

Talent Shortage Assessment in Malaysia Islamic Banking Institution



**Mohd Ikhwan Aziz, Hasannuddiin Hassan,
Rooshihan Merican Abdul Rahim Merican, Sathiswaran Uthamapuhtran,
Ahmad Syakir Junoh, and Marlisa Abdul Rahim**

Abstract Generally speaking, the first implicit assumption of an increasing number of talent supply and demand should help to alleviate the talent shortage problem in Islamic banking institutions. However, the situation was contradictory in IBIs, and the situation remained in a state of paradox, resulting in a severe shortage of qualified talent. Despite this, the number of graduates from Islamic banking education institutions and the number of graduates from Islamic banking institutions continues to grow year after year. As a result, who should be held accountable for this state of affairs in the talent pool? In order to determine the factors that were affecting the talent shortage in Malaysian Islamic banking institutions, the purpose of this study is to collect data from a variety of sources. Using a quantitative approach, which includes exploration, description, and explanatory characteristic, the researcher has sent out questionnaires to 380 students in Malaysian public universities. Structural equation modelling used to analyse the data gathered from the questionnaires with IBM-SPSS and IBM-AMOS software to generate the results. Consequently, the curriculum variable was found to have a dominant effect on the supply of available talent. The implications this research has contributed to the economic and societal expansion

M. I. Aziz (✉) · H. Hassan · R. M. A. R. Merican · S. Uthamapuhtran · A. S. Junoh
Faculty of Entrepreneurship and Business, Universiti Malaysia Kelantan, Pengkalan Chepa,
Kota Bharu, Kelantan, Malaysia
e-mail: ikhwan.a@umk.edu.my

H. Hassan
e-mail: hasann@umk.edu.my

R. M. A. R. Merican
e-mail: rooshihan@umk.edu.my

S. Uthamapuhtran
e-mail: sathiswaran@umk.edu.my

A. S. Junoh
e-mail: syakir@umk.edu.my

M. A. Rahim
Faculty of Tourism, Hospitality, and Wellness, Universiti Malaysia Kelantan, Pengkalan Chepa,
Kota Bharu, Kelantan, Malaysia
e-mail: marlisa@umk.edu.my

as the model for talent development able to assist in reduce the talent gap between supply and demand.

Keywords Talent shortage · Demand and supply · Young generation · Malaysia · SEM

1 Introduction

Islamic banking has grown to become an extraordinary and rapidly expanding segment of the international banking and capital markets in recent years, and it continues to expand. It is the goal of the Islamic banking system to provide a variety of religiously acceptable banking services to both Muslim and non-Muslim customers alike. Those who adhere to Islamic doctrine are committed to eliminating interest, wagering, and uncertainty in all their forms from their financial systems. The phenomenon of Islamic banking has piqued the interest of many people, who are curious about how it differs from conventional banking in terms of its system, operation, product, development, and other aspects. Despite the fact that the world already has a very established conventional banking system that provides banking services to consumers, this conventional banking system is not immune to economic turbulence, as demonstrated by the collapse of a giant conventional bank in the year 2008. In light of this, Islamic banking has piqued the interest of many investors, prompting them to diversify their investment portfolios into Islamic banking markets, according to the report.

The development and growth of Islamic banking is based on the development and growth of talent. It is the most valuable asset in the industry, and it will continue to be on the continuous agenda so that the industry can maintain its resilience and achieve sustainable growth. A significant portion of the 200,000 workforces that will be required by Islamic banking institutions by the year 2020 in a variety of fields has been created as a result of the growing momentum that Islamic banking institutions have demonstrated (Aziz et al. 2019). As a result, the Economic Transformation Programme (ETP) aims to increase the number of students enrolled in Islamic finance from the current 6,000 to 54,000 by 2020 in order to meet the demand. The ETP also aims to increase the number of employable Islamic banking graduates from 64.8% in 2010 to 80% in 2015 by the end of the programme (Comin and Peng 2016). There are only 17,621 workforces available in Islamic banking institutions today, which accounts for only 11% of the workforces required by Bank Negara Malaysia, according to the latest available data (<https://www.google.com/search?q=bank+negara+malaysia+annual+re>).

Consequently, BNM has enhanced their additional education infrastructure in response to the high demand for Islamic banking talent in the industry. There are four stages to the talent development infrastructure initiative that has been implemented: the first is entry level, the second is Middle level, the third is Leadership, and the fourth stage is Research and Scholarship. These initiatives provide a platform for talent at

all levels, from the entry level for graduates to the middle level for professionals to the leadership level for senior management and the board of directors, and even up to the research level for researchers and scientists. One of the goals of these paths is to ensure a consistent flow of capable and competent talent pool for an innovative and dynamic Islamic banking industry.

When compared to previous years, the talent shortage has become more acute in recent years. According to a survey conducted by Manpower Group (2013), 40% of employers were having difficulty filling positions and believed that the candidates they were interviewing lacked the specific skills they were looking for. Consequently, the talent shortage has intensified, reaching its highest level since before the Great Recession. Talent shortages in Malaysia's Islamic banking institutions are becoming more acute as a result of the growing concern about the country's overall talent shortage. Malaysia's talent shortage has increased to 82% in Islamic banking institutions, compared to the industry average of 76% and the conventional banking benchmark of 78%, respectively (Aziz et al. 2016). With regard to that particular matter, BNM has simultaneously launched the human capital development plan through its agencies, as well as education and knowledge service providers. As a result, many educational and knowledge-based service providers developed programmes that were based on the principles of Islamic banking.

Despite the fact that the number of providers of Islamic banking education and knowledge services has steadily increased year after year, However, the issue of a scarcity of qualified candidates continues to exist. As the baby boomers reach retirement age or move to other financial institutions, this shortage has had an impact on employers' struggles to fill their talent vacancies within their respective institutions. Furthermore, as a result of the desperate measures taken by employers, graduates with or without Islamic banking qualifications have been hired by these companies. While the number of Islamic banking graduates continues to grow year after year, many of them remain unemployed, according to the Bureau of Labor Statistics (Saba et al. 2019). Statistics show that there are 3,102 first degree graduates from banking and finance related programmes (KPT - 2020). Of these, 54.8% are employed, 4.2% continue their education, and the remaining 41% are still unemployed. Apart from that, this group of graduates prefers to work in the professional, scientific, and technical sector (13.2%), other sectors (13.7%) as well as the education sector (11.3%). Meanwhile, 8.2% of banking sector graduates prefer to work in the private sector. Does this scenario demonstrate that the banking sector is less attractive to young talent when compared to other sectors that are available to attract them into their organisation? According to Khnifer (2010), most Human Resources (HR) policies do not reflect the needs of a recent graduate.

So, how effectively is the present Malaysian educational system positioned to create well-trained people capable of matching the supply and demand for talent in both industries and universities today? Overall, this study attempts to uncover the variables that lead to a lack of talent in IBIs by examining all of these overviews. In conjunction with this, it leads to the ultimate expression of the problem, which is: which variables, and to what degree, are the most prominent in impacting the talent shortage; talent supply or talent demand? As far as it appears, there is an imbalance

between the demand for and supply of talent in the various industries. As a result, this study is deemed necessary due to the fact that these areas are still under investigation.

2 Literature Review

2.1 Talent Demand

In the words of Cappelli 2008a, talent demand is a reflection of the supply of talent, and it can be forecasted in order to plan for the future of the company. Although over the past ten years, (Michaels 2001) have emphasised the fact that talent demand is referred to those companies or organisations that engage in “talent wars”, and numerous studies have attempted to explain about the talent demand proposition (Axelrod et al. 2001; Cappelli 2008b; Zhang et al. 2018).

For those who implement talent management activities in their organisations, on the other hand, the term “talent demand” refers to those who are in high demand. The following are the three main basic activities of talent management: attraction, retention, and development (with the latter two being the most important) (Cappelli 2009, 2008a; Pessima and Dietz 2019).

A different interpretation of talent demand was held by some researchers at the same time. This is the section in which, according to Brown (1990), Mulder and Ellinger (2013), and Cumming and Worley (2014), they have outlined the characteristics of the talent function in their respective organisations. Furthermore, this is the location where it has happened that a job function has been provided for each job scope. An alternative point of view on talent demand is expressed by another researcher in the context of when they have taken on or hired a talent into their organisation. After that, they provide the talent with appropriate incentives, salaries, and employee benefits.

Furthermore, talent demand has been reflected by government policy, with those organisations having their own corporate policy, rules, and regulations to adhere to. However, it must still be in accordance with government policy. Otherwise, that particular organisation will be found to be obstructing the government’s vision for industrial development and will be subject to monetary penalties. Furthermore, the policies derived are not only applicable to a specific organisation or company, but are also applicable to specific industries as a whole, in accordance with the current government vision and mission (Burn and Robins 2003; Cram 1994).

The evidence presented in this discussion suggests that the demand for talent is driven by the demand for talent in the organisation. Aside from that, the organisation has complete control over the situation when it comes to the availability of talent on the job market. The majority of the time, they have complete control over the talent, including the ability to hire or not hire, retain or not retain, develop or not develop. Despite the fact that they have absolute power, this organisation is still subordinate to the power of the state or government policy. When the government

intervenes with a policy, any organisation is obligated to follow the act or policy of the government. Regardless of the act of the government to derive the policy or rules and regulations, the government has the authority to enforce those rules and regulations on any organisation that falls under their jurisdiction (Dewan and Myatt 2010; Pessima and Dietz 2019).

Furthermore, the current trends in talent demand have been met by people from a variety of generations, including baby boomers, generation X, and generation Y, among others. The landscape or socioeconomic conditions of a particular workplace have undoubtedly changed as a result of the different generations working within the organisation. The methods for attracting, motivating, and rewarding the various generations have also evolved. In particular, when it comes to generation Y, this generation is currently the most educated generation when compared to previous generations, and this generation has the greatest ease of access to higher education.

They come in the workplace with greater maintenance, and as a result, they want a higher base pay, better work-life balance, flexible working hours, and appealing employee perks to match their current lifestyle and cost of living, as well as a better work-life balance (Aziz et al. 2019). The beginning of the talent revolution, whether in the workplace or the job market, has been signalled from this moment forward. Because of this, organisations need to be flexible in order to attract the finest talent available on the market; otherwise, they run the risk of losing key employees who are ideal for their company. The term “talent war” refers to the competition between organisations or businesses to get the finest talent at the lowest feasible price. Thus, the findings of this study have identified four sub-dimensions of talent demand, which are as follows: base salary, flexible working hours, employee benefits, and public policy.

2.2 Talent Supply

According to the law of supply and demand, if a demand exists, there will be a supply to fulfil that need in order for the situation to be accurately represented. As previously stated in this area, the researcher has explored the idea of talent demand; thus, the discussion in this section will be relating to the concept of talent supply. According to Romer (2000), higher education institutions that have generated talent for any respecting industry should be evaluated in order to have a better understanding of the notion of talent supply. According to Haggstorm (1988), a new concept of talent supply was defined for the first time in 1988, and it is composed of four components: (1) new entrants into the system; (2) former talent who re-enter the system; (3) holdover talent from the previous year; and (4) immigrant’s talent who has been transferred to another system.

In contrast to the prior idea of talent supply mentioned above, Stephan and Silvia (Stephan et al. 2008) asserted that talent supply may be produced and grown at the corporate or organisational level. Once talent has reached the next level, it may

be outsourced internationally based on two criteria: firm degree of experience and capability, as well as firm level of capability.

For example, Fort and Winfree (2009) proposed an alternative definition of talent supply, arguing that the availability of talent in the sports business differs considerably from that of other industries. The author went on to explain that the availability of talent in sports may be defined by two characteristics: the presence of a closed league and the presence of an open league (or competition). A closed league is comparable to the National Football League in that the rosters of one club in the league serve as a source of talent for another team in the league, similar to how the National Football League operates. It is comparable in this regard to the international football leagues in that the source of talent supply has no impact on the capacity of the other teams to develop their own potential. In certain situations, talent supply may be seen of as a source of supply, with the competition acting as a channel for the supply of talent. As early as 1979, Litman (1979) highlighted how competitive programmes, particularly those geared toward people in the entertainment sector, may serve as a source of talent supply for businesses looking to grow their employee base. However, training institutions act as an extension of the normal talent supply since its role is to provide as a source for individuals to improve their abilities or learn a specific skill (Darling-Hammond and Sykes 2003), but traditional educational institutions do not. According to Elrick and Lewandowska (2008), the job of the agent is not only a conduit for talent acquisition, as is commonly believed. While not a basic source of talent supply, the agent serves as an intermediate or middleman in the talent supply chain process, functioning as a link between the fundamental source and the institutions that have a demand for talented persons, according to the definition of the word.

Overall, talent supply serves the purpose of producing talents who are compatible with the appropriate job, according to Schweyer (2010). Furthermore, the rising number of baby boomers retiring from the workforce has resulted in a substantial mismatch between demand and supply in the labour market, which has contributed to the current economic downturn. On the other hand, the existing state of affairs in the production of talent and the supply of talent is being called into question as to its long-term viability. When it comes to sustaining a competitive advantage in the market, it is critical to continue to meet the need for qualified employees. Burguet and Sákovics (2016) have defined the status of the issue when talent supply in a sport sector is inelastic or elastic under specific conditions using the wage-wage relationship as the indicator factor in their study. Due to the inelastic state of talent supply, as the labour market becomes more decentralised, it is possible that talented individuals would become unemployed. Being unable to unilaterally choose the quantity of talent to be kept meant that the talent had to compete with one another in order to be considered for the post, and this created a competitive environment. The result of that situation would be that the losing party would be out of work or would be forced to relocate to a different area. The equilibrium condition of a talent supply scenario characterised by elastic demand is reached when talents are employed; as a result, the revenue sharing reduces in proportion to the quantity of talent hired.

A significant influence has been made on the way in which talent is required by organisations because of the complicated and sophisticated business environment in which they operate. When a scenario arises, it is the job of talent supply to respond to it and mould the talent to fit into this competitive advantage setting. Current personnel must be trained and developed in enhanced employability abilities, which is the duty of the talent supply. As previously said, the new talent generation has grown up in the information economy, where they are more focused on the creation of intellectual skills rather than natural resources and physical inputs. It is necessary to establish an integration of development talent in the talent supply by combining the fundamental values of knowledge, education, and technology. These three pillars, which are primarily talent, infrastructure, and curriculum, serve as the foundation for the operation of talent supply institutions.

On this basis, several discussions have taken place about the model or theory that should be used to operate the factors mentioned above in the current environment. Talent management and the talent supply chain are two well-known models or theories that have long been associated with the development of talent supply and the development of talent. As previously discussed in the context of talent management, it is the strategic management process that directs the flow of talent throughout an organization (Iles et al. 2010). For their part, Christensen Hughes and Rog (2008) combined the talent management model with supply chain theory in order to increase the short supply of skilled workers. Instead of stating that supply chain value cannot be implemented in the future, the author explained that supply chain value can be implemented in the future in order to tap into the talent within and outside of the institution or organisation. Another piece of evidence from the literature revealed a relationship between the supply chain model and the sustainability of acquiring talent from the talent source.

As a conclusion, talent supply is determined by the location where a talent is produced and the specific needs that must be met by the talent when it is supplied into the demand institution that requires a talent. When a talent is being developed, the talent supply should be able to identify and develop them in the appropriate manner. When going through this process, the requirement for a comprehensive infrastructure is an essential point in the development of qualified talent. As a transitional step between the chain of talent and infrastructure processes, curriculum serves as a vehicle for the transfer of knowledge and skills between the infrastructure that supplies talents and the desired talent. As a result, the availability of talent is an important indicator for determining the existence of a talent shortage and, later, for developing talent for desired institutions.

2.3 Talent Shortage

Several researchers have described the current state of the definition of talent shortage. Described by Miner (1974), the meaning of a talent shortage is equivalent to the presence of a human constraint in an organisation or institution. The authors

of Crainer and Dearlove (1999) provided an explanation for the opposite meaning, in which they used harsh language to represent talent shortage as the death of executive talent. On the other hand, the term “workforce crisis” illustrated the definition provided by Dytchwald et al. (Workforce Crisis 2021). On the other hand, interpreted the meaning of talent shortage in terms of the concept of the hidden brain drain. As a result, regardless of which definition has been established by the researchers in the past, it is clear that the definition has resulted in a shortage of talent, human capital, or workforce in either the demand or supply institutions (Winning 2017). More in-depth discussion of the talent shortage will take place in the following sections.

As a result of the growing demand for talent in the IBI market, the demand for talent has increased dramatically. Since then, Islamic banking institutions (IBIs) have unintentionally sparked a talent war in the Islamic banking sector. As a result of these circumstances, the talent shortage at IBIs has reached an acute stage.

Furthermore, talent attraction has become more difficult in meeting the needs and preferences of the current generation, which has resulted in a shortage of qualified candidates. Today’s talent development was created in the same vein as yesterdays to substantiate in reducing the talent shortage that has become more complex and dynamic as the workforces around the world have grown larger and diverse, as well as better educated and more mobile in recent years.

It has been confirmed that there is a scarcity of talent, and that a comprehensive talent management approach may be implemented as a successful strategy in any given organisation or industry. It is possible that a scarcity of skilled workers will have a long-term detrimental influence on the development of the sector, sparking an intense global talent war, increasing high mobility turnover, and negatively impacting company performance.

Meanwhile, in order to address the talent shortage from a supply perspective, the combination of fundamental resources within higher education institutions, which include talent, university infrastructures, and curriculum, would provide a comprehensive value for talent development, according to the World Economic Forum. Higher education institutions were commonly noted as having a contradiction between their objective of developing talent and their aim of educating the general public. This is despite the fact that many different programmes for talent development have been implemented. The present and prior plans appear to result in a mismatch between the skill set being supplied and the demand for that skill set (Liu 2018), according to the evidence. According to Aziz et al. (2011), it was also highlighted the necessity of collaboration between higher education and industry in establishing a realistic curriculum that might lead to work preparedness among the talent pool. A result of this would be an increase in the recognition of the talent brand across all industries.

Consequently, the impact of a skills shortage in any given organisation has the potential to be a catastrophic event in the organization’s future development. For the time being, the most effective mechanism for addressing the talent shortage issues is considered to be a Each stakeholder (including the government, industrial organisations, and higher education institutions) must take a holistic and united approach to talent management in order to effectively manage both demand and

supply. According to reports, it will create a balance between the availability of talent and the availability of talent resource availability.

3 Methodology

A quantitative technique that includes descriptive, explanatory, and confirmatory components used in the study [69]. The sampling of simple random procedure employed among university students as study participants [47]. Its probability feature, the sampling technique was chosen, and it is compatible with structural equation modelling (SEM). There are 371 respondents who have been chosen to participate in the unit analysis of the study. The questionnaire utilised in the research was a structured interview, which was used to collect data from respondents. The questionnaire sent to university students as part of the research. With a 10-point Likert scale, the questionnaire is divided into four sections: A (demographics), B1 (talent demand), B2 (talent supply), C and (talent shortage), all of which are scored on a 10-point Likert scale. That scale is used to collect sensitive data from responders and prevents them from providing an unbiased answer.

IBM-SPSS and IBM-AMOS are the two types of tools that are recommended for use in the analysis. Descriptive and inferential analyses are two different sorts of analyses that can be accomplished using those two tools. In the following step, factor analysis is used to define variability among seen, correlated variables in terms of a potentially smaller number of unobserved variables, which are referred to as factors in this case. In this case, the goal is to discover independent latent variables. Confirmatory factor analysis (CFA) is also used to validate the measurement model of the construct and to test the given hypothesis in the path model, among other things. The procedure that was used in the testing of the SEM path model. It is a strategy for dealing with a latent component in a model that is used to overcome a limitation in standard least square regression.

4 Results

Approximately 371 respondents were asked about their demographic profiles; female respondents dominated the responses in this survey with 69.2% of the total, which had a significant impact on the outcome. In line with the dominance of respondents aged 23 and up (61%), as opposed to those aged 22 and under (39%), this result was obtained. As the results of the survey revealed, the vast majority of those who took part were of a certain age and matured to understand about talent shortage.

The square root values of the AVE in the respective constructs are represented by the bolded diagonal values, whereas the other values represent the correlation between the respective pair of constructs. The Discriminant Validity of a construct is achieved if the square root of its AVE is greater than the correlation value of the

Table 1 Discriminant validity index summary for all constructs

| | Demand | Supply | Shortage |
|----------|--------------|--------------|--------------|
| Demand | 0.811 | | |
| Supply | 0.630 | 0.935 | |
| Shortage | 0.560 | 0.62 | 0.775 |

Table 2 The regression weight for supply and demand in predicting shortage

| | Estimate | S.E | C.R | P | Result |
|--------------------|----------|-------|-------|-----|-------------|
| Shortage <- Supply | 0.435 | 0.062 | 6.967 | *** | Significant |
| Shortage <- Demand | 0.273 | 0.058 | 4.714 | *** | Significant |

construct with the other constructs in the model, as defined above. In other words, if the bolded diagonal values are higher than any other values in its row and column, the Discriminant Validity is achieved (Awang 2014; Aziz et al. 2011). The discriminant validity of the values in Table 1 is demonstrated by the fact that they are tabulated. The study comes to the conclusion that the Discriminant Validity for all constructs has been established.

Lastly, the study must determine whether or not all items used in measuring the construct have a normal distribution before modelling the structural model and running SEM. Because SEM employs a parametric statistical modelling approach, it is necessary to assess the normality distribution of all accepted items measuring the constructs before proceeding with the investigation. To demonstrate that the skewness values for all items are within normal limits, according to Awang (2015), the study only needs to demonstrate that the skewness values for all items are within normal limits.

A normal distribution was obtained with a kurtosis value of -2.577 , which is considered to be normal. The acceptance value for the analysis is between the kurtosis values of -3 to $+3$ [46] and the multivariate kurtosis value of less than 50, which is considered to be below normal (Awang 2015). As a result, the researcher will be able to proceed with further investigation. All Composite Reliability (CR) and Average Variance Extracted (AVE) values are greater than or equal to the threshold values of .6 and .5, respectively, indicating that all main constructs in the model have convergent validity and composite reliability, respectively.

4.1 Structural Model

In the structural model, the researcher brings all of the many constructions that are engaged in the research together into a cohesive whole. For this reason, it is particularly useful for representing the interrelationship of variables among dependence

relationships (Hair et al. 2013). This is because it contains a greater number of dependence relationships connecting the constructs in the hypothesised model with the constructs in the structural model (Hughes and Rog 2008).

To be more specific, this approach is appropriate when using a confirmatory approach, which means that the model proposed has higher levels of evidence in terms of the latent constructs involved in a causal model than a deductive approach, which means that the model proposed has higher levels of evidence in terms of the latent constructs involved in a deductive approach. It has been demonstrated by AMOS that in order to find the appropriate solution and prevent non-convergence estimates, SEM requires a sufficient sample size of 200 samples (Awang 2015) and is dependent on stringent assumptions such as normality, homoscedasticity, and the absence of outliers (Hair et al. 2013). Because we had already satisfied this criterion in the previous investigation, the route estimates we got using the maximum likelihood approach were regarded as being reliable. Figure 1 illustrates the process through which the three major exogenous constructions (talent supply, talent demand, and talent supply) are imposed on the endogenous construct (talent demand) (Talent Shortage). When testing this constructed relationship, only one arrow has been chosen to represent a causal effect; that is, the arrow must begin with the exogenous construct and end with the endogenous construct. This single arrow has been chosen to represent a causal effect because it is simple and straightforward.

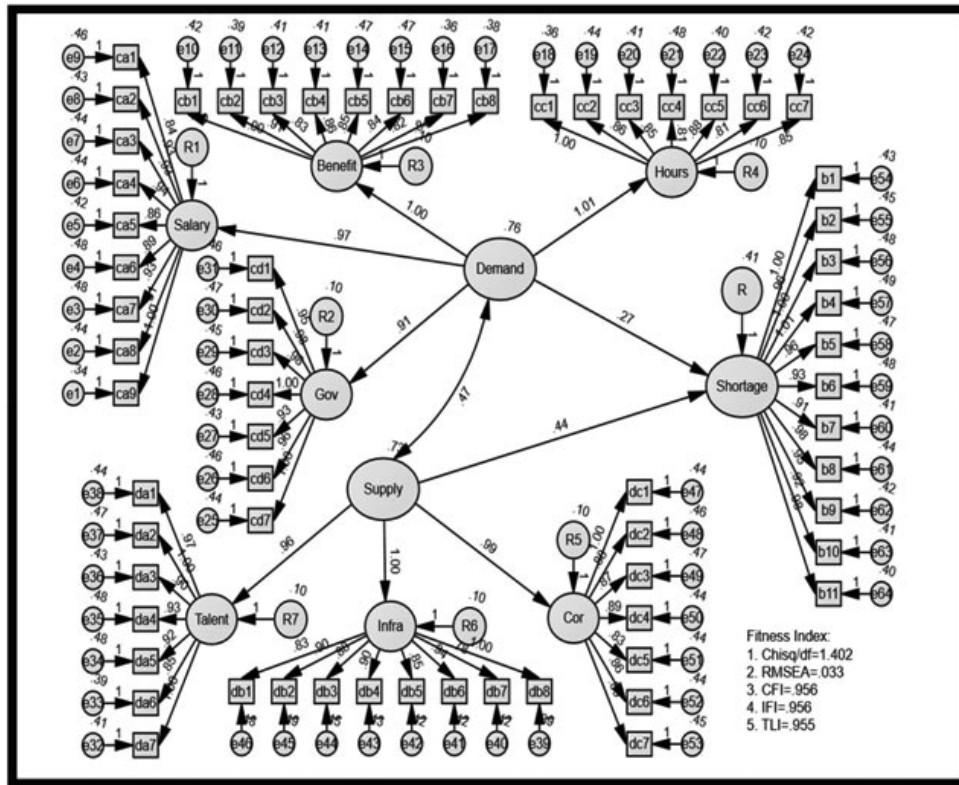


Fig. 1 Unstandardized estimates

(Bentler 1990) recommended that the chi-square normalised by degrees of freedom (Chisq/df) be less than 5.0, the Comparative Fit Index (CFI), the Goodness Fit Index (GFI), the Tucker-Lewis Index (TLI), and the Normal Fit Index (NFI) be all greater than 0.90 [7, 9, 40], and the Root Mean Square of Error Approximation (RMSEA) be less than 0.08. For the current model, it has met all of the requirement indices $\text{Chisq}/\text{df} = 1.402$; $\text{RMSEA} = 0.033$; $\text{CFI} = 0.956$; $\text{IFI} = 0.956$; $\text{TLI} = 0.955$, and has been determined to be suitable for the next step (Table 2).

The relationship between talent demand and talent supply was examined in detail. The findings revealed that both talent supply ($\beta = 0.435$, $\text{CR} = 6.967$) and talent demand ($\beta = 0.273$, $\text{CR} = 4.714$) were statistically significant when it came to the issue of talent shortage in the United States. The critical ratio (CR) is used as a guideline to indicate the research hypotheses when composing to the statistical significance of the data. Basic rule of thumb is that the CR should be greater than the 1.96 rule of thumb in order to achieve a statistically significant probability of either accepting or rejecting the null hypotheses.

Aside from this, it was discovered that all path estimates had a positive effect on the labour shortage: when talent demand increases by one unit, the labour shortage increases by .273 units, and when talent supply increases by one unit, the labour shortage increases by .435. In addition, result was discovered that the proposed model explained an acceptable significant percentage of the variance in talent shortage (43%). Specifically, (Shevlin and Miles 1998) stated that an R^2 value greater than 26% is considered to have a significant effect on the causal model. Because it makes significant contributions to the research on talent shortage in Malaysian IBIs, the structural model involving measuring the level of talent shortage is considered feasible and valid.

5 Conclusion

Overall, the study has accomplished its ultimate goal, which was to assess talent shortage with supply and demand perspective for the shortage of skilled workers among young generation for IBIs. Validity, normality, and fitness index have all been met by this model, which allows it to be used to execute SEM for the purposes of this study. As a result, this assessment has achieved the confirmatory value necessary for it to be generalised to the entire population of the study. All of the other hypotheses have been found to be obtained. This study has made a significant contribution to the work on talent shortage assessment among graduates from a theoretical standpoint and in the process of developing theories.

The talent supply factor was discovered to be significantly more competitive in the face of a talent shortage when compared to the talent demand factor. As previously stated, the higher the increment factor of talent supply, the greater the likelihood of a rise in the talent shortage factor. The development of talent should focus on up to date of infrastructure, competent of talent, and industrial applied curriculum that can substantiate with talent shortage in IBIs.

Talent supply, on the other hand, yields a diametrically opposed conclusion: as the contribution of the talent supply factor increases, the talent shortage will decrease. As a result, in the context of supply that is education institution, talent supply encompasses the structure of the organisation or ecosystem. Depending on the attribute provided by the higher education institution or organisation, a talent shortage could be created as a result of the benefit gained by the talent in an IBIs. Aside from that, the education institution factor does play a role in determining the competent for talent. Engagement of the education institution itself is a part of the crucial ecosystem, helping to develop talent and establish an appropriate competent talent in IBIs ecosystem.

For the purposes of summarising, this model is capable of providing significant information about a national talent shortage, particularly in the entry level talent ecosystem. Aside from that, the diversified of the respondents could be tested, including those from different industries, in the context of the study's talent section because it will generate a different perspective on the generation of findings.

Acknowledgements This research was supported by Ministry of Higher Education with the grant name Fundamental Grants Research Scheme (FRGS) FRGS/1/2020/SS02/UMK/02/2. We thank to our faculty member from University Malaysia Kelantan that provided insight and expertise that greatly assisted the research of this paper.

References

- Awang, Z.: A Handbook on SME: For Academicians and Practitioners. MPWS Rich Resources (2014)
- Awang, Z.: SEM made simple: a gentle approach to learning structural equation modeling. MPWS Rich Publication (2015)
- Axelrod, E.L., et al.: War for talent, part two. *McKinsey Q.* **2**, 9 (2001)
- Aziz, M., et al.: The influence of employer value proposition in talent demand towards talent shortage in the Malaysian Islamic banking institutions: a SEM approach. *Manag. Sci. Lett.* **9**(6), 843–850 (2019)
- Aziz, M.I., et al.: Modeling talent shortage for entrepreneurship among student with government policy support as mediating effect: SEM approach. *Importance New Technol. Entrep. Bus. Dev. Context Econ. Divers. Dev. Ctries.* **194**, 2011 (2021)
- Aziz, M.I., et al.: Talent development model for a career in Islamic banking institutions: a SEM approach. *Cogent Bus. Manag.* **3**(1), 1186259 (2016)
- Bentler, P.M.: Comparative fit indexes in structural models. *Psychol. Bull.* **107**(2), 238 (1990)
- Burguet, R., Sákovics, J.: Bidding for input in oligopoly. *Edinb. Sch. Econ. Discuss. Pap.* **266** (2016)
- Burn, J., Robins, G.: Moving towards e-government: a case study of organisational change processes. *Logist. Inf. Manag.* (2003)
- Cappelli, P.: A supply chain model for talent management. *People Strategy* **32**(3), 4–7 (2009)
- Cappelli, P.: Talent management for the twenty-first century. *Harv. Bus. Rev.* **86**(3), 74 (2008a)
- Cappelli, P.: *Talent on Demand: Managing Talent in an Uncertain Age*. Harvard Business School Press, Boston (2008b)
- Comin, D., Peng, K.K.: *Malaysia: The Economic Transformation Program (B)*. World Scientific Book Chapters, pp. 123–129 (2016)
- Crainer, S., Dearlove, D.: Death of executive talent. *Manag. Rev.* **88**(7), 16–23 (1999)

- Cram, L.: The European commission as a multi-organization: social policy and IT policy in the EU. *J. Eur. Public Policy*. **1**(2), 195–217 (1994)
- Darling-Hammond, L., Sykes, G.: Wanted, a national teacher supply policy for education: the right way to meet the “highly qualified teacher” challenge. *Educ. Policy Anal. Arch.* **11**, 33 (2003)
- Dewan, T., Myatt, D.P.: The declining talent pool of government. *Am. J. Polit. Sci.* **54**(2), 267–286 (2010)
- Elrick, T., Lewandowska, E.: Matching and making labour demand and supply: agents in Polish migrant networks of domestic elderly care in Germany and Italy. *J. Ethn. Migr. Stud.* **34**(5), 717–734 (2008)
- Fort, R., Winfree, J.: Sports really are different: the contest success function and the supply of talent. *Rev. Ind. Organ.* **34**(1), 69–80 (2009)
- Haggstrom, G.W.: Assessing teacher supply and demand. ERIC (1988)
- Hair, J.F., et al.: Editorial-partial least squares structural equation modeling: rigorous applications, better results and higher acceptance. *Long Range Plann.* **46**(1–2), 1–12 (2013)
- Hughes, J.C., Rog, E.: Talent management: a strategy for improving employee recruitment, retention and engagement within hospitality organizations. *Int. J. Contemp. Hosp. Manag.* **20**(7), 743–757 (2008)
- Iles, P., et al.: Talent management and HRM in multinational companies in Beijing: definitions, differences and drivers. *J. World Bus.* **45**(2), 179–189 (2010)
- Khniifer, M.: The human remains of Islamic finance. *Islam. Bus. Finance.* **36** (2010)
- Litman, B.R.: The television networks, competition and program diversity. *J. Broadcast. Electron. Media.* **23**(4), 393–409 (1979)
- Liu, R., et al.: An optimized decision-making algorithm for talent supply. *J. Interdiscip. Math.* 1–12 (2018)
- Michaels, E., et al.: *The War for Talent*. Harvard Business Press (2001)
- Miner, J.B.: *The Human Constraint; The Coming Shortage of Managerial Talent* (1974)
- Pessima, J.D., Dietz, B.: *Global Talent Management*. The Wiley Handbook of Global Workplace Learning, pp. 155–170 (2019)
- Romer, P.M.: Should the government subsidize supply or demand in the market for scientists and engineers? *Innov. Policy Econ.* **1**, 221–252 (2000)
- Saba, I., et al.: FinTech and Islamic finance-challenges and opportunities. *Rev. Econ. Dev. Stud.* **5**(4), 581–890 (2019)
- Schweyer, A.: *Talent Management Systems: Best Practices in Technology Solutions for Recruitment, Retention and Workforce Planning*. Wiley, Hoboken (2010)
- Shevlin, M., Miles, J.N.V.: Effects of sample size, model specification and factor loadings on the GFI in confirmatory factor analysis. *Personal. Individ. Differ.* **25**(1), 85–90 (1998). [https://doi.org/10.1016/S0191-8869\(98\)00055-5](https://doi.org/10.1016/S0191-8869(98)00055-5)
- Stephan, M., et al.: A dynamic perspective on next-generation offshoring: the global sourcing of science and engineering talent. *Acad. Manag. Perspect.* **22**(3), 35–54 (2008)
- Zhang, Z., et al.: Analysis of the talent demand and cultivation of safety engineering in the new normal. *Sci. J. Bus. Manag.* **5**(6), 206 (2018)
- Bank Negara Malaysia Annual Report 2020 - Google Search. <https://www.google.com/search?q=bank+negara+malaysia+annual+re>. Accessed 13 July 2021
- KPT – 2020. <https://www.mohe.gov.my/muat-turun/statistik/2020?> Accessed 13 July 2021
- Winning the War for Talent: Modern Motivational Methods for Attracting and Retaining Employees - Anaïs Thibault Landry, Allan Schweyer, Ashley Whillans (2017). <https://journals.sagepub.com/doi/abs/10.1177/0886368718808152>. Accessed 13 July 2021
- Workforce Crisis: How to Beat the Coming Shortage of Skills And Talent - Ken Dychtwald, Tamara J. Erickson, Robert Morison - Google Books. https://books.google.com.my/books?hl=en&lr=&id=YOiqKakrS2oC&oi=fnd&pg=PA1&dq=Dychtwald&ots=nvPXFUM5Hj&sig=yuMYNz10d7N6rKyG3hfJWrGxTVM&redir_esc=y#v=onepage&q=Dychtwald&f=false. Accessed 13 July 2021