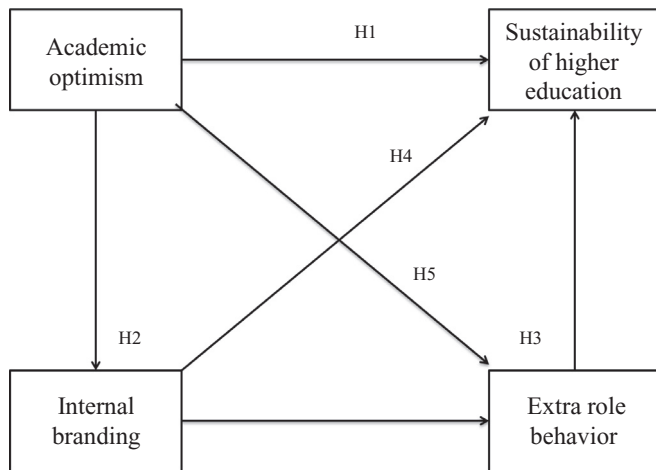


Fig. 1. Hypothesised model.

5. Methodology

5.1. Data collection

The sample of the study was selected from the faculties and their immediate heads working in private educational institutions. Most of the institutions were technical institutions and were operative in nearby areas of Uttar Pradesh. Through convenience sampling, 35 institutions were identified, and the head of the institutions were approached for the study. A brief overview of the purpose of research was given to them with an aim to receive their willing participation in the study. On receiving approval from the heads of the institutions, two sets of paper questionnaire was provided to them in a dyad ratio of 1:10 (one head and their immediate 10 teachers). Set 1 was for teachers who were asked to give their rating for their own academic optimism and sense of internal branding, while Set 2 was prepared for head of the institute (deans/director/in charge) who were asked to rate their immediate teachers' extra role behavior and sustainability of higher education levels. These responses were taken back in sealed envelope to ensure confidentiality of responses. Further, the responses were screened for missing values and outliers to avoid chances of biased results. After eliminating questionnaires with missing values and outliers, out of total 230 questionnaires distributed, 212 responses from teachers and 21 from their immediate heads was selected for the final study. However, two responses from teachers were dropped to make a complete dyad of 1:10 among teacher and heads.

The average age of head of the institutes was 42 years while that of teachers was 34 years. Maximum teachers were post graduate (91%) while others had PhD as their highest degree. The average experience of teachers was approximately 7 years.

For easy understanding the questionnaire was also translated into Hindi and then retranslated into English for analysis. This translation and re translation was done while maintaining the quality of conversion.

5.2. Instrument development

Academic optimism was evaluated through the modified scale provided by Hoy et al. (2006). Exploratory factor analysis was conducted to evaluate the measure. The estimate from Kaiser-Meyer-Olkin measure of sample adequacy was 0.937 (chi square = 6258.37, df = 351), with Bartlett's test of sphericity

significant results ($p < 0.001$). The loadings indicated that 27 items loaded on to single dimension, which eliminated the chances of dimensionality in the measure, contradicting the original scale provided by Hoy et al. (2006). The sample questions included items like "Students seek extra work so they can get good grades", "Teachers here believe that students are competent learners", "Teachers in this school believe that their students have the ability to achieve academically".

Further, as Academic optimism variable is considered as a latent construct combining three first order factors-collective efficacy, faculty trust and academic emphasis, we also analysed the second order nature of academic optimism. To do this, second order confirmatory factor analysis was conducted using three factor structures through AMOS 20, considering maximum likelihood method. The first, one factor model included all items loaded on to single Academic optimism factor. Second, first order model included all items loaded on to their first factors respectively. Third, second order factor model had all items loaded on to their relevant factors and all three first factors loaded on to the second order academic optimism construct. The results from all the models are given in Table 2. As shown, second order model provided the most suitable fit among all three factor models. Modification indices were used to improve the values under this model. Thus, this suggests that all the three dimensions integrate to form an overall core construct of academic optimism.

Extra role behavior was gauged through 20 item scale provided by Belogolovsky and Somech (2010). The exploratory factor analysis indicated KMO results was 0.941 which indicated the sampling adequacy. Further Bartlett's test of sphericity was also significant (chi square = 4185.27; df = 190, $p < 0.001$). The factor loading indicated no case of dimensionality in the measure as all the items loaded significantly to single factor. The sample questions included in this measure were "Make innovative suggestions to improve the school", "Work collaboratively with others", "Help other teachers who have heavy workloads", "Acquire expertise in new subjects that contribute to the work".

Internal branding was measured by 13 item combined scale developed by Matanda and Ndubisi (2013). The exploratory factor analysis indicated a KMO result was 0.890 which indicated the sampling adequacy. Further Bartlett's test of sphericity was also significant (chi square = 2065.83, df = 78, $p < 0.001$). The factor loading indicated no case of dimensionality in the measure as all the items loaded significantly to single factor. The sample items included were "I use knowledge about the company brand to perform my job", "I am aware of the skills I need to deliver brand values", "I receive communication from the personnel department on a regular basis".

Sustainability in higher education was evaluated through 7 item scale provided by Barth et al. (2007). The exploratory factor analysis indicated KMO results = 0.823 which indicated the sampling adequacy. Further Bartlett's test of sphericity was also significant (chi square = 897.48, df = 21, $p < 0.001$). The factor loading indicated no case of dimensionality in the measure as all the items loaded significantly to single factor. The measure included sample questions like "My organisation has the competency in self-motivation and in motivating others", "My organisation has the competency in foresighted thinking".

All the measures were evaluated on 7 item Likert scale. The Cronbach alpha reliability for measures and descriptive results are given in Table 1. Table 1 shows that Cronbach alpha estimates were all above 0.60 (Peterson, 1994).

The developed measures were used to prepare the initial questionnaire with the help of expert panel that includes five academicians from higher educational institutions, three practitioners and two scholars in the area of sustainability. The pilot test

Table 1
Descriptive analysis.

	Mean	S. D	AVE	CR	Cronbach α
Academic optimism	3.05	1.28	0.554	0.97	0.97
Internal branding	3.30	1.32	0.531	0.93	0.94
Extra role behavior	3.22	1.27	0.549	0.96	0.96
Sustainability of higher education	3.01	1.29	0.509	0.88	0.89

**p < 0.01.

Table 2
Results of second order CFA for academic optimism.

Estimates	First order	One factor	Second order
Chi Square	1080.3	1243.5	679.77
Degree of freedom	308	297	286
NFI	0.836	0.811	0.896
CFI	0.876	0.848	0.937
TLI	0.858	0.820	0.922
RMSEA	0.110	0.123	0.080

was carried out to examine the understanding of word's, measures and relevance. The pilot test returned 45 useable responses. Based on the discussions held during pilot test, constructive suggestions were made by the respondents, and few measures and questions were rephrased or reworded to ensure the better understanding of the instrument. The whole process helped us to improve the content validity of the instrument.

6. Findings

6.1. Confirmatory factor analysis results

Confirmatory factor analysis was carried out using AMOS statistical software, to evaluate the fit of the model; while hierarchical regression analysis was carried out to evaluate the direct and indirect hypothesis using SPSS. We discuss the results in detail in the following section.

CFA results supported the model fit. The results were CFI = 0.911; TLI = 0.902; IFI = 0.912; RMSEA = 0.055; Chi square/df = 1.64. The results for GFI were not considered as these values are criticised to be affected by the sample size. Since, all the indices were above the assumed threshold, we considered the four item model as a good fit (Chi square/df < 3; CFI, TLI, IFI > 0.90; RMSEA < 0.08) (Hair et al., 1998).

In order to verify the convergent validity of measures, factor loadings and AVE estimates were evaluated. The factor loadings for academic optimism ranged from 0.613 to 0.815; for internal branding it ranged from 0.640 to 0.817; for extra role behavior it ranged from 0.482 to 0.921 and for sustainability of higher education it ranged from 0.636 to 0.798. As the factor loadings were all above 0.40 and AVE estimates (see Table 1) were above 0.50, this supported the convergent validity of the measures used in the study.

To examine the discriminant validity, square root estimates of AVE were compared with the subsequent variable correlations in same rows and columns (see Table 3). As the square root estimates were higher than the subsequent variable correlations in same rows and columns, this supported the divergent validity of each of the measures (Figueiró and Raufflet, 2015). The square root estimates in Table 3 are well within the prescribed limit, confirming discriminant validity of the constructs.

In order to examine the common method bias in the response, Harman's single factor score was checked. This test enables to examine which all items (measuring latent variables) are loaded

Table 3
Discriminant analysis.

N = 210	1	2	3	4
Academic optimism	0.744	.385**	.373**	.543**
Internal branding		0.729	.433**	.397**
Extra role behavior			0.740	.416**
Sustainability of higher education				0.713

Discriminant validity—the correlation value must be less than the square root of AVE (given in diagonal) (Figueiró and Raufflet, 2015), N = 210, **p < 0.01.

into one common factor. As per the standard threshold, if the total variance for a single factor is less than 50%, then there is no issue of common method bias. In this study, the results showed that total variance to single variable is 35% (approx). Additionally, we also performed CMB test using common latent factor through AMOS, the results show there is no such bias exist (Podsakoff et al., 2003). This suggests that CMB does not affect your data.

6.2. Direct and mediation analysis results

In order to test the mediation effect/indirect effect, Baron and Kenny (1986) steps were followed. The step one included effect of IV on DV; then effect of IV on mediator and then effect of mediator on DV. According to Baron and Kenny (1986), if one addition of mediator into the equation, the effect of IV on DV becomes insignificant, it indicates complete mediation. However, if the effect of IV on DV remain significant, while the strength declines, this indicated partial mediation effect of the mediator. The direct and mediation analysis was conducted in four phases. In first phase, extra role behavior was considered as DV with academic optimism as IV and internal branding as mediator. In second phase, sustainability of higher education was taken as DV with internal branding as IV and extra role behavior as mediator. In the third phase, considering sustainability of higher education as DV, internal branding was considered as mediator and academic optimism as IV. Finally in fourth phase, extra role behavior was taken as mediator between academic optimism and sustainability of higher education.

In the first phase of analysis, (see Table 4a,b), academic optimism positively and significantly affected internal branding ($\beta = 0.39$, $p < 0.000$) and extra role behavior ($\beta = 0.37$, $p < 0.001$). Since, the effect of academic optimism declined on extra role behavior, though remained significant on addition of internal branding in the equation (see Table 4a), this showed partial mediation effect of internal branding. The variance also indicated significant effect of internal branding between academic optimism and extra role behavior. The final results of hypothesis testing are shown in Table 5.

In second phase of analysis the effect of internal branding on extra role behavior ($\beta = 0.43$, $p < 0.001$) (see Table 4a) and sustainability of higher education ($\beta = 0.40$, $p < 0.001$) (see Table 4b)

Table 4a
Hierarchical regression results for Mediation on Extra role behavior.

	Dependent variable					
	Internal branding		Extra role behavior			
Control variable						
Gender	-0.04	-0.05	-0.04	-0.05	-0.11	-0.09
Independent variable						
Academic optimism		0.39***		0.37***		0.24***
Internal branding					0.43***	0.34***
R ²	0.00	0.386	0.002	0.142***	0.189***	0.239***
Changed R ²	0.00	0.386	0.002	0.139	0.047	0.098

*p < 0.05. ***p < 0.001.

Table 4b
Hierarchical regression results on sustainability of higher education.

Control variable	Sustainability of higher education					
	1	2	3	4	5	6
Gender	-0.04	-0.09	-0.05	-0.07	-0.07	-0.09
Independent variable						
Academic optimism		0.55***		0.46***		0.46***
Extra role behavior			0.42***	0.25***		
Internal branding					0.40***	0.22***
R ²	0.002***	0.297***	0.173***	0.349***	0.159***	0.338***
Changed R ²						

*p < 0.05. ***p < 0.001.

Table 5
Hypothesis results.

Hypothesis	Result
H1: Academic optimism positively impacts sustainability of higher education	Accepted
H2: Internal branding mediates the linkage between academic optimism and extra role behavior	Partially accepted
H3: Extra role behavior mediates the linkage between internal branding and sustainability of higher education	Partially accepted
H4: Internal branding positively mediates between academic optimism and sustainability of higher education	Partially accepted
H5: Extra role behavior positively mediates between academic optimism and sustainability of higher education	Partially accepted

was positive and significant. Further in mediation analysis, the effect of internal branding on sustainability of higher education remained significant though declined on inclusion of extra role behavior in the analysis. This indicated that extra role behavior has a partial mediation effect between internal branding and sustainability of higher education (see Table 4b).

In third phase, Academic optimism positively and significantly affected sustainability of higher education ($\beta = 0.55$, $p < 0.001$) and internal branding. Further, internal branding positively influenced sustainability of higher education (see Table 4b). Table 4b showed that internal branding has a partial mediation effect between academic optimism and sustainability of higher education as the effect of academic optimism declined on inclusion of internal branding.

Similarly, Academic optimism positively influenced sustainability of higher education and extra role behavior (see Tables 4a and 4b). Extra role behavior also affected sustainability of higher education positively and significantly. Further, as Table 4b showed that extra role behavior also acted as partial mediator between academic optimism and sustainability of higher education as the effect of academic optimism declined on sustainability of higher education on inclusion on extra role behavior in the process.

7. Discussion

The paper was aimed to evaluate the relationship between teachers' academic optimism and sustainability of higher education with intervening role of internal branding and extra role behavior displayed by teachers.

In consistency with first hypothesis, academic optimism was found to be affecting sustainability of higher education. Supporting, Chang (2011) and Elder et al. (2016) the findings implied that when teachers have faith and trust in their students ability and willingness to learn and achieve, it motivates their optimism level to teach well. Such individual optimism and efficacy can stimulate effective implementation of sustainable policies and practices in the organisation to attain sustainable goal. In other words, optimistic approach among teachers helps institution to develop internal competency to have foresighted thinking, execute interdisciplinary work, effective planning and implementation of sustainability initiatives and self motivated work environment. Additionally, it helps towards development of capacity for empathy, compassion and

solidarity among colleagues, thus to ensure sustenance of institution in the long run. Supporting social identity theory, these findings justified that, individual develop optimistic approach based on how they identify the group and group environment and their desire for self definition with the group. Higher academic optimism enables them to relate to their institution identity. This furthers individual's commitment towards institution brand and values and thus propels sustainability of higher education (Willets and Clarke, 2014).

Consistent with our second hypothesis, the results showed that internal branding behavior exhibited by the employees mediates the linkage between academic optimism and extra role behavior. This showed that when teachers have optimistic belief in self and others, it motivates them to utilise their knowledge about institution in performing their jobs well. High academic optimism not only enable them to accept brand related communications positively, but also encourage them to take adequate training to perform in favour of brand promises. It further stimulates them to suggest ways to improve institutional practices. Further, with an aim to deliver brand values and promises before the students, it motivates them to exhibit extra role behavior towards students, colleagues and institution as a whole. With an aim to support organisational development and effective dealing with students, teachers go beyond their in-role limits and help their institutions. Such extra role behavior can be expressed through voluntary participation in meetings, helping other colleagues with heavy workloads and helping out students beyond working hours.

Supporting our third assumption, extra role behavior mediated the linkage between internal branding and sustainability of higher education in a significant manner. This supported the past studies conducted by Punjaisri et al., (2009) and Matanda and Ndubisi (2013) which indicated that when employees deliver brand values, remain adequately informed about their company's health and overall policies and goals and keep themselves updated with important changes that occur in the organisation, it helps them in understanding the commitment of organisation and direction of future assignments. These further supports employees to understand what is expected from them and how they can support organisational efficiency, thus causing sustainable development (Norton et al., 2014). In between this process, to help organisation to develop and fulfil brand promises, employees extend their

support via extra role behavior.

In congruence with hypothesis 4, the results also indicated mediating role of Internal branding between academic optimism and sustainability of higher education. This result showed that employees exhibit behavior prototypical of its organisation. Higher academic optimism defines existence of positive work environment. Based on social identity theory, optimistic perception of individual enables them to understand their organisation a committed and thus involve them self in identifying self with organisational values. Such feeling not only gives them a sense of self esteem partially, but also encourages them to work in consistency with organisational expectations and values. Such consistency, when injected in the work environment, motivates employees to considers them self as a major contributor towards success and failure of the group.

Further, supporting hypothesis 5, the results showed that extra role behavior mediated the academic optimism and sustainability of higher education in positive and significant manner. This result showed that extra role behavior among teaching fraternity is very important and relevant towards sustenance of educational institution, supporting [Srivastava and Dhar \(2016\)](#). Complying with social identity theory, teachers' academic optimism can be viewed as a perceptual cognitive construct, which depends mainly on individuals' perception of being logically intertwined with the fate of the group. When such feeling is optimistically boosted, it motivates them to work towards institutional benefits. As teaching is more of a humanistic profession, teachers need to go beyond their job description activities and support institutions and students with an aim to ensure sustainability of higher education.

7.1. Theoretical implications

The paper has following theoretical implications on the ongoing research.

First it extended the use of social identity theory in stimulating sustainability of higher education. The study presented social identity theory by indicating the relevance of teachers' ability to identify them based on their organisational brand promises. Supporting [Löhndorf and Diamantopoulos \(2014\)](#), the study indicated the importance of social identity of an employee and its effect on their behavior. Such ability to identify one to organisational brand values encouraged intention to behave in brand congruent manner among employees. This also showed that when brand perspectives, values and objectives are clearly communicated within organisation, it established positive perception of employees towards organisation. This further enhances tendency to pursue internal branding and extra role behavior. Supporting [Bartels and Hoogendam \(2011\)](#), the study advanced the connection between sustainable practices and brand understanding through involvement of social identity theory.

Second, the study adds value to the sustainability in higher education literature. The study extended the extensive literature review conducted by [Figueiró and Raufflet \(2015\)](#) which showed lack of empirical studies on sustainability in higher education. The study emphasised that most of the studies conducted during the review period were descriptive and very few integrated teachers' aspect towards it. Similarly, supporting [Norton et al. \(2014\)](#) and [Duyar et al., 2015](#) the study presented that sustainability of higher education can be attained by integrating the efforts of all the stakeholders at workplace. However, extending the role of internal staff, the study posited the role of academic optimism, which has not been addressed well in the research. Therefore, promoting their perspective and the need to focus on changes in explicit educational paradigms, this study contributed towards the significant role of teachers' academic optimism towards stimulating the

sustainability of higher education.

Third, the study extended the internal branding literature. The study evaluated the variable in educational institution context, adding value to existing service industry researches. This study advanced the meta-ethnography study conducted by [Hoover and Harder \(2015\)](#) who emphasised on the relevance of committed employees towards sustainability in higher education and showed the importance of employees understanding and perception of organisational culture and collaborative work environment towards improving the commitment. Similarly, the study extended the findings of [Dlouha et al. \(2018\)](#) and [Leal Filho et al. \(2016\)](#) who emphasised on the integrative effect of 'internal' aspect along with 'external' strategies to gain sustainability in higher education institutions. Extending this perspective, the study examined the effect of internal branding towards sustainability of higher education and showed the relevance of employee's individual behavior towards sustainability of higher education.

Further, supporting [Gómez et al. \(2015\)](#) and [Aleixo et al. \(2018\)](#) the study showed that employees tend to behave in optimistic manner when institution stay committed to their employees. Such commitment helps them to attain academic excellence and behave positively towards university brand. This further enables institution to face the present as well as future challenges ([Leal Filho et al., 2015](#)). The study also advanced previous studies which showed the relevance of internal branding and brand loyalty towards employees voluntary behavior ([Löhndorf and Diamantopoulos, 2014](#); [Punjaisri et al., 2009](#); [Terglav et al., 2016](#); [Grissom et al., 2017](#); [Asha and Jyothi, 2013](#)).

Fourth, the study extended literature on individual's voluntary behavior, i.e. extra role behavior in education sector. Consistent with [Buil et al. \(2016\)](#) and [Sujchaphong et al. \(2015\)](#), the study showed that teacher's extra role behavior as related to teacher's intentions towards internal branding and sustainability of higher education. Although most of the past studies considered organisational citizenship behavior (OCB) as related to internal branding behavior, this study extended their findings and showed extra role behavior as an outcome of internal branding. It is to be noted that although OCB and extra role behavior are considered as synonyms, extra role behavior is different from OCB. Where OCB mainly targets to benefit the organisation, extra role behavior tends to protect organisation from illegal and unfair practices. EXB included protective behavior of employees to safeguard organisation from future uncertainties ([Srivastava and Dhar, 2016](#)). Such aim to protect the interest of the organisation comes only from one's own ability to connect and identify self with organisation values and objectives. Supporting, [Srivastava and Dhar \(2017\)](#), the study provided relationship between academic optimism and extra role behavior; while supporting service industry literature, study showed critical role of extra role behavior towards sustainability of higher education.

Further, extending [Srivastava and Dhar \(2016\)](#), academic optimism was shown as important element towards employees extra role behavior ([Hong, 2017](#); [Srivastava and Dhar, 2017](#)). Supporting, [Zhao, Peng, & Chen \(2014\)](#), the finding showed that teachers exhibit extra role behavior based on their own discretion to support institutional success and their ability to identify self on institutional values and objectives, rather than a compulsive behavior. However, this finding contradicted the study conducted on 'over optimism' by [Figueiró and Raufflet \(2015\)](#) and [Lam, Spreitzer & Fritz \(2014\)](#), who proposed that positivity can have long term mental effect and stated that in certain conditions, over positivity can hamper employee's behaviors at work. Similarly, positive effect of academic optimism on extra role behavior showed that in educational institutions, teachers' optimism can encourage them to work voluntarily for the betterment of the institution.

Last but not the least, the study extended the literature on Academic optimism. Academic optimism was mostly considered as student oriented behavior. This behavior was mainly aimed to help students achieve and excel through effective learning. However, this study showed the relevance of teachers' academic optimism towards sustainability of higher education. Supporting, Viegas et al. (2016) it showed that teachers' involvement in sustainability process can enable establishment of transformative education system aimed at better understanding of sustainability issues within organisation. Higher teacher's collective sense of efficacy, trust in students and system can increase their commitment and can provide sustainability consciousness towards society and environment among students and colleagues. Similarly, expanding Lozano et al. (2017), the study showed the relevance of teachers' perception, competency and pedagogies usage towards sustainable development of education institutions. A more complete, holistic and systematic approach towards sustainability among teachers encourage them to work in consistency to institutional approach and thus help institution to sustain.

7.2. Practical implications

Practically the paper provided following major contributions: first, the study emphasises on advancement of teachers' role towards sustainability of higher education. Therefore, authorities in institutions need to emphasise on teachers' retention policies to display their organisation's commitment towards their employees. Better retention policies can let teachers feel valuable and provide them a sense of belongingness. The findings showed that internal stakeholder is key to let organisation sustain. Ignorance to this aspect not only reduces employee's intention to stay committed and work in motivated manner, but also increases the chances of absenteeism and employee turnover. In order to maintain sustainability, organisation needs to integrate the efforts of all the stakeholders and drive them towards one direction to ensure effective implementation of practices and policies. Since in academic institutions, teachers are key players, authorities need to focus on their understanding of brand values and commitment towards organisational sustainability.

Second, the study puts forth the role of internal branding and extra role behavior. This gives an overview of the fact that teachers' voluntary role adds value to sustainability of higher education only when they feel valuable. Clarity of organisational objectives and expectations to the teachers can help them understand the focus of institution better. Therefore, proper training and leadership opportunities can let the employees to participate in decision making. This can bring more clarity among employees regarding organisational objectives and background behind decisions. Additionally, this can direct their activities into common purpose.

Third, emphasising on extra role behavior, the study showed that teachers need to go for extra role behavior if they want to contribute efficiently towards organisational success. Therefore, institutions are required to establish positive work culture, injected with aim to academic excellence to let teachers reciprocate via extra role behavior. Competitive though healthy work environment with efficient leadership can also help teachers to help others and serve their customer cum students better. Further, clearer definition of extra role behavior needs to be established by the authorities, so that no extra effort goes unnoticed.

Lastly, adding to branding and role of employees, the study provides the valuable role of internal branding. To advance the internal branding role, teachers need to relate themselves with the institution. Rather than just aiming for benefits from the organisation, they need to understand the importance of their individual role towards organisational good. Additionally, to enhance teachers

academic optimism i.e. efficacious work environment, supportive colleagues and team, disciplined students and trust based classrooms are required to induce teachers to behave in brand consistent manner. Such behavior can not only help universities to sustain their brand internally but also externally. Students will get a sense of satisfaction when the brand promises made by the institutions come true.

7.3. Limitations and future scope of study

The study has following limitations which pave way for future researches. First, the study has a small sample size. In future, researchers are motivated to evaluate and validate the model in higher sample size to avail generalisation. Second, as the study was cross sectional in nature. Therefore, longitudinal studies are encouraged in future. This will help in establishing the causal relationship between the variables. Third, more external variables might also affect the relationship between variables. Researchers are encouraged to identify prospective mediators and moderators in the process. Next, academic optimism is also identified as a group level variable. Although, the sample under study did not support aggregation of responses to higher level, future studies can explore this perspective. Last but not the least, the context was limited to educational institution; more studies can be replicated to examine the model in different context.

8. Conclusion

The paper aimed to identify employee related factors which have an influence on sustainability of higher education in higher education institution. Sustainability of higher education is frequently documented in literature. However, very few studies accounted for employee aspect on it. Thus, this study analysed the effect of teachers' academic optimism on sustainability of higher education. Since, individual perception, intensity of social exchange and extent of identification of individual identity to organisational identity build employee performance towards organisational performance, we evaluated internal branding and extra role behavior as intervening factors towards stimulating sustainability of higher education. This study used data from teachers and students working in higher education technical institutions and used questionnaire method to collect data. The findings can prove to be important for beneficiaries, specifically higher education policy makers and professionals to implement sustainability policies and practices.

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