



Developing and validating the measurement model for human resource management practice (HRM) construct using confirmatory factor analysis

Muhammad Faizal Bin A Ghani ^{1*}, Haris Bin Abd Wahab ², Mazriza Binti Osman ³

¹ Faculty of Education, Department of Educational Management, Planning & Policy, University of Malaya, Kuala Lumpur, Malaysia

² Faculty of Arts and Social Sciences, Department of Social Administration and Justice, University of Malaya, Kuala Lumpur, Malaysia

³ Faculty of Institute for Advanced Study (IAS), University of Malaya, Kuala Lumpur, Malaysia

* Corresponding Author: **Muhammad Faizal Bin A Ghani**

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Abstract

This research aims to develop and validate reliable survey instruments measuring Human Resource Management Practice (HRM) construct. The pilot study was conducted using a survey questionnaire with 5 Likert scale which involved 200 employees from Group Network and Technology (GNT) division, Telekom Malaysia (TM). The Exploratory Factor Analysis (EFA) procedure has explored usefulness of measuring items and determined the dimensionality of the construct. The field research attained a random sample of 313 employees to survey using questionnaire via the newly developed instruments. The data from the field research were used to validate the instruments through the Confirmatory Factor Analysis (CFA) procedure. The EFA procedure found five components (Staff Competency Development, Strategic Leadership, Knowledge Development, Organizational Culture, Communication) that emerged from the items. The CFA procedure validated the instruments measuring HRM construct for uni-dimensionality, validity and reliability. The result showed that the measurement model of HRM construct achieved the requirement for construct validity and reliability and should be able to be used in future research. This study produced instruments to assess HRM implementation specifically among organizational leaders in TM.

Keywords: Human Resource Management Practice (HRM); Telekom Malaysia (TM); Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Validity, Reliability

Introduction

The changes of technological transformation, competitive advantages, and fluctuation of economic situations in the 21st century is very important in a larger organization especially in telecommunication industry to ensure organizational sustainability. Transformation in technology gives better options to the organization but also lead to more challenges (Telukdarie, Buhulaiga, Bag, Gupta & Luo, 2018) ^[10]. In order to achieve high performance, organization need to adapt with these challenges (Mauro & Borges, 2020) ^[34]. The human resource management practice (HRM) field has been attracting nowadays as it can give significant impact towards organizational well-being and prosperity. Happy employees can lead to the success of human capital management which is able to create continuous business sustainability (Huang, Ahlstrom & Lee, 2016) ^[22]. Productive and efficient HRM nurtured in the organization will enhance the employees job satisfaction (Kale, Aknar & Basar, 2019) ^[27].

HRM has been a great attention and focus nowadays as it has been ratified as contributor towards organizational success (Conway, Fu, Monks, Alfes & Bailey, 2016) ^[16]. Burns (2016) ^[13] highlighted organizational leader strengthens HRM in order to improve individual and organizational performance. However, most of the organization often faced challenges on how to retain talented employees in the organization in line with direction of 2021's insightful and sophisticated technology (Bag, Telukdarie, Pretorius, & Gupta, 2018). Focusing on HRM is the key factor to develop satisfied, productive and efficient workforce (Imran, Majeed & Ayub, 2015) ^[25].

Most of the telecommunication industry in Malaysia has achieved drastic enhancement in previous years. Telekom Malaysia (TM) as one of the main telecommunication provider in Malaysia, places significant role in providing excellent customer experience via enhancing customer service quality and at the same time to improve employees productivity. Unfortunately, recently the HRM development progress is still low among developing countries especially in telecommunication industries such as in Malaysia. Almadani (2017) [3] highlighted telecommunication industries in most of developing countries encounter huge challenges as they are perceiving low perception in HRM which making low employee's motivation and organizational success. However, there is still lack of HRM instrument has been established to measure effectiveness of HRM practiced by organizational leaders. This instrument also not really suitable with organizational leaders in Malaysian context as it is keen towards western context (Opatha, 2009; Kottawatta, 2015) [40, 31].

This paper's objective is to produce and do assessment validation of the instruments to measure HRM construct among TM employees. This study develops the instruments from the Matching Model of HRM theory. All items were measured using the 5 Likert scale using 1 for none, 2 for rarely, 3 for sometimes, 4 for always and 5 for very always for the given statement. This research has been conducted via pilot test and field study. Researcher has conducted face validity and content validity with identified expert during pilot stage. Researcher collected the pilot study data and conducted the Exploratory Factor Analysis while collecting the field study data for field study. Researcher validated the construct validity, convergent validity, discriminant validity and composite reliability using field data.

2. Literature Review

Human Resource Management Practice (HRM) has become very important aspect in organization as it builds strong relationship between workforces. Human Resource is able to ensure employees are working happily and motivated in order to achieve organizational objective. HRM is a process of engaging resources in order to achieve organizational objective with guided procedures (Eneh & Awara, 2016) [18]. Wilton (2016) [45, 49] informed HRM is a task to manage employees hence to retain relationship between employer and employees via implementing correct actions and procedure. HRM is a set of tasks containing a few aspects such as leadership, training development, selection and performance appraisal that can guide employees to work collaboratively in performing their job hence to gain job satisfaction and achievement (Terera & Ngirande, 2014) [46]. HRM consist of recruitment, training development, performance evaluation, career progress, job function, employee involvement and rewards and recognition (Amin, Ismail, Rasid & Selemani, 2014) [4].

HRM plays key role in managing workforces as it is very important in delivering success to the organization. HRM is able to support continuous well-being and success to the organization (Arachchige & Robertson, 2015) [6]. Organizational leader that play best HRM across the organization is able to achieve organizational goal (Kale, Aknar & Basar, 2019) [27]. HRM organization will direct employees to collaborate and perform the task not only for future opportunities but to achieve expected outcomes. (Korff, Biemann, & Voelpel, 2017) [29]. Most of previous

research indicated HRM organization is able to increase individual work attitudes that can direct employees to contribute their best towards organizational success (Korff, *et al.*, 2017) [29]. HRM consist of few activities that increase employees' motivation (Ceylan, 2013; Ko & Ma, 2017) [17, 28], individuals' capability to meet organizational goals (Gangani, McLean & Braden, 2006; Nasriyah, Arham & Aini, 2016; Parikh & Desai, 2018) [19, 38, 41], enhancing employees' integrity (Krauss, 2016) [30] and performance appraisal (Lee, 2019) [32]. As a conclusion, HRM is capable to instruct and coach employees' action and attitude towards meeting organizational objective by developing stickiness and collaboration between people inside the organization.

Human Resource Management Practice (HRM) Dimensions

Human resource management practice plays important function in managing people. Human resource management plays key important function in providing success to the organization. HRM support continuous growth of organization (Arachchige & Robertson, 2015) [6]. Best HRM utilization is able to meet organizational goal (Kale, Aknar & Basar, 2019) [27], HRM has been classified as managing people towards achievement of organizational goal guided by organized procedure (Eneh & Awara, 2016) [18]. HRM is a key function to manage employees by using effective procedures and actions (Wilton, 2016) [45, 49]. Organization tends to become employee oriented as to overcome challenges in retaining employees in the organization.

Human resource functions can be described as procedures been taken by employees to retain success and happier employees in the organization. Itika (2011) [26]. states few HRM functions that need to be successfully administered by employees such as managing resources, performance evaluation, staff competency development, reward and recognition and managing organizational culture. HRM function in term of handling talented employees with improvement of staff training and career advancement will be main aspects in HRM functions (Anthonia & Omotayo, 2012) [5]. Learning and professional development, leadership and organizational culture act as key essential HRM function in managing employees (Ahhammad, 2017) [1]. HRM functions to direct employees towards achieving organization success and well being by embracing the strategic leadership style, enhancing knowledge and skills of the employees as well as providing comfortable working culture among them.

There is no baseline of HRM measurement. Past research indicated that scarcity of HRM is a major issue in most developing countries including Malaysia. However, we can see that most organizations nowadays are suffering from achieving high performance due to low employees' attitude, behavior, and working output which significantly reduces the quality of goods and services (Vasudevan, 2014).

Exploratory Factor Analysis

Researcher conducted Exploratory Factor Analysis (EFA) prior continuing with Confirmatory Factor Analysis (CFA) (Nasir, Mohamad, Ghani & Afthanorhan, 2020) [37]. EFA has been classified as one of the most statistical method in recent research. In doing EFA, the researcher does not have assumptions of the variables as it is an exploratory. Hence, it provides the researcher to probe components to construct a model from latent constructs with identified items. EFA subsist of principal component analysis (PCA) that mostly

used for data reduction (Bentler & Kano, 1990) ^[12]. Upon performing the EFA procedure, the researcher set the value at 0.60 or above (Hair, Ringle & Sarstedt, 2011) ^[21]. Important indicator has been shown by high factor loading. Besides, EFA recommended the factor loading into the same component. Upon researcher perform the EFA, this emerged component will be used in structural equation modeling (SEM). SEM has two main models which is measurement model via CFA procedure and structural model.

Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is important to be met before the researcher can conduct the Structural Equation Modelling (SEM) to ensure each of the indicators can represent the construct that needs to be measured in the research (Byrne, 2010; Hair *et al.*, 2011). The evaluation of the fitness index are parsimonious fit, absolute fit, and incremental fit (Awang, Lim & Zainudin, 2018) ^[9]. The researcher used a few measurements criteria index model fit to identify model fit which is (i) Chi-square/df (ii) Goodness-of-fit (GFI) (iii) Comparative fit index (CFI) and (iv) Root mean square error of approximation (RMSEA) (Dalila, Latif, Jaafar Aziz & Afthanorhan, 2020) ^[17]. Hence, researcher should ensure that both of this meet requirement. Therefore, conclusive measurement model is able to assist researcher make a valid analysis.

EFA and CFA Procedures

This research uses the EFA procedure to seek and validate the importance of items to measure the construct while CFA to validate the measurement of the construct. Researcher used data from pilot research to conduct EFA procedure while using field research for CFA procedure. This research developed items measuring Human Resource Management Practice (HRM) construct from previous theory and literature.

The EFA is able to measure factor loading for each item. The factor loading value is 0.60 (Bahkia, Awang, Afthanorgan, Chazali & Foziah, 2019) ^[11]. Researcher also identifies the Total Variance Explained (TVE) for the construct and define the measured items and components measured the construct (Mahfouz, Awang & Mida, 2019) ^[33]. The minimum value for TVE is 0.60 which indicates that the components and its items are able to measure at least 60% of the construct (Shkeer & Awang, 2019) ^[44]. Lastly, researcher conducted internal reliability analysis for the items via Cronbach Alpha which minimum value is 0.7. The internal reliability defines how much the chosen items are holding to each other to measure the construct (Rahlin, Awang, Afthanorhan & Aimran, 2019) ^[42].

Once researcher determined the components and the items, the researcher proceed to collect field data. Researcher conducted the CFA procedure to validate the construct by using this data. The CFA will identify the validity and reliability of the items to measure the construct (Mohamad, Afthanorhan, Awang & Mohammad, 2019) ^[35]. CFA procedure requires three types of validity which are construct

validity, convergent validity and discriminant validity (Yusof, Awang, Jusoff & Ibrahim, 2017) ^[48]. Researcher is able to measure composite reliability for the construct via CFA results (Aimran, Ahmad, Afthanorhan & Awang, 2017) ^[2]. Set of fitness indexes will identify the construct validity via the CFA procedure. The construct validity has fitness indexes to be met which are absolute fit, incremental fit and parsimonious fit (Awang, Lim & Zainudin, 2018) ^[9]. Table 1 shows summary of validity and reliability.

Table 1: Summary of Validity and Reliability

| Validity | | Name of Category | Threshold |
|-----------------------|-------------------------------------|---|---|
| Construct Validity | Fitness Indexes | Absolute Fit Incremental Fit Parsimonious Fit | RMSEA < 0.08 CFI & TLI > 0.9 Chisq/df < 3.0 |
| Convergent Validity | Average Variance Extracted (AVE) | | AVE > 0.5 |
| Discriminant Validity | Discriminant Validity Index Summary | | |
| Composite Reliability | CR | | CR > 0.6 |

3. Research Methodology

Sampling and data collection

This research has been conducted using multi method research technique. It is a combination of quantitative approach via survey through questionnaire form to gauge respondents' feedback about the HRM practiced by the top management and qualitative research approach via instruments validation by field experts for face and content validity. A survey questionnaire study was widely used in most research studies because it saves time, energy, and cost (Majid, 1994) ^[36]. Researcher collected pilot and field data. For pilot research, researcher used 200 respondents while 313 respondents for field research. This respondent had been selected randomly from targeted all permanent non-executive and executive employees who hold Assistant Manager, Manager and Assistant General Manager positions from Group Network and Technology (GNT) division, TM. Identifying the sample size is an important element in providing quality of research (Cohen, Manion & Morrison, 2011) ^[15]. Researcher distributed a questionnaire via Google Form to respondents that been selected randomly via assistance form Human Capital Business Driver (HCB D).

4. Findings (Pilot Study)

Reliability Analysis

Researcher conducted reliability analysis to the items via Cronbach's alpha. The reliability also known as internal consistency shows the strength of statement elements in measuring that particular construct. The reliability of 0.7 and above is often used to determine the reliability of the research instrument and to indicate the elements achieve the internal reliability. (Sekaran & Bougie, 2010) ^[43]. Table 2 indicates five components with its Cronbach Alpha in measuring the HRM construct.

Table 2: Internal Reliability for Construct Human Resource Management Practice (HRM)

| Construct | Component | Component Name | No. of Items | Cronbach's Alpha |
|--|-----------|------------------------------|--------------|------------------|
| Human Resource Management Practice (HRM) | 1 | Staff Competency Development | 8 | 0.921 |
| | 2 | Strategic Leadership Style | 6 | 0.826 |
| | 3 | Knowledge development | 4 | 0.897 |
| | 4 | Organizational Culture | 4 | 0.777 |
| | 5 | Communication | 3 | 0.905 |
| | | | 25 | 0.939 |

In addition, the Cronbach's Alpha value for each component 1 (0.921), component 2 (0.826), component 3 (0.897), component 4 (0.777) and component 5 (0.905). All 25 items have Cronbach's Alpha value more than 0.7 which is 0.939. Therefore, the study concluded that the items that measure the HRM construct have adequate internal reliability hence the items are acceptable and reliable in measuring the response (Bahkia *et al.*, 2019; Hoque, Awang, Jusoff, Salleh & Muda, 2017; Hoque, Siddiqui, Awang & Baharu, 2018; Yahaya, Idris, Suandi & Ismail, 2018) ^[11, 23, 24, 47]. Result

shows that components emerged from EFA with their items to measure the HRM construct are reliable. Thus, this research suggested using this HRM construct in future studies.

Exploratory Factor Analysis (EFA) Procedure

Researcher analyzed the pilot data via EFA procedure using IBM-SPSS 25.0. Table 3 shows descriptive statistical analysis for items measuring HRM.

Table 3: Descriptive Statistical Analysis for Items Measuring HRM

| Element | Item Statement | Mean | Std. Deviation |
|---------|--|------|----------------|
| HR1 | Unit Leader collaborates with subordinates to achieve the unit's goals. | 3.21 | 0.804 |
| HR2 | Unit Leader is clear with the company's vision. | 3.13 | 0.763 |
| HR3 | Unit Leader distributes human resources fairly. | 3.39 | 0.721 |
| HR4 | Unit Leader allocate financial resources based on the needs and capabilities of the division. | 3.24 | 0.696 |
| HR5 | Unit Leader is concerned with the welfare of staff (Example: Providing comfortable workspace facilities). | 3.27 | 0.728 |
| HR6 | Unit Leader promotes staff based on their accomplishments as opposed to cronyism. | 3.13 | 0.763 |
| HR7 | Unit Leader influences staff to conduct in-house competency development programs. | 3.48 | 0.730 |
| HR8 | Unit Leader encourages staff career development. | 3.19 | 0.726 |
| HR9 | Unit Leader makes decisions about staff performance appraisals based on agreement with the panel. | 3.68 | 0.671 |
| HR10 | Unit Leader rewards and recognizes staff who show outstanding performance. | 3.61 | 0.743 |
| HR11 | I was easily given permission to attend staff competency development programs | 3.55 | 0.678 |
| HR12 | I have applied the content of staff competency development programs in my career. | 3.54 | 0.742 |
| HR13 | I attended staff competency development programs based on career needs. | 3.54 | 0.693 |
| HR14 | I was given a fair opportunity to attend a competency development program. | 3.69 | 0.683 |
| HR15 | I was instructed to conduct in-house training after returning from an out-of-unit course. | 3.75 | 0.678 |
| HR16 | I am comfortable with the management of competency development program because of the adequate facilities. | 3.68 | 0.775 |
| HR17 | I was instructed to evaluate the effectiveness of the staff development program upon completion of the program. | 3.70 | 0.723 |
| HR18 | I am actively involved in staff competency development program activities. | 3.49 | 0.723 |
| HR19 | I found that facilitators of the staff competency development program activities have a high level of expertise. | 3.59 | 0.846 |
| HR20 | I found my work productivity increased after attending the competency development program. | 3.65 | 0.807 |
| HR21 | I am guided to produce quality products (goods or services). | 3.65 | 0.721 |
| HR22 | I reflect on myself after making a decision. | 3.63 | 0.746 |
| HR23 | I am clear with my goal of being at work. | 3.76 | 0.828 |
| HR24 | I feel safe when I am at work. | 3.74 | 0.767 |
| HR25 | I apply two-way communication (Example: Unit Leader receives the views of subordinates). | 3.79 | 0.854 |
| HR26 | I am believed to be successful in performing tasks because of my competence. | 3.36 | 0.789 |
| HR27 | I was supported by the Unit Leader to make changes. | 3.46 | 0.617 |
| HR28 | My colleagues and I are welcomed to share improvement ideas with the Unit Leader. | 3.39 | 0.692 |
| HR29 | I am appreciated for sharing any idea of improvements. | 3.48 | 0.634 |
| HR30 | I easily got commitment from the Unit Leader. | 3.59 | 0.636 |

Bartlett’s Test and KMO Result

Researcher used Principal Component Analysis (PCA) as extraction method and Varimax as rotation method. Table 4 presented the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy indicates more than 0.6 value which is 0.936. The Bartlett’s Test of Sphericity indicates significant (0.000).

Table 4: The KMO and Bartlett’s Test Score

| KMO and Bartlett's Test | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0.936 | |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 3459.165 |
| | Df | 435 |
| | Sig. | .000 |

The EFA procedure also identified the number of components that developed for the items. This EFA procedure will group items that measure a similar component. Figure 1 indicates graph of five components that developed for the 30 items measuring Human Resource Management Practice (HRM) into five individual components.

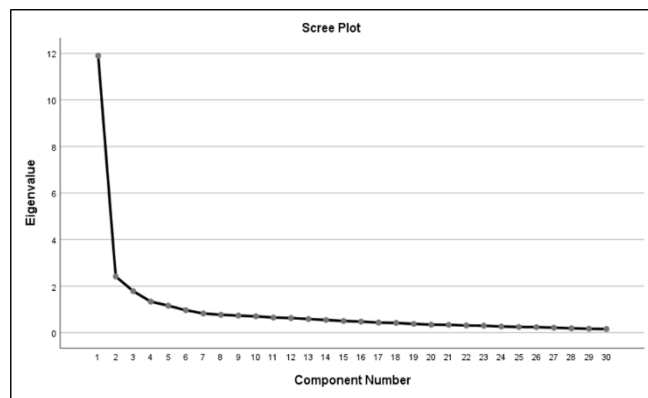


Fig 1: The Scree Plot for Human Resource Management Practice (HRM) Construct

Table 5 shows five components that developed with Eigenvalue greater than 1.0 from the EFA. The eigenvalues ranged between 2.959 and 5.361. The total variance explained for component 1 is 17.871%, component 2 is 13.841%, component 3 is 10.473%, component 4 is 10.473% and component 5 is 9.865%. To measure this construct, the total variance explained is 61.968%, which is acceptable since it exceeded the minimum 60% (Shkeer *et al.*, 2019) [44].

Table 5: Total Variance Explained for every component

| Component | Rotation Sums of Squared Loadings | | |
|---|-----------------------------------|---------------|---------------|
| | Total | % of Variance | Cumulative % |
| 1 | 5.361 | 17.871 | 17.871 |
| 2 | 4.152 | 13.841 | 31.712 |
| 3 | 3.142 | 10.473 | 42.185 |
| 4 | 2.976 | 9.919 | 52.104 |
| 5 | 2.959 | 9.865 | 61.968 |
| Extraction Method: Principal Component Analysis | | | |

Table 6 shows the EFA to explore items that measure Human Resource Management Practice (HRM) that demonstrated five components. In order to retain the item, the factor loading for each item should be more than 0.6. The item that contributes low factor loading has been removed (Awang,

2012). Component 1 subsists of eight items, component 2 subsist of six items, component 3 subsist of four items, component 4 with four items and component 5 with three items. 25 items were able to be maintained from the total of 30 items.

Table 6: The Rotated Component Matrix for Human Resource Management Practice (HRM) Construct

| Item Code | Rotated Component Matrix | | | | |
|---|--------------------------|-------|-------|-------|-------|
| | Component | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HR21 | | 0.646 | | | |
| HR22 | | 0.692 | | | |
| HR23 | | 0.699 | | | |
| HR24 | | 0.738 | | | |
| HR25 | | 0.681 | | | |
| HR26 | | 0.620 | | | |
| HR11 | 0.774 | | | | |
| HR12 | 0.763 | | | | |
| HR13 | 0.702 | | | | |
| HR14 | 0.690 | | | | |
| HR15 | 0.729 | | | | |
| HR16 | 0.738 | | | | |
| HR17 | 0.747 | | | | |
| HR18 | 0.739 | | | | |
| HR31 | | | 0.822 | | |
| HR32 | | | 0.767 | | |
| HR33 | | | 0.708 | | |
| HR34 | | | 0.703 | | |
| HR51 | | | | | 0.775 |
| HR52 | | | | | 0.757 |
| HR53 | | | | | 0.747 |
| HR41 | | | | 0.710 | |
| HR42 | | | | 0.656 | |
| HR43 | | | | 0.696 | |
| HR44 | | | | 0.604 | |
| Extraction Method: Principal Component Analysis. | | | | | |
| Rotation Method: Varimax with Kaiser Normalization. | | | | | |
| a. Rotation converged in 6 iterations. | | | | | |

Findings for the field study

Confirmatory factor analysis (CFA)

Researcher produced field research questionnaire using the result from EFA procedure. The field research questionnaire for Human Resource Management Practice (HRM) has been developed based on five components with 25 items. The first component is Staff Competency Development consists of eight items, Strategic Leadership is the second component consists of six items, component 3 has been renamed as Knowledge Development that consists of four items, component 4 is Organizational Culture has four items and component 5 is Communication with three items. Researcher distributed the questionnaire to randomly 313 employees for the field study.

The measurement model for Human Resource Management Practice (HRM) has been categorized as a second-order construct that represent five components has been validated. Researcher used IBM-SPSS-AMOS 25.0 to analyse the CFA procedure. The MLE method is fast, efficient and accurate (Awang, 2015; Awang *et al.*, 2018). Figure 2 portrays the CFA results for Human Resource Management Practice (HRM) Construct. The HRM construct has five components. The first component HRMC1 indicates Staff Competency Development, the second component HRMC2 indicates Strategic Leadership, the third component HRMC3 indicates

Knowledge Development, the fourth component HRMC4 indicates Organizational Culture and the fifth component HRMC5 indicates Communication.

Hair, Black, Babin & Anderson (2019) recommended to observe the construct validity and reliability of the model prior proceeding with the structural model once the requirements of the measurement model fit had been met. The measurement model of latent constructs requires to pass

validity assessment which are Construct Validity, Convergent Validity, and Discriminant Validity (Hair *et al*, 2011). The Construct Validity is measured via the Fitness Indexes of the Measurement Model. The Convergent Validity is identified via calculating the Average Variance Extracted (AVE), and Discriminant Validity is measured via producing the Discriminant Validity Index Summary.

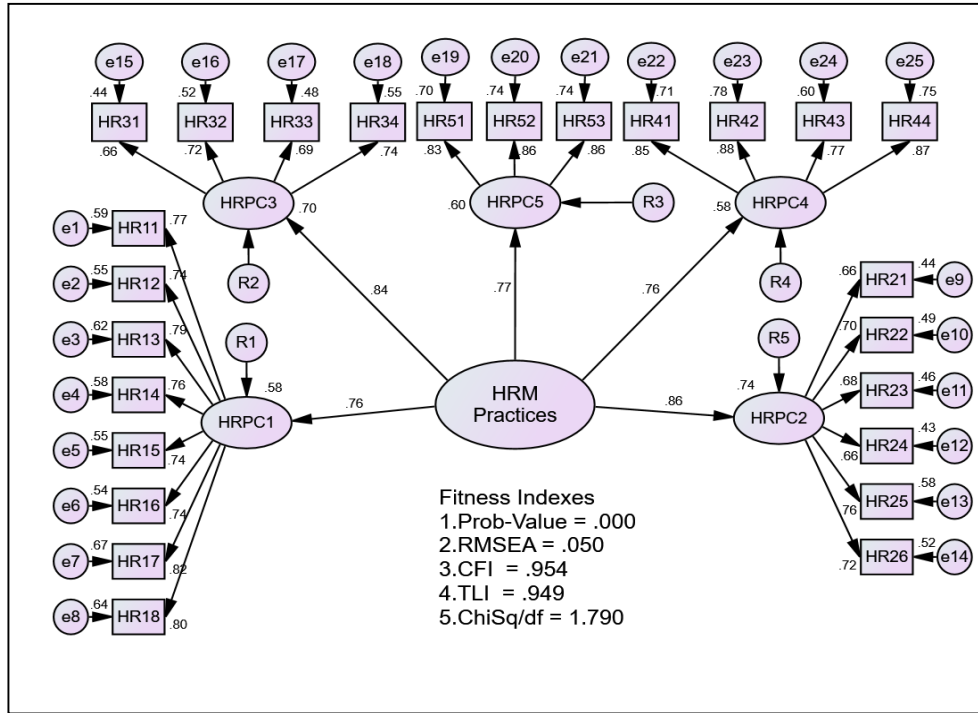


Fig 2: The CFA Results for Human Resource Management Practice (HRM) Construct

Construct Validity Assessment

Construct validity is measured via the fitness indexes (Awang *et al.*, 2018), There are three fitness indexes to be met which are Absolute Fit, Incremental Fit, and Parsimonious Fit.

Figure 2 shows the CFA Results for Human Resource Management Practice (HRM) Construct and Table 7 shows the assessment of construct validity.

Table 7: Construct Validity Assessment

| Construct Validity | Name of Category | Name of Index | Level of Acceptance | Index Value | Results |
|--------------------|---|---------------|---------------------|-------------|---------------|
| Construct Validity | Absolute Fit | RMSEA | < 0.08 | 0.05 | Met the value |
| | Incremental Fit | CFI | > 0.9 | 0.954 | Met the value |
| | Parsimonious Fit | Chisq/df | < 3.0 | 1.790 | Met the value |
| | The measurement model of Human Resource Management Practice (HRM) has met the value for Construct Validity | | | | |

Since Table 7 shows the fitness indexes value met the assessment of construct validity, therefore, researcher highlighted the Human Resource Management Practice (HRM) is a valid construct. Factor loading for each item has

been used to calculate the convergent validity and composite reliability upon the CFA. Table 8 shows component, items, factor loading for every item, composite reliability (CR) and average variance extracted (AVE).

Table 8: The Composite Reliability, Convergent Validity and Discriminant Validity

| Construct | Item | Factor Loading | CR (Above 0.6) | AVE (Above 0.5) | √AVE | Convergent Validity |
|-----------|-------|----------------|----------------|-----------------|-------|---------------------|
| HRM | HRMC1 | 0.76 | 0.901 | 0.645 | 0.803 | Yes |
| | HRMC2 | 0.86 | | | | |
| | HPPC3 | 0.84 | | | | |
| | HRMC4 | 0.78 | | | | |
| | HRMC5 | 0.77 | | | | |
| HRMC1 | HR11 | 0.77 | 0.922 | 0.599 | 0.774 | Yes |
| | HR12 | 0.74 | | | | |

| | | | | | | |
|-------|------|------|--------------|--------------|--------------|------------|
| | HR13 | 0.79 | 0.874 | 0.537 | 0.733 | Yes |
| | HR14 | 0.78 | | | | |
| | HR15 | 0.74 | | | | |
| | HR16 | 0.74 | | | | |
| | HR17 | 0.82 | | | | |
| | HR18 | 0.80 | | | | |
| HRMC2 | HR21 | 0.66 | 0.819 | 0.531 | 0.729 | Yes |
| | HR22 | 0.70 | | | | |
| | HR23 | 0.68 | | | | |
| | HR24 | 0.86 | | | | |
| | HR25 | 0.76 | | | | |
| HRMC3 | HR26 | 0.72 | 0.908 | 0.712 | 0.844 | Yes |
| | HR31 | 0.66 | | | | |
| | HR32 | 0.72 | | | | |
| | HR33 | 0.79 | | | | |
| HRMC4 | HR34 | 0.74 | 0.887 | 0.723 | 0.849 | Yes |
| | HR41 | 0.85 | | | | |
| | HR42 | 0.88 | | | | |
| | HR43 | 0.77 | | | | |
| HRMC5 | HR44 | 0.87 | | | | |
| | HR51 | 0.83 | | | | |
| | HR52 | 0.86 | | | | |
| | HR53 | 0.86 | | | | |

Table 8 shows the result of composite reliability and convergent validity for Human Resource Management Practice (HRM) construct. Result shows the CR value are greater than 0.6 while AVE value is greater than 0.5 (Shkeer *et al.*, 2019) [44]. Therefore, this research indicates the convergent validity and composite reliability for Human Resource Management Practice (HRM) construct have been met. Researcher also assess the Discriminant Validity. Researcher assess the correlation intensity between the five components of Human Resource Management Practice (HRM). The discriminant validity for the Human Resource Management Practice (HRM) construct is met if the coefficient of relationship between the components does not exceed 0.85 (Noor, Aziz, Mostapa & Awang, 2015).

Normality of the Items Assessment

Researcher also assess the dissemination of items that measure the Human Resource Management Practice (HRM) Construct. Table 9 shows assessment of normality of the items. The assessment of normality of the items has been made using the skewness of the distribution. Awang (2015) highlighted the skewness values for all items should fall between -1.5 to 1.5 for the data to be accepted as normal distribution. This indicates the distribution of data does not exit from normality distribution. The assessment of normality of the items in Table 9 indicates the skewness values fall within the range between -1.5 to 1.5; hence this research can conclude that the distribution of the items that measure the Human Resource Management Practice (HRM) construct has met the normality assumption of parametric statistical analysis.

Table 9: The Assessment of normality of the Items

| Variable | min | max | skew | c.r. | kurtosis | c.r. |
|----------|-------|-------|---------------|--------|----------|--------|
| HRMC1 | 2.000 | 5.000 | -0.358 | -2.585 | .440 | 1.587 |
| HRMC2 | 2.000 | 5.000 | -0.024 | -0.175 | -.325 | -1.173 |
| HRMC3 | 2.000 | 5.000 | -0.152 | -1.101 | -.300 | -1.082 |
| HRMC4 | 2.000 | 5.000 | -0.102 | -0.738 | -.406 | -1.466 |
| HRMC5 | 2.000 | 5.000 | -0.128 | -0.926 | -.103 | -.372 |

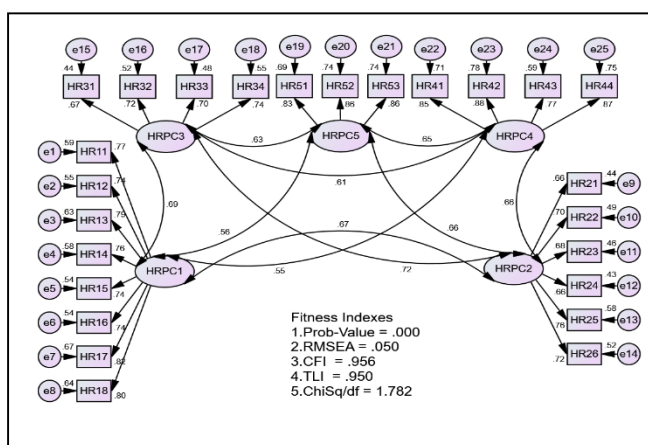


Fig 3: The Assessment of Discriminant Validity for Human Resource Management Practice (HRM) Construct

Figure 3 shows the assessment of Discriminant Validity for Human Resource Management Practice (HRM) Construct. Researcher uses IBM-SPSS-AMOS to analyse the relationship between all five components. The results show the correlation value is not more than 0.85 between all five components. Hence, this research can conclude that the measurement model for Human Resource Management Practice (HRM) construct has met the discriminant validity.

5. Conclusion and Future Works

This research has examined components and items that measure the Human Resource Management Practice (HRM) construct. The newly developed items have been gone through expert validation, pilot testing for EFA and field research for CFA. Researcher conducted the face validity and content validity to validate the pilot research instruments. The KMO measure of sampling adequacy, Bartlett’s Test of sphericity and Cronbach’s Alpha for internal reliability have achieved the required level. The CFA assessed the construct validity, convergent validity, discriminant validity, composite reliability and normality of items. Therefore, this research is able to refined and validated the instruments to measure the Human Resource Management Practice (HRM) construct for future research use. Besides, the CFA validated and confirmed the instrument is reliable to measure HRM

components by applying HRM Model to be used in future research especially in Malaysia context.

6. Limitation of Study

The current research faced constraint that might affect its results of the research context. Firstly, this research has been conducted in telecommunication segment, will make the outcome limited to the telecommunication sector in Malaysia by selecting the permanent non-executive and executive level who hold Assistant Manager, Manager and Assistant General Manager positions from GNT division, TM. This research was not conducted in different divisions and segment. Secondly, the security rule in TM restricted to assess information. The survey questionnaire distribution was done through internal email via coordination and monitoring from HCBDB team. Thirdly, the quantitative and cross-sectional approach is a limitation, therefore, the multi method or longitudinal approach is recommended to be conducted in future research in the future in order to obtain more impactful and valuable results. Interviews or focus groups method and approach would help to analyse the knowledge getting from the sample size because these methods can explore deeply into people's minds and get in-depth insight towards the research objective.

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7. References

- Ahammad T. Personnel management to human resource management (HRM): How HRM functions? *Journal of Modern Accounting and Auditing*. 2017; 13(9):412-420. Available at: <https://doi.org/10.17265/1548-6583/2017.09.004>.
- Aimran AN, Ahmad S, Afthanorhan A, Awang Z. The development of comparative bias index. In *AIP Conference Proceedings*, 2017, 1870. AIP Publishing. <https://doi.org/10.1063/1.4995935>.
- Almadani A. Economic development and e-commerce in Libya. *Economic and Social Development: (Book of Proceedings)*, 21st International Scientific Conference on Economic and Social Development, 2017, (p.437).
- Amin M, Ismail WKW, Rasid SZA, Selemani RDA. The impact of human resource management practices on performance: evidence from a Public University", *The TQM Journal*. 2014; 26(2):125-142.
- Anthonia AA, Omotayo OA. *Human resource management: Theory & practice*. Lagos: Pumark Nigeria Limited, 2012.
- Arachchige BJ, Robertson A. The effect of human resource management high performance work practices on organisational outcomes: A Sri Lankan perspective. *Sri Lankan Journal of Human Resource Management*. 2015; 5(1):17-30. Available at: <https://doi.org/10.4038/sljhrm.v5i1.5625>.
- Awang Z. *Structural equation modeling using AMOS graphic*. Penerbit Universiti Teknologi MARA, 2012.
- Awang Z. *SEM Made Simple: A Gentle Approach to Learning Structural Equation Modelling*. Bandar Baru Bangi, MPWS Rich Resources, 2015.
- Awang Z, Lim SH, Zainudin NFS. *Pendekatan Mudah SEM- Structural Equation Modelling*. Bandar Baru Bangi, MPWS Rich Resources, 2018.
- Bag S, Telukdarie A, Pretorius JC, Gupta S. Industry 4.0 and supply chain sustainability: framework and future research directions. *Benchmarking: An International Journal*, 2018.
- Bahkia AS, Awang Z, Afthanorhan A, Ghazali PL, Foziah H. Exploratory Factor Analysis on occupational stress in context of Malaysian sewerage operations. *AIP Conference Proceedings*, 2019, <https://doi.org/10.1063/1.5121111>.
- Bentler PM, Kano Y. 'On the equivalence of factors and components', *Multivariate Behavioral Research*. 1990; 25(1):67-74. https://doi.org/10.1207/s15327906mbr2501_8.
- Burns MJ. A quantitative examination of the relationship between employee engagement, job satisfaction, and organizational commitment among managerial professionals (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 10106238), 2016.
- Ceylan C. "Commitment-based HR practices, different types of innovation activities and firm innovation performance", *International Journal of Human Resource Management*. 2013; 24(1):208-226.
- Cohen L, Manion L, Morrison K. *Research Methods in Education* (7th ed.). London: Routledge, 2011.
- Conway E, Fu N, Monks K, Alfes K, Bailey C. Demands or resources? The relationship between HR practices, employee engagement, and emotional exhaustion within a hybrid model of employment relations. *Human Resource Management*. 2016; 55(5):901-917.
- Dalila Latif H, Jaafar N, Aziz I, Afthanorhan A. The mediating effect of personal values on the relationships between attitudes, subjective norms, perceived behavioral control and intention to use. *Management Science Letters*. 2020; 10(1):153-162. <https://doi.org/10.5267/j.msl.2019.8.007>.
- Eneh SI, Awara NF. Strategic human resource management practices and organizational growth: A theoretical perspective. *Global Journal of Social Sciences*. 2016; 15(1):27-37. Available at: <https://doi.org/10.4314/gjss.v15i1.3>.
- Gangani N, McLean GN, Braden RA. A competency-based human resource development strategy", *Performance Improvement Quarterly*. 2006; 19(1):127-139.
- Hair JF, Jr., Black WC, Babin BJ, Anderson RE. *Multivariate data analysis* (8th Edition). Cengage learning EMEA. British Library, 2019.
- Hair JF, Ringle CM, Sarstedt M. 'PLS-SEM: indeed a silver bullet', *Journal of Marketing Theory and Practice*. 2011; 19(2):139-152. <https://doi.org/10.2753/MTP1069-6679190202>.
- Huang LC, Ahlstrom D, Lee AY-P, *et al.* High performance work systems, employee wellbeing, and job involvement: An empirical study. *Personnel Review*. 2016; 45(2):296-314.
- Hoque A, Awang Z, Jusoff K, Salleh F, Muda H. Social business efficiency: Instrument development and validation procedure using structural equation modeling. *International Business Management*. 2017; 11(1):222-231.
- Hoque ASMM, Siddiqui BA, Awang Z, Baharu SMAT. *Exploratory Factor Analysis of Entrepreneurial*

- Orientation in the Context of Bangladeshi Small and Medium Enterprises (SMEs). *European Journal of Management and Marketing Studies*, 2018.
25. Imran R, Majeed M, Ayub A. Impact of Organizational Justice, Job Security and Job satisfaction on Organizational Productivity. *Journal of Economics, Business and Management*. 2015; 3(9) <https://doi.org/10.7763/joebm.2015.v3.295>.
 26. Itika J. Fundamentals of human resource management: Emerging experiences from Africa. *African Public Administration and Management Series*. 2011; 4(13):459-468.
 27. Kale E, Aknar A, Basar O. Absorptive capacity and firm performance: the mediating role of strategic agility, *International Journal of Hospitality Management*. 2019; 78:276-283.
 28. Ko YJ, Ma L. Forming a firm innovation strategy through commitment-based human resource management, *International Journal of Human Resource Management*, 2017, pp. 1-25.
 29. Korff J, Biemann T, Voelpel SC. Human resource management systems and work attitudes: The mediating role of future time perspective. *Journal of Organizational Behavior*. 2017; 38(1):45-67.
 30. Krauss G. Management decisions in the field of integrity-based human resource management within public administration, Taylor. 2016; 8(2):129-136.
 31. Kottawatta H. Measuring HRM practices. *HRM Scintilla: HRM Review*. 2015; 5(1):1-27.
 32. Lee HW. "Performance-based human resource management and federal employee's motivation: moderating roles of goal-clarifying intervention, appraisal fairness, and feedback satisfaction", *Review of Public Personnel Administration*. 2019; 39(3):323-348.
 33. Mahfouz SA, Awang Z, Muda H. The Impact of Transformational Leadership on Employee Commitment in the Construction Industry. *International Journal of Innovation, Creativity and Change*. 2019; 7(10).
 34. Mauro TG, Borges-Andrade JE. Human resource systems innovation for organisations, *Innovation and Management Review*. 2020; 17(2):197-214, doi: 10.1108/INMR-03-2019-0037.
 35. Mohamad M, Afthanorhan A, Awang Z, Mohammad M. Comparison Between CB-SEM and PLS-SEM: Testing and Confirming the Maqasid Syariah Quality of Life Measurement Model. *The Journal of Social Sciences Research*. 2019; 5(3):608-614. <https://doi.org/10.32861/jssr.53.608.614>.
 36. Mohd Majid Konting. *Kaedah Penyelidikan Pendidikan*. Kuala Lumpur: Dewan Bahasa dan Pustaka, 1994.
 37. Nasir MNM, Mohamad M, Ghani NIA, Afthanorhan A. Testing mediation roles of place attachment and tourist satisfaction on destination attractiveness and destination loyalty relationship using phantom approach. *Management Science Letters*. 2020; 10(2):443-454. <https://doi.org/10.5267/j.msl.2019.8.026>.
 38. Nasriyah R, Arham Z, Aini Q. Profile matching and competency based human resources management approaches for employee placement decision support system (case study), *Asian Journal of Applied Sciences*. 2016; 9(2):75-86.
 39. Noor NM, Aziz AA, Mostapa MR, Awang Z. Validation of the Malay version of the Inventory of Functional Status after Childbirth questionnaire. *BioMed research international*, 2015. <https://doi.org/10.1155/2015/972728>
 40. Opatha HHDNP. *Human resource management: Personnel*. Sri Lanka: Author, 2009.
 41. Parikh M, Desai P. A Study on Development of Competency Based Human Resource Systems for Sales Function in Pharma Sector, Gujarat Technological University, Ahmedabad, 2018.
 42. Rahlin NA, Awang Z, Afthanorhan A, Aimran N. The Art of Covariance Based Confirmatory Factor Analysis: Evidence from SME'S. *International Journal of Innovation, Creativity and Change*. 2019a; 5(2).
 43. Sekaran U, Bougie R. *Research Methods for Business: A Skill Building Approach*, Wiley, 2010.
 44. Shkeer AS, Awang Z. Exploring Items for Measuring Marketing Information System Construct: An Exploratory Factor analysis. *International Review of Management and Marketing*. 2019; 9(6):87-97. <https://doi.org/10.32479/irmm.8622>.
 45. Telukdarie A, Buhulaiga E, Bag S, Gupta S, Luo Z. Industry 4.0 implementation for multinationals, *Process Safety and Environmental Protection*. 2018; 118:316-329. Wilton N. *An introduction to human resource management*. London: Sage Publications Ltd, 2016.
 46. Terera SR, Ngirande H. The Impact of Rewards on Job Satisfaction and Employee Retention. *Mediterranean Journal of Social Sciences*, MCSER Publishing, Rome-Italy. 2014; 5(1):2039-2117.
 47. Yahaya T, Idris K, Suandi T, Ismail I. Adapting instruments and modifying statements: The confirmation method for the inventory and model for information sharing behavior using social media. *Management Science Letters*. 2018; 8(5):271-282. <https://doi.org/10.5267/j.msl.2018.4.021>.
 48. Yusof Y, Awang Z, Jusoff K, Ibrahim Y. The influence of green practices by non-green hotels on customer satisfaction and loyalty in hotel and tourism industry. *International Journal of Green Economics*. 2017; 11(1):1-14. <https://doi.org/10.1504/IJGE.2017.082716>.
 49. Wilton N. *An introduction to human resource management*. London: Sage Publications Ltd, 2016.