

Sustainability of Academic Leadership and Work-Related Attitude: The Construct of Diagnostic Instrument

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Abstract The paper elaborates the construction of academic leadership variables is obtained from leadership reviews, namely visionary; adaptable to change; competency; effective leadership; transformational leadership; and charisma. Meanwhile, the construction of work-related attitude variables are obtained from total quality management reviews, namely job satisfaction, career satisfaction and organizational commitment. A survey questionnaire was distributed among faculty members in all public universities. The factor analysis is employed in the diagnostic tool formation. The results represent the views of faculty members of their academic leadership and work-related attitude. The diagnostic instrument can be used to measure the sustainability of faculty members' academic leadership and work-related attitude at public and private universities.

Keywords Academic leadership, Work-related attitude, Faculty members, Diagnostic instrument

1. Introduction

In recent years, leadership in the higher education sector has increased interest by academics and practitioners. This has been partly attributed to the changes that are happening in the higher education environment such as changing funding mechanisms, regulations and audit, increasing customer demands, competition and internationalization, and ongoing reduction in governmental resources. However, recent studies have noted that there has been very limited research conducted on the question of which forms of academic leadership are associated with individual academic performance. In this paper, both academic leadership landscape and academics' work-related attitudes are modelled as latent constructs. This paper uses six measures, namely, visionary, adaptable to change, competency, effective leadership, transformational style and charisma, for quantifying academic leadership. The construct work-related attitude is also considered to be a proxy for individual academic performance, and is quantified by three measures, namely, job satisfaction, career satisfaction and organizational commitment. Most diagnostic instruments were produced based on the western paradigm. Unfortunately, there was near no such diagnostic instrument that reflect the eastern paradigm.

The objective of this paper is to propose a diagnostic instrument to measure the faculty members' academic leadership and their work-related attitude in the context of Malaysia

2. Literature Review

Higher education in Malaysia is governed by various legislations. The legislations are in the interest of protecting national interests. These legislations are set to ensure quality and integrity of Malaysian education. The quality and integrity are to be held by public universities at the highest level at all times. The provision of higher education is currently regulated by some of the following legislations [25]:

1. The Education Act 1996 (Act 550).
2. The Private Higher Educational Institutions Act, 1996.
3. The National Council of Higher Education Act, 1996.
4. The National Accreditation Board Act, 1996 (replaced with the Malaysian Qualifications Agency Act, 2007).
5. The Universities and University Colleges (Amendment) Act, 1996.
6. The National Higher Education Fund Corporation Act, 1997 (Amendment 2000).

Historically, the term leadership, as a concept of academic study, was coined during the 1930s[1]. It began with situational and contingency leadership by scholars such as Fiedler[7]. Further, these scholars focused on identifying leadership styles and behaviors in order to predict outcomes. In the early 1980s, there was a major paradigm shift in

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leadership approaches from transactional to transformational [4,23]. Meanwhile in the late 1970s to 1980s, there were constant changes concerning the concept of leadership; and what was considered as the norm. The main changes were new leadership, and visionary and charismatic leadership [1,13] in meeting the present competitive environment. However as Vigoda-Gadot (23, p.663) indicates “the current theory of leadership still focuses on transformational leadership and transactional leadership as core concepts in the field.” In sum, almost every review indicates the importance of leadership as an essential ingredient of positions with supervisory responsibilities in any organization[31] and as vital to achieving organizational objectives[4].

In the conceptualization of academic leadership, this paper uses a review of literature from private and public organizations[1,13] and institutions of higher learning [31,16]. According to Koen and Bitzer[16], academic leadership is constructed by vision, adaptable to change, competencies, effective leadership and transformational style. Meanwhile, Alimo-Metcalf and Alban-Metcalf[1] and Javidan and Waldman[13] perceive charisma has an impact on leadership. Rowley and Sherman[31] conceptualize leadership in higher learning where a leader should think of the impact of a decision on enhancing trust, respect, teamwork, good union relations and smooth relations with administrative departments, when making decisions affecting any of the stakeholders. Randall and Coakley[29] conceptualize that the university must be able to manage equally competing needs of the current marketplace, have a focus on transactional leadership, transformational leadership, or a combination of both. Further, Randall and Coakley[29] suggest adaptive leadership to be conceptualized in the higher learning institutions' leadership. Meanwhile, work-related attitude is reviewed based on the total quality management perspective. Reviews indicate that leadership has an effect on work-related attitude among workers in organizations[15,5,6]. Luthans[20] state leaders with positive affect are more likely to have a positive attitude. Meanwhile, Alas and Edwards[3] claim work-related values as the outcome of the intricate interaction of a number of factors which include the national cultural and institutional context, the specific industry context, the organizational environment and, finally, the characteristics of the individual themselves. These reviews were used to construct the diagnostic instrument for academic leadership and work-related attitude.

3. Leadership Behavior Description Questionnaire

The Leadership Behaviour Development Questionnaire – Form XII (LBDQ-XII) was developed by Ohio State University, USA[35]. The questionnaire is freely available from the Fisher College of Business, Ohio State University's website (<http://fisher.osu.edu/offices/fiscal/LBDQ-XII/>).

Further, the use of the LBDQ-XII needs no permission. The LBDQ-XII consisted of 100 items with 12 subscales.

The LBDQ-XII had been tested on several highly selected samples such as commissioned and non-commissioned officers in an army combat division, the administrative offices in a state highway patrol headquarters office, the executives in an aircraft engineering staff, ministers of various denominations of an Ohio Community, leaders in community development activities throughout the state of Ohio, presidents of ‘successful’ corporations, presidents of labor unions, presidents of colleges and universities, and United States Senators. The LBDQ-XII Cronbach's alpha of the samples was 0.54 to 0.86 across the nine time periods. The LBDQ-XII was also used in various leadership studies such as leadership of German and English managers[33], leadership behavior of Chinese managers[18] and leadership style preference[19]. Schriesheim and Glinow[34] assert the LBDQ-XII constitutes the most operational accuracy of the theory's leadership constructs. Further, Szilagyi and Keller [36] claimed that the LBDQ-XII initiating structure dimension is significantly and positively related to satisfaction with supervision and overall satisfaction.

4. Work-Related Attitude Instrument

The work-related attitude instrument was adopted and adapted from literature. Work-related attitude was examined from the perspectives of job satisfaction, career satisfaction and organizational commitment.

Job Satisfaction

The job satisfaction measurement was adopted from Weiss et al.[28]. Further, the level of Cronbach's alpha of the job satisfaction measurement was 0.87. The instrument reliability is the highest compared to the other studies. Thus, the paper adopted and adapted a nine-item on job satisfaction[28,14] to inquire about circumstances directed towards selecting a well-constructed scale.

Career Satisfaction

For the past 20 years, career satisfaction had been measured using an instrument from Greenhaus et al.[10]. The initial instrument had a Cronbach's alpha of 0.88. In recent work, the instrument had a Cronbach's alpha of 0.90[14]. Further, Armstrong-Stassen and Cameron[12] reveal a Cronbach's alpha of 0.87 by using Greenhaus et al.'s[10] instrument. On the other hand, other scholars used Turban and Dougherty's[26] four-item instrument[9] and Childs and Klimoski's[2] three-item instrument. The paper revealed a Cronbach's alpha of 0.84 and 0.79, respectively. This paper adopted and adapted the instrument based on the work of Karia and Asaari[14].

Organizational Commitment

The Organizational Commitment Questionnaire (OCQ) originated from the work of Mowday et al.[24]. The OCQ was used widely in research and was shown to have acceptable psychometric properties[24]. The original OCQ

instrument consists of 15-items and Cronbach's alpha was 0.82 to 0.93. Based on the instrument adaptation and adoption, the highest Cronbach's alpha was 0.95[14].

5. Questionnaire Construct

In this paper, the constructs of academic leadership and work-related attitude is adopted and adapted from previous studies namely from Stogdill[35] and Karia and Asaari[14]. The questionnaire was sent to experienced researchers in the area of leadership in higher education and universities. Moreover, several interviews were conducted with faculty administrators in public universities in Malaysia. These interviews helped validate the questionnaires in relation to the constructs of academic leadership and work-related attitude. Thus, inputs from interviews and comments helped the questionnaire construct to be more valid and reliable[27]. The experienced researchers' comments were taken seriously into consideration in forming the questionnaire's content validity. Further, the questionnaires were piloted twice on faculty members in selected higher learning institutions and universities. This helps further strengthen the questionnaire's content validity. Subsequently, the adapted and adopted questionnaire for this paper was benchmarked with the LBDQ-XII for academic leadership construct and questionnaires from various scholars for work-related attitude construct. The benchmark was considered as a calibration against a known standard in ensuring the criterion validity of the questionnaire.

This paper foresees the questionnaire being used in various landscapes in examining and exploring academic leadership and work-related attitude among faculty members in other parts of the world. Thus, the questionnaire has the potential to be improved by other scholars over time. Thus, the construct validity is not tested on the questionnaire. The construct validity is an ongoing process as the scholar refines a theory which helps to make predictions about results in various academic leadership and work-related attitude landscapes.

Independent Variables

In this paper, 50 items[35] were used to measure the academic leadership subscales, independent variables, on a five-point Likert scale. There were six subscales of academic leadership variables which are adapted and adopted against LBDQ-XII. The adoption and adaptation of the Stogdill's[35] LBDQ-XII of this paper was done through selected items in the LBDQ-XII subscales, changes of item scales, reverse back scales and reword the questions to suit the paper. The subscale of the paper's academic leadership was: visionary; adaptable to change; competency; effective leadership; transformational leadership; and charisma. These were cross-examined in terms of understanding with the subscale of items in the LBDQ-XII. The Cronbach's alpha for the 6 subscales of LBDQ-XII ranged from 0.54 to 0.85[35].

In this paper, the visionary was elaborated as thinking about the future with imagination or wisdom; look for

betterment; and talks about the future. In comparison, the visionary had almost similar understanding with the "persuasive" subscale in the LBDQ-XII as he/she used persuasion and argument effectively and exhibits strong convictions. Ten subscales for persuasive could be adapted and adopted toward visionary subscales.

The adaptation to change an element of academic leadership was elaborated as the ability to manage resistance, be adaptable to change toward resistance and challenges, and instigate change as and when required. In comparison with the LBDQ-XII subscales, the most adaptable to change element had almost similar understanding with the "tolerance of uncertainty" of 10 subscales elaborated as able to tolerate uncertainty and postponement without anxiety or upset.

The competency of academic leadership was elaborated as competent in taking the duty and having the necessary skills or knowledge to achieve something successfully. In comparison with the LBDQ-XII, competency had almost similar understanding with the "demand reconciliation" of five subscales elaborated as: reconciles conflicting demands and reduces disorder to system.

The effective leadership of academic leadership was elaborated as: good management associated with effective leadership, sense of order and consistency, and condones transfer of knowledge. In comparison with the LBDQ-XII, effective leadership had almost similar understanding with the "tolerance and freedom" of 10 subscales elaborated as allowing followers' scope for initiative, decision and action.

The transformational leadership of academic leadership was elaborated as change in nature, form or appearance, and interactions between leaders and followers. In comparison with the LBDQ-XII, transformational leadership had almost similar understanding with the "initiation of structure" of 10 subscales elaborated as clearly defines own rule, and lets followers know what was expected.

The charisma of academic leadership was elaborated as traits toward leadership, and characterized by personal charm and magnetism, innate and powerfully sophisticated abilities of interpersonal communication and persuasion. In comparison with the LBDQ-XII, charisma has almost similar understanding with the "representation" of five subscales elaborated as speaks and acts as the representative of the group.

Dependent Variables

The dependent variable in this paper is the work-related attitude which was adapted and adopted. The indicators of these attitudes were job satisfaction consisted of 10 items[28,14], career satisfaction consisted of 5 items[10,14] and organizational commitment consisted of 10 items[24,14]. The Cronbach's alpha for dependent variables as adopted in this paper were between 0.87 to 0.95.

6. Methodology

Population

In this paper, the population are faculty members at public universities in Malaysia. By location, the Peninsular has 18 universities; meanwhile in Sabah and Sarawak, there is one each respectively. This gives a total of 20 public universities throughout Malaysia. The population frame is faculty members. The list of faculty members is obtained from the university's academic staff web sites. Data mining of faculty member email addresses is conducted. The unit of analysis refers to the level of aggregation of the data collected during the subsequent data analysis stage[17,32]. In this paper, the unit of analysis is the individual faculty member of the public university. The data are gathered from each individual and treat each response as an individual data source[32].

Data Collection Methods

Data collection methods are in two phases and to be conducted in Malaysia. The first phase is structured interview of administrative faculty members from selected public universities. Structured interview of academic leaders is conducted face-to-face. The second phase is the survey questionnaire of faculty members in all public universities. The survey questionnaires are administered to faculty members by using a premium online survey.

Sample Size

In this paper, a total of between 600 to 1,000 faculty members from public universities in Malaysia was emailed an invitation to take part in the survey. The survey response rate was expected between 25% to 30%[21,12].

Nature of Sample

Participants of this paper were drawn from individuals who work at public universities in Malaysia as faculty members. These faculty members were rank ordinary faculty members, assistant professors, associate professors and professors. Moreover, these faculty members may also hold an academic position such as chairperson, deputy dean, deputy director, director, dean, deputy vice chancellors or vice chancellor. These faculty members may have been serving the public universities for a number of years.

Structured Interview

The structured interviews were conducted to answer the "what" questions on the definition of academic leadership and the components that relates to it. Further, components of work-related attitude was asked during the interview. The purpose of this structured interview was to obtain an input on the definition and components of academic leadership and work-related attitude of the selected administrative faculty members of public universities in Malaysia. The interview data was examined using thematic or content analysis. The data was quantified accordingly. Several structured interviews were conducted with top management of selected public universities in Malaysia.

7. Analyses

A total of 299 responses was collected, representing a

response rate of almost 30%. Unfortunately, 38 responses were eliminated due to an incomplete and excessive amount of missing data. Thus, clean data of 261 were processed by using the SPSS Version 18.

Independent Variables

Data from the 50-item instrument within the independent variables is first analyzed using the principal component analysis (PCA) procedure where there is no restriction on data[22] and using the orthogonal varimax rotation (8). Through observations of the initial extraction with eigenvalue of 1.0, there are some items that have high cross loading. The component matrix is generated with 12 components. The items of 12-factor solution are mixed up and given little results to represent which groups of resources. In total, the 12 factors explain 62.78% of the variance. According to the scree plot, the output indicated a five-factor extraction in doing the exploratory factor analysis (EFA). One item was eliminated due to the communalities loading is less than 0.3. Further, 49 independent variables are reanalysed to ensure no communalities loading below 0.30. The result of eigenvalue of 5 extractions was explained by 45.57% of the variance.

The result from the EFA on independent variables (IV) gave five factor extractions. Based on the components grouping, IV Factor 1, IV Factor 2, IV Factor 3, IV Factor 4 and IV Factor 5 consist of twenty-one items, nine items, six items, seven items and six items, respectively. The summary of EFA and reliability is depicted in Table 1.

Table 1. Summary of EFA and Cronbach's Alpha

Independent Variables (IV)	No of Items	Cronbach's Alpha	Reliability Indication
Factor 1 (IVF1)	21	0.92	Very Good
Factor 2 (IVF2)	9	0.82	Preferable
Factor 3 (IVF3)	6	0.73	Good
Factor 4 (IVF4)	7	0.75	Good
Factor 5 (IVF5)	6	0.66	Weak

Unfortunately, IVF5 has a Cronbach's alpha of 0.66 which is considered weak. Hair et al. (2010) state that such value of internal reliability is acceptable for an exploratory study where a low level of reliability is permitted in studies of an exploratory nature[11]. In review of the internal reliability output of Item-Total Statistics under the column "Cronbach's alpha if item deleted", all of the items produce no improvement of internal reliability value if deleted. Subsequently, this paper considers six items in the IVF5 to be rationalized based on the items' cross loading and majority of the item being factored. This paper examines the result of factor analysis on any items that can be rationalized based on the logical sense where the item should belong according to the majority of the rest of the items. There are 13 items to be considered. Moreover, the remaining 36 items have been examined according to their logical sense and cross-loading. They are considered being factored appropriately by the factor analysis although some items

have low loading. After the process of rationalization of independent factors, the factors are renamed according to their common theme. IVF1 is renamed as “innovative”. IVF2 is renamed as “effective”. IVF3 is renamed as “executive”. Finally, IVF4 is renamed as “adaptive”.

Dependent Variables

Dependent variables (DV) of this paper consist of 25 items conducted using the principal component analysis procedure where there is no restriction on data [22] and using the orthogonal varimax rotation [18]. The initial extraction of dependent variables is by setting the eigenvalue = 1.0, the dependent variables give an extraction of five components with 66.63% of the variance. According to the scree plot, the dependent variables are extracted using orthogonal varimax rotation with four-factor extractions. According to the communalities, all item loadings are above 0.3. The Cronbach's alpha for dependent variable factors of organizational commitment, career satisfaction, job satisfaction and job skills are 0.92, 0.89, 0.82 and 0.76 respectively.

Further, the rotated component matrix gives a cluster of factors where DV Factor 1 (DVF1) comprises of 10 items. Meanwhile, DV Factor 2 (DVF2), DV Factor 3 (DVF3) and DV Factor 4 (DVF4) comprise five items each, respectively. Appendix 2 shows the loading of each factor generated by principal component factor analysis. Based on the factor analysis of dependent variables, the factors are renamed based on the component thematics. The DVF1 name is retained as “organizational commitment” as most items are themed accordingly. This is because 10 items in the DVF1 are originally from organizational commitment variables. The DVF2 comprises five items from career satisfaction. Thus DVF2 is kept as “career satisfaction” as most items are themed accordingly. Meanwhile, the DVF3 and DVF4 are divided equally from 10 job satisfaction variables. The DVF3 is comprised of five items and known as “job satisfaction”. This is because all items are themed in relation to job satisfaction. On the other hand, the DVF4 comprises five items but renamed as “job skills”. This is because the themed of all variables in the factor are more towards dealing with faculty members' ability decision making the ability to deal with people.

9. Results

The construct of the study diagnostic instrument has been resulted. To verify the reliability of the questionnaire items, the academic leadership and work-related attitude is analyzed using reliability analysis. The internal consistency reliability analysis of academic leadership and work-related attitude constructs are from 0.76 and 0.91. On the other hand, the work-related attitude constructs are from 0.76 to 0.92. Those values of consistency reliability analysis are considered to have an acceptable value of 0.7 to 0.8 (8). The interim consistency reliability analysis is depicted in Table 2.

Table 2. Cronbach's Alpha of Academic Leadership and Work-Related Attitude Constructs

Construct	No of Questions	Cronbach's Alpha	Consideration
Academic Leadership	18	0.91	Very Good
Innovative	10	0.80	Preferable
Effective	10	0.81	Preferable
Executive	8	0.76	Acceptable
Adaptive			
Work-Related Attitude			
Organizational Commitment	10	0.92	Very Good
Career Satisfaction	5	0.86	Preferable
Job Satisfaction	5	0.82	Preferable
Job Skills	5	0.76	Acceptable

8. Conclusions

Rigorous analysis has been conducted in getting a diagnostic instrument to measure the faculty members academic leadership and their work-related attitude. Thus the above analysis produces a diagnostic instrument for sustaining academic leadership and work-related attitude among faculty members in the context of Malaysian faculty members. This diagnostic instrument can be used and replicated on faculty members' academic leadership and their work-related attitude. Moreover it also can be used on faculty members at public and private universities. Further, it would be interesting if a comparison can be made between faculty members of various countries.

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