

**ICONSPADU 2021****International Conference on Sustainable Practices, Development & Urbanisation****DEVELOPMENT OF INSTRUMENTS ON THE IMPACT OF  
UNIVERSITY TOWARDS SUSTAINABLE SOCIO-ECONOMIC**

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**Abstract**

The development of Higher Education Institutions (HEIs) in a place will have an impact on the community and the area around the HEIs. The development of the institution resulted in the demand for staff and students for various needs such as housing, various basic necessities shops, food shops, and so on. As a result, social and economic activities in the affected areas will increase and developed. This research is a study related to the development of instruments to survey the impact of the development of HEIs on the socio-economic development of the surrounding communities. This instrument is important in assessing the impact of HEIs development on the surrounding area and community and is used in making a development planning system to achieve sustainable development. The development of the research instrument involves several steps namely literature review, Focus Group Discussion (FGD), development of questionnaires, and validity of instruments through Subject-Matter Expert (SME). The instrument developed is a questionnaire used to obtain data related to the impact of HEIs development on a community from a socio-economic aspect.

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*Keywords:* Higher Education Institutions (HEIs), research instrument, sustainable socio-economic development

## **1. Introduction**

Various studies concluded that a Higher Education Institution (HEI) is a catalyst for local development in terms of facilities and socio-economy. Besides, to develop HEIs, the government has to allocate a large amount of money for that purpose, involving taxpayers' money. Therefore, HEIs are now being challenged to prove that their existence can have a more significant impact on the development of local areas or regions, not only as a place that produces new theories or graduates. With an appropriate research focus on the contribution of HEIs, this can be beneficial to the government in making a development planning system to achieve sustainable development.

Therefore, this study aims to develop a research instrument that the researcher can be used to investigate the impact of HEI's existence on sustainable socio-economic development. The instrument is a tool used to assess, collect, measure, and analyze data related to the study, including surveys, scales, tests, observation forms, questionnaires, or even checklists. This research instrument will assist the researcher in ensuring that the study will collect relevant data per validated as essential by some experts and has proven reliability. In summary, a good instrument will help the researcher conduct a high-quality research study and avoid leading to insufficient data, which will result in wrong conclusions. In addition, the data collected will emphasize the significant impact of HEI on the development of local surroundings.

### **1.1. Sustainable Development Goals**

World leaders have adopted the Sustainable Development Goals (SDGs) since the signing of the United Nations Development Summit on 25 September 2015. This plan, which came into effect in 2016, includes an aim of 17 goals. The main objective is to end all forms of poverty, fight inequalities and injustice, and tackle climate change by ensuring that no one is left behind by 2030 (UNDP, 2015). However, even the SDGs are not legally binding. Still, the world leaders agreed that this development must be implemented in conjunction with the cooperation between the government and every other partner and stakeholder.

### **1.2. Sustainable Socio-Economic Development**

As in a study by Yazid Saleh et al. (2016), the operation of Sultan Azlan Shah Campus, Sultan Idris University of Education (UPSI) has shown an increase in the economic status of the population such as business opportunities, employment opportunities, and property value. This situation also demonstrated that the impact of the development of these institutions in this area could improve the socio-economic status of the local community as a result of the progress made.

In addition, studies show that an active economic activity in some areas can have a ripple effect when the financial sector continues to respond to increase the demand for goods and services. This can also be attributed to the impact of the establishment of HEI in the vicinity. The economic impact can be seen through direct and indirect spending (Othman et al., 2010). Both types of expenditure are activities that occur among the community living in the area, such as students, employees working in the IPT, labor, traders, and stakeholders.

Zhang (2003), who conducted a study on "The Economic Impact of The University of Minnesota", has stated that the educational institution has become a significant employer and a significant contributor to the economic development of Minnesota. An employer has employed 16,198 workers with a wage payment of USD911 million. Therefore, research on the development of HEIs in an area should be conducted more widely so that its impact on socio-economic development can be used as a catalyst for the economic progress of society.

Sustainable education aims to develop competence that can empower themselves for future economic and environmental impacts. This matter should be understood as a part of the quality of teaching and lifelong learning. Sustainability can be adopted across circumstances successfully achieved through university programs all across the seven countries and one of them in Syria (Leal et al., 2018). Collaborative approaches from academics and learning communities are essential to enhance the sustainability of the community and university curriculum.

The establishment of HEIs is one of the elements that can stimulate economic growth and development and bring change to the surrounding areas. The placement of HEIs in specific locations can be the core that brings development and transition to various economic and social functions. Such a question was once discussed by Fauziah (2007), Morshidi et al. (2001), Morshidi et al. (2002), Roziah, and Mohd Nazip (2007). HEIs can also have a multiplier effect on the local economy in response to increased demand for goods and services (Othman et al., 2010)

### **1.3. Research Instrument**

In developing a research instrument, the validity and capability of the instrument are the main features that should be emphasized. In the study on the validity and capability of the instrument for example through the aspect of Dakwah Management, Surip et al. (2019), emphasized that the evaluation of the research questionnaire is a priority in their study. The focus given is on the suitability of the item with the management construct through expert validity as well as the determination of instrument reliability value through Cronbach alpha coefficient analysis.

In the study of networks Ayre and Andrew (2014), stated that research methods related to critical origin values should be followed by binomial probability accuracy. According to Frank-Stromberg and Olsen (2004), content validation is a process that guarantees certainly raised instruments such as checklists, questionnaires, or scales have such contents that should be measured in the context of a study's reliability. Therefore, research related to the development of instruments for a subject or matter is based on the methodology that will be used in determining the validity and capabilities of the instruments developed in the study, Rubio et al. (2003).

## **2. Problem Statement**

Less emphasis has been placed on the impacts that HEIs actually have on society, the natural environment, and the economy outside the organization, for example, contribution to climate change or alumni lifestyles. HEIs are often separated in time and space from such impacts and affected stakeholder groups, and thus they rely on sound instruments that support their assessment approaches. In recent

years, stakeholders have increasingly asked HEIs to demonstrate their impacts on sustainable development. These impacts are the direct and indirect effects an HEI has outside of its organizational boundaries on society, the natural environment, and the economy.

Based on the discussion of previous studies, the study results show that the establishment of universities has more positive effects than the adverse effect in surrounding areas. This result is evidenced by the findings obtained showing the production of quality human capital. Consequently, the change indicates that the university's establishment has had a constructive influence on the growth of the surrounding areas, primarily on anyone under the university's authority. Therefore, in the context of this article, this study is seen as support that wants to be analyzed whether it brings well-being to the locals or vice-versa.

### **3. Research Questions**

The present study focuses on the development of instruments to survey the impact of the development of HEIs on the socio-economic development of the surrounding communities. This study is guided by the following research questions:

- i. What is the validity value of the item in the instrument measurement of the impact of the development of HEIs on the socio-economic development of the surrounding communities?
- ii. What is the reliability of the instrument suitable and relevant for use in the context of socio-economic in Malaysia?

### **4. Purpose of the Study**

The aim of the study was to determine the validity and reliability of management instruments. In particular, the purpose of the study is as follows the following:

- i. Determine the suitability of the item with the management construct through expert validation.
- ii. Determine the reliability value of the instrument through Cronbach alpha coefficient analysis.

### **5. Research Methods**

This study was conducted using quantitative methods through a survey questionnaire involving one of the purposive sampling techniques, judgment sampling, as an assessor. This sampling refers to selecting expertise through individuals who specialize in a particular field for the study as a study sample (Ilker et al., 2016). Therefore, a recommendation also ensures that all such items cover all content of that domain to be tested (Ghazali & Sufean, 2016; Noraini, 2010). Two primary sources are involved in testing the validity of the content in this study: a panel of expert professionals in the field and field experts comprising representatives of the relevant population with this study of 5 people. According to Lynn (1986), the number of expert panels required in a study is sufficient as many as five to ten experts only. Lawshe (1975) himself has set the number of experts at least four expert panels.

The Development of Instrument on The Impact of The Existence of Higher Education Institutions (HEIS) on Sustainable Socio-Economic Development was carried out based on the instrument

development process method by Cohen and Swerdlik (2012). Three steps were taken to develop and validate this instrument:

1. Literature review and preliminary survey
2. Validation by the Subject Matter Experts
3. Pilot test for reliability testing.

The first step was gathering the information from the literature review, preliminary survey, and document analysis about the current issues in the local community. Then, researchers have developed the list of the items based on the three primary constructs: Socio-economic Sustainability; Jobs and Businesses Opportunities; and Business Centre Development and Public Transport Network. A reliability test was conducted after the validation process occurred.

### 5.1. Research Design

The qualitative research approach proposed by (Lewis et al., 2005) has been used to verify the content validity of the item in this part, which was divided down into specific steps.

1. First, some main points from preceding research in this field of instruments to analyze the effect of HEIS progression on socio-economic development. As a consequence of this, questions and statements were developed.
2. An expert panel consisting of experts from academia and the industry in the sociology profession was selected to investigate the contents.
3. The questionnaire generated in step 1 was then distributed to each panel individual. On a three-point scale, the panel members were asked to provide feedback separately to each item concerning a particular construct (essential, helpful but not essential, not necessary).
4. Fourth, the responses from the overall expert panelists were then pooled together. Finally, the researcher must count the number of responses indicated "essential for each item.
5. Fifth, the content validity ratio for each item was assessed by applying the formula:

$$CVR = \frac{\left[ ne - \left( \frac{N}{2} \right) \right]}{\left( \frac{N}{2} \right)}$$

Lawshe introduced this method, 1975, where  $N$  is the total number of respondents, and  $ne$  is the frequency count of the number of panellists rating the item as "essential". Finally, the CVR values obtained for each item were examined for their significance, employing Lawshe's familiar tale (1975). If the estimated CVR value was equal to or above the standard value, it accepted the item statement; otherwise, we decided to eliminate it. The significance level (critical value) depended upon the number of experts rating the item. The minimum number of experts required to rate each item should be at least five. The value of CVR ranged from 0 to 1. (Lawshe, 1975; Lewis et al., 1995).

**Table 1.** The Lawshe Table for Minimum Values of Content Validity Ratio

No. of Panelist	Critical Value
5	0.99
6	0.99
7	0.99
8	0.75
9	0.78
10	0.62

Lawshe's table (Table 1) gives the minimum CVR required to store items at scale (Lawshe, 1975). Then, the average of all item CVR scores is calculated to determine the total CVR score for the instrument. Experts were also asked to write their comments for each item and suggest further revisions or items. The researcher analysed this writing for qualitative content validity.

## 6. Findings

### 6.1. Construction of Research Instrument

Initially, a total of 16 items were constructed in this study instrument with a breakdown into three constructs along with a specific number of items, namely economic well-being (5 items), business and employment opportunities (5 items), and the addition of business centres and transportation networks (6 items). The weighting of the number of items constructed varies based on the appropriateness of the literature review those previous researchers have done.

### 6.2. Expert Validity

In the context of this study, all appointed professionals are directly involved in the field and work in the area (Mohd Effendi et al., 2017). In this study, the experience period of the expert panel in the shortest field was five years, while the longest was 15 years. The researcher has met with all the experts who have been appointed by explaining the background of the study, operational definition, and also the construct that the researcher has built. In addition, the expert panel has also been provided with all relevant documents for evaluation purposes, either in the form of comments, corrections, or suggestions.

### 6.3. Content Validity

The demographic profile of the expert panels ( $N = 5$ ) shows male experts (4, 80%) dominated by female experts (1, 20%). The area of expertise covers the area of academician and researcher in the sociology of community development with more than 30 years of experience. All of them are from various universities such as Taylor University, University Selangor (UNISEL), and Kolej Universiti Islam Selangor (KUIS).

**Table 2.** Item CVR Value by Construct

No. Item	Item statement	*ne	**CVR	Interpretation
<b>Economic Well-Being</b>				
1.	Development projects will usually impact primarily the economic well-being of the nearby area.	5	1	Remained
2.	There has been an increase in house prices in the surrounding areas as a result of the development of HEIs.	5	1	Remained
3.	The value of local properties has increased due to their location near HEIs.	5	1	Remained
4.	Many properties development projects have been undertaken to change the economic landscape.	5	1	Remained
5.	The composition of the local population is increasing due to the migration of people to the area after the existence of an HEIs.	4	0.6	Eliminated
<b>Business and Employment Opportunities</b>				
6.	The locals began to venture into small-scale businesses such as opening food and beverage stalls after the existence of IPT in the area.	5	1	Remained
7.	The operation of HEIs will be a catalyst for the existence of more business and service centres.	5	1	Remained
8.	The existence of HEIs has improved the socio-economy, especially in marketing and business.	4	0.6	Eliminated
9.	The existence of HEIs has had a multiplier effect on the local economy in response to increased demand for goods and services.	5	1	Remained
10.	The supply of employment opportunities in various sectors can be seen through the existence of HEIs.	5	1	Remained
<b>Growth Of Business Centres and Transport Network</b>				
11.	Regional development planning is one of the planning elements in national development.	5	1	Remained
12.	The establishment of HEIs is one of the elements that stimulate economic growth and development as well as the change to the surrounding area.	5	1	Remained
13.	Services such as laundry, and catering services such as kiosks selling a variety of foods were built to meet the demands and demands of the community.	5	1	Remained
14.	Commercial activities such as banking and hospitality located around the campus have been widely established.	4	0.6	Eliminated
15.	With the operation of HEIs, the development of the transportation network has taken place.	5	1	Remained
16.	The frequency of bus service routes has been increased after the existence of HEIs	5	1	Remained

\* Number of expert panels who have rated the item as essential. \*\* Content Validity Ratio (CVR) involved eight expert panels (N = 8), items having CVR values of 0.75 and above have been retained as instruments. While the CVR value is less than the value has been dropped

Results determined the study's findings through psychometric tests through CVR values that were set based on a total of 5 expert panels of 0.75 (Lawshe, 1975). After testing, a total of 16 items were identified to be retained, while deciding to drop seven other items with values below 0.75. Table 2 summarises statistics measuring the acquisition of assessments from 8 expert panels along with 16 question items related to socioeconomic factors according to the Content Validity Ratio (CVR) Technique by Lawshe (1975). It also shows the CVR values by the expert panel obtained for each item according to the constructs that were dropped and also retained.

Content validity is determined using Content Validity Ratio Analysis or Content Validity Ratio (CVR) by assessing the level of importance of each item based on three-point scales, namely (1) Essential, (2) useful but not essential, and (3) Not necessary. The formula explains that CVR refers to the value of the constructed item, *ne* is the number of expert panels that rated the item as essential (essential), and *N* is the total number of expert panels involved. According to Lawshe (1975), CVR values are in the range of -1 to +1. A +1 value indicates that the item rated by the expert panel is vital in the validity of the content. The CVR value < 0 shows that less than half of the expert panel evaluated the item as essential. If the CVR value = 0 indicates that part of a panel of experts is involved in assessing the item as not important and another role in evaluating it as essential. While a CVR value > 0 indicates that more than half of the expert panel assessing items as essential, the higher the value from 0, the higher the validity of the content. Thus, if CVR = 1, all expert panels have agreed to evaluate the item as essential, with high content validity.

The overall findings showed that only three items are just below the critical value of 0.99. Two items need to be modified because of the inappropriate statement, which is not easy to understand. Through the determination of CVR value that has been done based on expert assessment, the overall distribution of items successfully maintained 13 items which include economic well-being (4 items) with 1 item dropped, business and employment opportunity construct (4 items) with 1 item dropped, and business centers and transportation network (5 items) with 1 item dropped. Table 3 shows the distribution of items after the CVR test through expert panel evaluation.

**Table 3.** Distribution of item after expert verification and CVR testing

Construct	No. of Item	No. of item eliminated
Economic Well-Being	1, 2, 3,4	5
Business And Employment Opportunities	6, 7, 9, 10	8
Growth Of Business Centres and Transport Network	11, 12, 13, 15,16	14

#### **6.4. Instrument Reliability**

The reliability of all these items was measured using the Cronbach's Alpha internal consistency method. According to Hopkins (1998), a minimum value of 0.90 is a score for items with good reliability. Many researchers acknowledge this value because values above 0.8 typically indicate very high reliability to be accepted, especially for questionnaire items (Aiken, 2000; Cohen, 2000; Zaidatun & Mohd Salleh, 2003). In contrast, McMillan and Schumacher (2006) set a lower Cronbach's alpha value for adoption of 0.65, as well as Sekaran (1992) and Mohd Majid (2004). They argue that a value of 0.60 is sufficient to maintain the consistency of an item. In contrast, a lower value is a weak reliability value and unacceptable (Mohd Majid, 2004).

Finally, the other construct with a very high alpha value with one abortion was from the business centre, and the transportation increment constructs with the alpha coefficient value. Based on the analysis of data obtained from the pilot study, the alpha values for all these constructs were seen to be very high (Babbie, 1992; Kirk, 1984). This result indicates that the items constructed in this questionnaire instrument have high reliability and can obtain actual research data. The reliability values for each construct can be summarized in Table 4 below.



**Table 4.** Cronbach's Alpha Reliability Values by Construct

Construct	No. of item	Cronbach Alpha	Interpretation
Economic Well-Being	4	0.931	High
Business And Employment Opportunities	4	0.952	High
Growth Of Business Centres and Transport Network	5	0.925	High

## 7. Conclusion

Based on the findings and discussion in this study, it is clear that Higher Education Institutions (HEIs) will become an agent of change and influences the local community's socio-economic change. Three effects were successfully detected and discussed, namely Economic Well-Being, Business and Employment Opportunities, and Growth of Business Centres and Transport Network. In simple language, HEIs will change the economic environment of the area, such as improving economic sectors, creating jobs, and generating and increasing income. However, these findings are still in their infancy, and discussion is still limited. On average, these findings are the result of a questionnaire of household heads in the affected areas. Nevertheless, the study results prove that although still in its early stages, the contribution of HEIs to the economic change of local communities is beginning to be detected. Furthermore, these initial findings can be used as a guide to planning development in the same area so that the adverse effects that may arise from the development implications can be addressed well in the future.

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