

## Heroes among Community: Universiti Utara Malaysia Social Responsibility Builds Sustainable and Developed Youngsters

*(Wira dalam Kalangan Masyarakat: Tanggungjawab Sosial Universiti Utara Malaysia Membina Anak Muda Mampan dan Maju)*

NURUL AMINAH KAMARUDIN & FAEIQ SHAUQY KAREEM SEMMARD\*

### ABSTRACT

In Malaysia, all higher education institutions are obliged to promote community engagement among the students. A community engagement programme is any individual or organisation willing to run an activity or programme that will help their local community. This community engagement should be widened and enlarged throughout the youth, especially students, to ensure that society is well-developed and sustainable. This project aims to help youngsters build their character through community-based activities and interactions. A quantitative methodology was employed to survey university students and assess the impact of community engagement programs on their development. Descriptive statistical analysis methods, such as frequencies and percentages, were used to evaluate the data collected through a Google Forms survey. This analysis provided a detailed overview of the demographics, motivations, and challenges reported by UUM students, with the data presented in tables, graphs, and charts. The findings indicate that UUM students frequently participate in community service activities that benefit the local community, enhance community members' lives, and contribute to their well-being through student involvement. For example, the Student Leadership and Development Committee Bank Rakyat Residential Hall organised the 'University Social Responsibility: Tautan Kasih, Sentuhan Jiwa Bersama' program in Kampung Gadong Jaya, Labu, Negeri Sembilan. This program aimed to allow the committee members to improve their interpersonal skills by engaging with villagers and an NGO in cooking activity, preparing Negeri Sembilan specialties such as Rendang Ayam and Ayam Masak Lemak Cili Api. The students interacted with locals at the Pusat Aktiviti Warga Emas (PAWE) hall and donated to disadvantaged community members. Such involvement and outreach initiatives can foster creative thinking and originate from the students' initiative.

Keywords- Community Engagement, Universiti Utara Malaysia (UUM), Sustainability

### ABSTRAK

*Di Malaysia, semua institusi pengajian tinggi bertanggungjawab untuk menggalakkan penglibatan komuniti dalam kalangan pelajar. Program penglibatan komuniti ialah mana-mana individu atau organisasi yang bersedia untuk menjalankan aktiviti atau program yang akan membantu komuniti setempat mereka. Penglibatan masyarakat ini harus diperluas dan diperluaskan di kalangan belia khususnya pelajar bagi memastikan masyarakat maju dan mampan. Projek ini bertujuan untuk membantu anak muda membina sahsiah mereka melalui aktiviti dan interaksi berasaskan komuniti. Metodologi kuantitatif digunakan untuk meninjau pelajar universiti dan menilai kesan program penglibatan komuniti terhadap pembangunan mereka. Kaedah analisis statistik deskriptif, seperti kekerapan dan peratusan, digunakan untuk menilai data yang dikumpul melalui tinjauan Borang Google. Analisis ini memberikan gambaran keseluruhan terperinci tentang demografi, motivasi dan cabaran yang dilaporkan oleh pelajar UUM, dengan data dibentangkan dalam jadual, graf dan carta. Dapatan kajian menunjukkan bahawa pelajar UUM kerap menyertai aktiviti khidmat masyarakat yang memberi manfaat kepada masyarakat setempat, meningkatkan kehidupan ahli komuniti, dan menyumbang kepada kesejahteraan mereka melalui penglibatan pelajar. Sebagai contoh, Jawatankuasa Kepimpinan dan Pembangunan Pelajar Dewan Kediaman Bank Rakyat menganjurkan program 'Tanggungjawab Sosial Universiti: Tautan Kasih, Sentuhan Jiwa Bersama' di Kampung Gadong Jaya, Labu, Negeri Sembilan. Program ini bertujuan untuk membolehkan ahli jawatankuasa*

meningkatkan kemahiran interpersonal mereka dengan melibatkan penduduk kampung dan sebuah NGO dalam aktiviti memasak, menyediakan hidangan istimewa Negeri Sembilan seperti Rendang Ayam dan Ayam Masak Lemak Cili Api. Para pelajar beramah mesra dengan penduduk setempat di dewan Pusat Aktiviti Warga Emas (PAWE) dan menghulurkan sumbangan kepada ahli masyarakat yang kurang berkemampuan. Inisiatif penglibatan dan jangkauan sebegini boleh memupuk pemikiran kreatif dan berpunca daripada inisiatif pelajar.

*Kata Kunci- Community Engagement, Universiti Utara Malaysia (UUM), Sustainability*

## INTRODUCTION

The community engagement program is synonymous with youth around the world. We can see many programs held for the sake of the community to empower community education, enhance the welfare of the people and implement a quality life for them. More interestingly, community engagement is implemented by all sectors, such as government agencies like the Department of Social Welfare, corporate conglomerates like Corporate Social Responsibility (CSR), and higher education institutions like University Social Responsibility (USR).

In Malaysia, youth in the community implement many activities, especially for indigenous and rural people. Malaysia's context obliges all higher education institutions to promote student community engagement. This is the compulsory assessment for them to contribute to society through either an internal or external approach. Many years ago, student engagement in community services as a learning tool was preserved in higher education (Burton, 2017). Some of the assessments might come from academic assessments, but most come from student leadership organisations or associations in higher education. It allows the students to utilize the world's reality and experience diverse output towards the assessment (Butin, 2010). The students will learn how to manage the community welfare, benefit them, and learn the variety of cultures from that community. It also empowers students to provide something good to the community and also come out with society's growth (Masnida Hussin et al., 2021).

First and foremost, what is community service? How does it have a big impact on the nearby community? Community services can be referred to as unpaid work a group performs for the benefit and growth of their local community. Community engagement refers to a partnership between a higher education institution and local, regional, or global communities to exchange resources and knowledge that benefit both

parties. Community engagement or social development has always been a concern of higher institutions. The agenda for society's advancement must come from educational institutions. The Carnegie Foundation defines university–community engagement as the collaboration between universities and their broader communities for the mutually beneficial exchange of knowledge and resources in partnership and reciprocity (Masnida Hussin et al., 2021).

In Malaysia, there are numerous community service organisations, including SOLS 24/7. In the context of higher education, community services are referred to as *Kuliah Kerja Nyata (KKN)* in Indonesia and *Bakti Siswa* in Malaysia. These community programs are unique since they are entirely run by students who want to gain expertise in new fields. Social development is constantly linked to community engagement. This is so that people can be competitive, knowledgeable, and well-developed. Faculty's buying into community engagement is thus predicated on realizing that community engagement is just another component in a student's academic life of examining, questioning, researching, and synthesizing the best knowledge and practices for them (Juritah Misman & Azrina Abu Bakar, 2019). In Universiti Utara Malaysia (UUM), several community engagements have been implemented, and one of the highest impacts is *Membina Kesejahteraan Rakyat (MEKAR)*. The MEKAR program focuses on the community regarding academics, identity, and co-curricular activities. In addition, this program has benefited almost 4,500 secondary school students from 16 rural villages. Community engagement benefits society and enhances student credibility when organising a program. Until today, community engagement programs have strengthened people's connections and embedded

long-term skills and self-value.

### RESEARCH SIGNIFICANCE

The findings of UUM University's Social Responsibility to build sustainable and developed youngsters will significantly impact the university management policy and student personality. Understanding how engagement with the community may help young people become great leaders, notably The Higher Institution, primarily UUM management, can create youth leadership programs specific to students' abilities and employer expectations. In addition, receiving student comments on the community engagement program they participated in will foster good habits, critical thinking, and opportunities for people's well-being. This effort will undoubtedly assist universities in fostering and developing a new generation that can design social initiatives and have an advantageous impact on students and society. The problem statement is that an increasing proportion of young people seem reluctant or uninterested in taking part, suggesting a worrying pattern of declining involvement in community-focused activities. To revitalize and improve the attraction of community programs and encourage a culture of involvement and social responsibility among the younger generation, it is imperative to comprehend the reasons behind this hesitation.

### MATERIAL AND METHODS

#### Quantitative Method

To assess the impact of community engagement programs on the development and sustainability of youth at UUM, a quantitative survey was conducted using Google Forms, targeting 50 UUM students who had participated in any community engagement program. Convenience sampling was utilized to select the participants, considering their availability and desire to participate. The question consisted of student background in UUM and the processes for attending a community engagement program. The survey also covered the most challenging component of developing a community engagement program. The survey results were gathered anonymously to ensure confidentiality. Descriptive statistical analysis methods, such as frequencies and percentages, were used to evaluate the data. The quantitative data, collected via a Google Form survey, were then transferred to Google Sheets for analysis. Tables, graphs, and charts were utilized to present the demographics, motivations, and challenges reported by the UUM students.

This section consists of analysis and interpretation. The data were collected from 50 UUM respondents through a structured questionnaire. The charts and graphs are based on the primary data collected. The research output is essential to know the correlation between the student and the community engagement program.

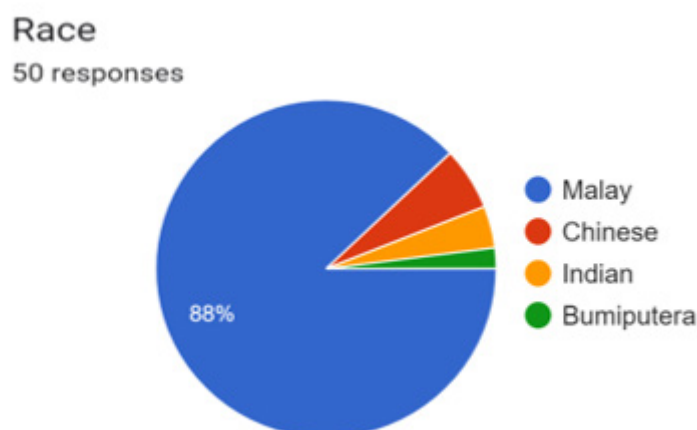


FIGURE 1: Race of the respondents

TABLE 1: Race of the respondents

Type of Races	Respondents	Percentage %
Malay	44	88
Chinese	3	6
Indian	2	4
Bumiputera	1	2
Total	50	100

Demographic Section

*Race of the respondents*

Figure 1 and Table 1 show the respondent's race. Most

respondents are Malay, which is 44, representing 88% of the total 50 UUM students. While the least one is Bumiputera, only one respondent answered this questionnaire. Meanwhile, three Chinese respondents and two Indians represented 6% and 4%, respectively.

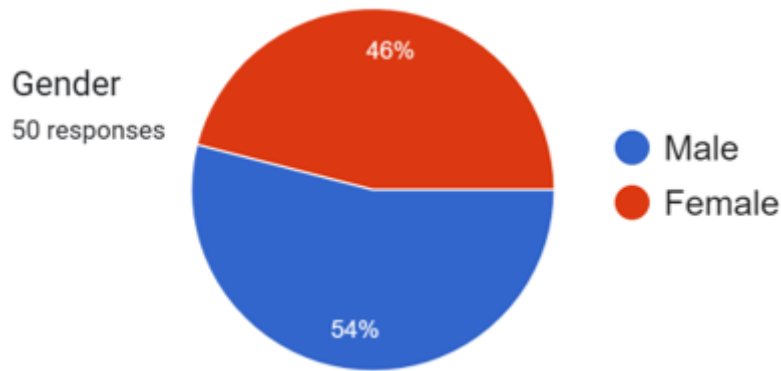


FIGURE 2: Gender of the respondent

TABLE 2: Gender of the respondent

Type of Gender	Respondents	Percentage %
Male	27	54
Female	23	46
Total	50	100

*The gender of the respondents*

Next, figure 2 and the table illustrate that 27 respondents were male, representing 54% of the total. Moreover, 23 respondents (46%) are female. The data was collected to see whether most of the program will be participated by males or females.

*Age of the respondents*

The age of the respondents is revealed by the data

in Figure 3 and Table 3. In the classification, the age between 18 and 20 comes from two respondents representing 4%. Most respondents are between 21 and 24, which is 45 people or 90%. The rest are at age 25 and above, taking only 6%. The result determined the university's student age.

*Educational background of Respondents*

Figure 4 determined that 47 respondents are

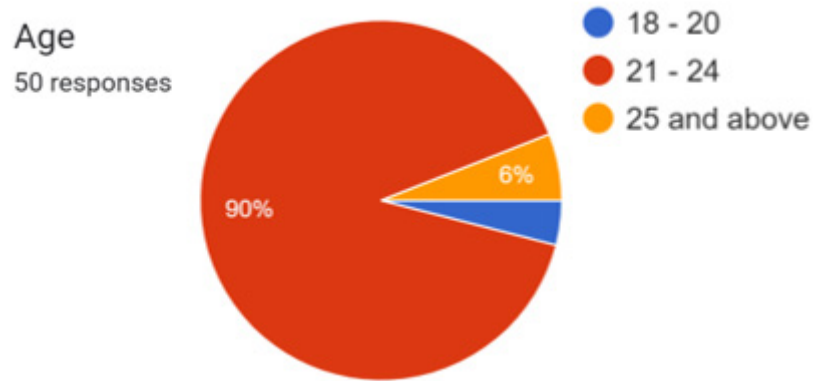


FIGURE 3: Age of the respondent

TABLE 3: Age of the respondent

Type of Age	Respondents	Percentage %
18-20	2	4
21-24	45	90
25 and above	3	6
Total	50	100

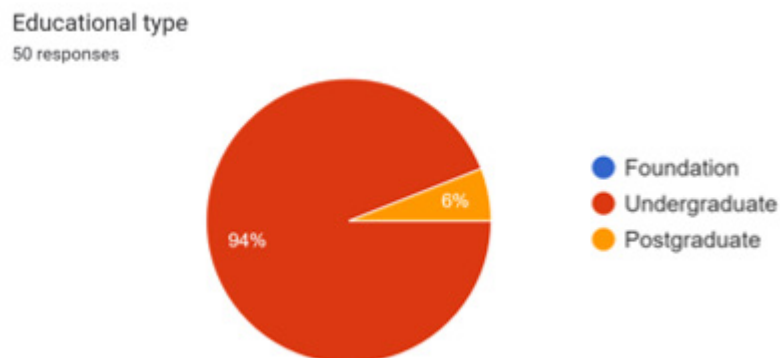


FIGURE 4: Educational background of respondent

TABLE 4: Educational background of respondent

Educational Type	Respondents	Percentage %
Foundation	0	0
Undergraduate	47	94
Postgraduate	3	6
Total	50	100

undergraduate students, and only three are postgraduate. This means that undergraduate students participate in most of the UUM activities.

#### *Semester*

The data in Figure 5 reveal the respondents' semesters. In the classification,

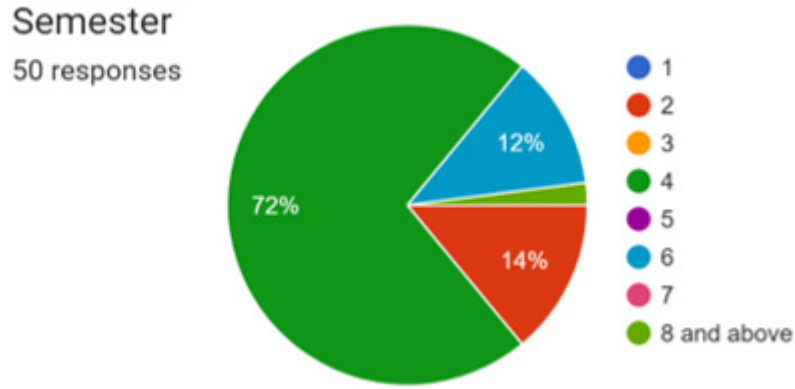


FIGURE 5: Semester of respondent

TABLE 5: Semester of respondent

Semester	Respondents	Percentage %
1	0	0
2	7	14
3	0	0
4	36	72
5	0	0
6	6	12
7	0	0
8 and above	1	2
Total	50	100

According to Figure 5, seven respondents (14%) are from the second semester. The majority of respondents, 36 in total (72%), are in their fourth semester. Only one respondent is from the eighth semester or higher (2%). This distribution is likely because fourth-semester students, who are in their

second year, have greater exposure to the program's information compared to those in their first or second semester.

*Respondent's College*

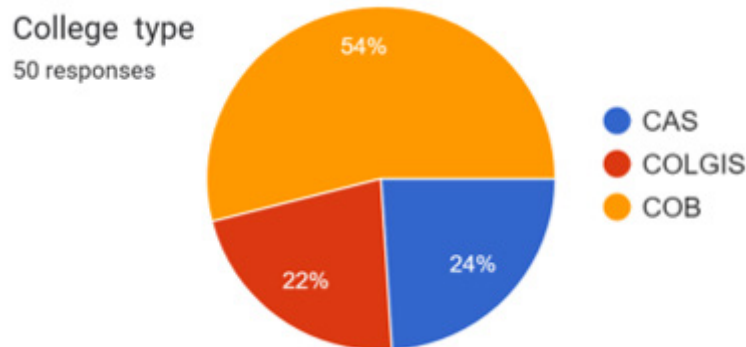


FIGURE 6: Respondent's college



TABLE 6: Respondent's college

Type of Age	Respondents	Percentage %
CAS	11	22
COLGIS	12	24
COB	27	54
Total	50	100

Figure 6 illustrates that most respondents are from the College of Business (COB), representing 54% (27 respondents). The College of Law, Government and International Studies (COLGIS) and College of Art Science (CAS) had 12 respondents (24%) and 11

respondents (22%), respectively.

Student participation in engagement program

*Student involvement in any club at UUM*

Are you a student leader or involved in any club in UUM?  
50 responses

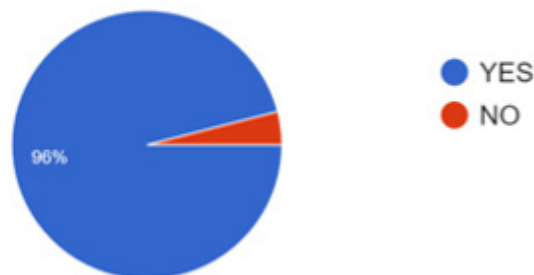


FIGURE 7: Student involvement in the club

TABLE 7: Student involvement in the club

Types	Respondents	Percentage %
Yes	48	96
No	2	4
Total	50	100

The table shows that 96% or 48 respondents join UUM clubs. At the same time, only two respondents did not join any club. This determines that most of them must be experienced in joining community engagement.

*Student frequency in participating in the community engagement program*

Figure and Table 8 show that almost all respondents frequently join in community engagement, representing half, 68% or 34 respondents. While 12 respondents, or 24%, sometimes participated in the programs. Hence, only four respondents rarely joined the programs,

representing 8% of the total respondents collected. We assumed all students had experience joining this program, but the frequency made it different.

*Reason for joining the program*

This question identifies which platform influences the respondents to join the community engagement programs. Based on the findings, most of the respondents have their own choice to be part of the program's committee. This is because 33 respondents (66%) chose "own choices" in the question. Meanwhile, 14 respondents (28%) are from organizations. Friends

How often have you participated in community engagement programme?  
50 responses

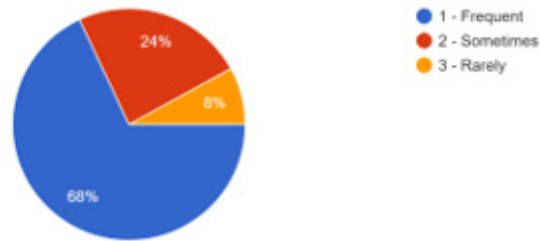


FIGURE 8: Student's participation in community engagement

TABLE 8: Student's participation in community engagement

Often	Respondents	Percentage %
Frequent	34	68
Sometimes	12	24
Rarely	4	8
Total	50	100

Your reasons for joining a community engagement programme?  
50 responses

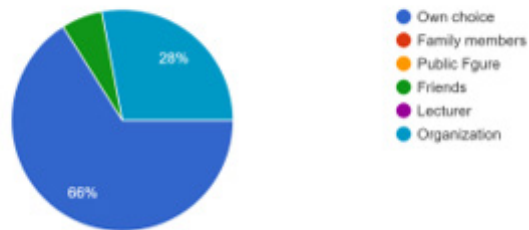


FIGURE 9: Student's reason for joining community engagement

TABLE 9: Student's reason for joining community engagement

Reason	Respondents	Percentage %
Own Choice	33	66
Family members	0	0
Public Figure	0	0
Friends	3	6
Lecturer	0	0
Organisation	14	28
Total	50	100



have the least influence on the student's decisions. This is because the respondent is primarily motivated to participate in programs that fulfill her friend's needs.

Frequency of student feedback after joining the community engagement

*After joining the community engagement programme, I learned new stuff.*

After joining to the community engagement programme, I learned new stuff.  
50 responses

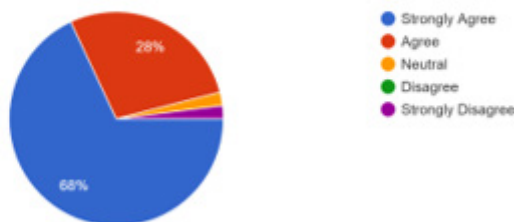


FIGURE 10: Student's learned new stuff

TABLE 10: Student's learned new stuff

Category	Respondents	Percentage %
Strongly Agree	34	68
Agree	14	28
Neutral	1	2
Disagree	0	0
Strongly Disagree	1	2
Total	50	100

Several 34 respondents strongly agree that they learned new stuff after joining the community engagement programs. This is the most common one, representing 68% of total respondents. Only 'Neutral' and 'Strongly Disagree' received responses from one respondent, representing 2% of the total each. From this, there is

a strong correlation between learning new things and joining community engagement.

*I believe that participating in a community engagement programme can benefit the community.*

I believe that by participating a community engagement programme can benefit the community.  
50 responses

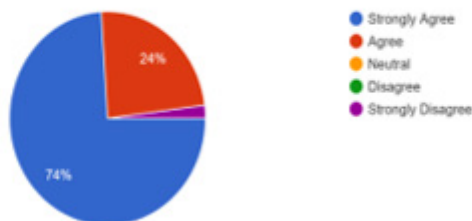


FIGURE 11: Community engagement benefited the community

TABLE 11: Community engagement benefited the community

Category	Respondents	Percentage %
Strongly Agree	37	74
Agree	12	24
Neutral	0	0
Disagree	0	0
Strongly Disagree	1	2
Total	50	100

The figure shows that 74% or 37 respondents strongly agree they benefited the community through community engagement programs. Several 12 respondents agreed, and only one strongly disagreed that he benefited the community through the programs. This finding shows

that community engagement programs will benefit the whole community.

*The community engagement programme, in my opinion, needs to be sustained and expanded.*

The community engagement programme, in my opinion, needs to be sustained and expanded.  
50 responses

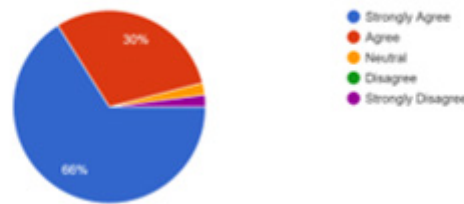


FIGURE 12: Community engagement should be sustained and expanded

TABLE 12: Community engagement should be sustained and expanded

Category	Respondents	Percentage %
Strongly Agree	33	66
Agree	15	30
Neutral	1	2
Disagree	1	2
Strongly Disagree	0	0
Total	50	100

The table shows that 66% or 33 respondents strongly agree that community engagement can be sustained in the future and expanded through the youth. Meanwhile, 15 respondents, representing 30%, agree that this engagement should be sustained. Only one respondent ticked both Neutral and Disagree for this question. This

means that community engagement is valuable to the youth because we are sure there is a strong correlation and relation between the youth and the community.

*I suggest that students should take part in such a programme*

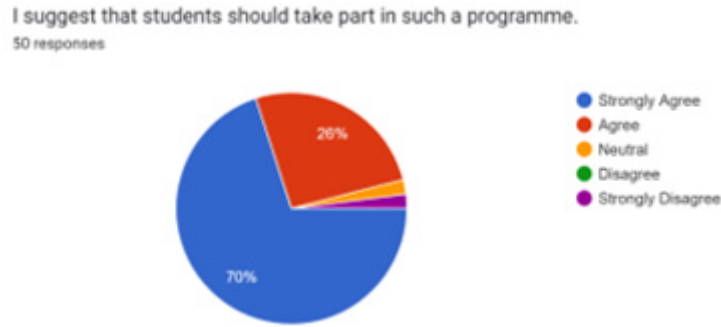


FIGURE 13: Students should take part in community engagement

TABLE 13: Students should take part in community engagement

Category	Respondents	Percentage %
Strongly Agree	35	70
Agree	13	26
Neutral	1	2
Disagree	1	2
Strongly Disagree	0	0
Total	50	100

Based on the table, 35 respondents, 70% of the total respondents, strongly agree to recommend others to participate in community engagement. While 13 respondents agreed, both were neutral and disagreed, only responded by one respondent. This finding shows that they are likely to recommend any community

engagement to their friends to get the benefits and experience.

*I feel that the procedure for creating a community engagement programme under the UUM system is appropriate and relevant to the current situation.*

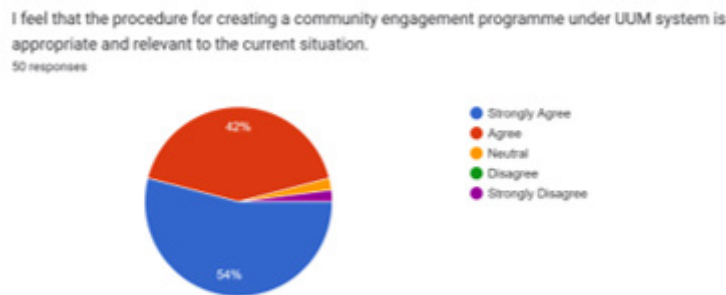


FIGURE 14: UUM system for community engagement is appropriate

From the figure below, almost half of the respondents strongly agree that the UUM system for community engagement is appropriate. A few 21 respondents agree with that. Only one respondent answered neutral and disagreed with the question. Most students feel well with

the UUM system to run the community engagement.

*I was able to think creatively by running a community engagement programme.*

TABLE 14: UUM system for community engagement is appropriate

Category	Respondents	Percentage %
Strongly Agree	27	54
Agree	21	42
Neutral	1	2
Disagree	1	2
Strongly Disagree	0	0
Total	50	100

I was able to think creatively by running a community engagement programme.  
50 responses

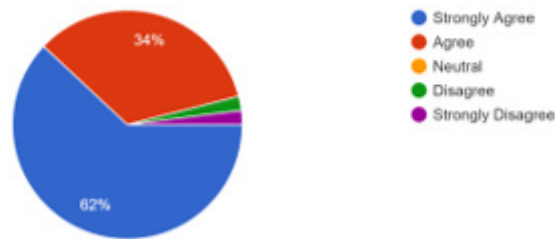


FIGURE 15: Community engagement provides creative thinking

TABLE 15: Community engagement provides creative thinking

Category	Respondents	Percentage %
Strongly Agree	31	62
Agree	17	34
Neutral	0	0
Disagree	1	2
Strongly Disagree	1	2
Total	50	100

Question six illustrates that the majority of the respondents can think creatively, as 31 respondents strongly agree. At the same time, 17 respondents choose to agree with the questions. Only one respondent chose Disagree and Strongly Disagree. When organising community engagement initiatives, students should

consider what valuable and enjoyable contributions they can make to the community, which can yield benefits from the programs for themselves.

*What benefit from the community engagement programme do you find to be the most valuable?*

What benefit from the community engagement programme do you find to be the most valuable?  
50 responses

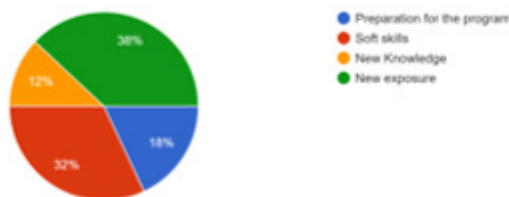


FIGURE 16: The most valuable things from community engagement

TABLE 16: The most valuable things from community engagement

Type of benefit	Respondents	Percentage %
Preparation for the program	9	18
Soft Skills	16	32
New Knowledge	6	12
New Exposure	19	38
Total	50	100

From the figure and the table, most of the respondents (38%) are gaining new exposure through community engagement. Meanwhile, 16 respondents (32%) gained soft skills from community engagement. Nine and six respondents got the preparation for the program and new knowledge, respectively, as the most valuable things they get during community engagement. The

community engagement programs basically provide students with new exposure to the reality of our community.

#### The most challenging aspect of implementing Community Engagement

What aspect of handling a programme for community engagement do you find the most challenging?  
50 responses

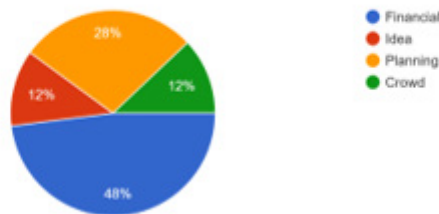


FIGURE 17: The most challenging aspect of implementing community engagement

TABLE 17: The most challenging aspect of implementing community engagement

Type of challenges	Respondents	Percentage %
Financial	24	48
Idea	6	12
Planning	14	28
Crowd	6	12
Total	50	100

The last question determines the most challenging part of implementing community engagement. Almost 24 respondents, or 48%, choose finance as the most challenging part of implementing the programs. Several 14 respondents find it difficult to plan community engagement programs. Both Idea and Crowd are chosen the same, which is six respondents. This determines that students need strong financial support to provide a community engagement program.

## RESULTS AND DISCUSSION

In Malaysia, the involvement of young people, especially among students of higher education institutions, must always be prioritized in providing the best service to the community. There has been evidence that programs that involve the community benefit the surrounding community and shape young people to be always sustainable and relevant people in the field of leadership. This is in line with the study by Soykan et al.

(2015), which found that community service-learning projects helped participants enrich their future careers and that experience would benefit the community in general. From the community's point of view, they get various benefits from such programs, such as knowledge transfer. The result makes the community in a certain place more advanced and problem-free, and it can even give birth to a generation that will have a high impact in the future. Community service involvement has been shown to enhance student motivation. As organisers of community engagement programs, young people encounter a range of new challenges, reflected in the research questions. The positive survey responses indicate that students benefit from developing creative thinking, gaining new experiences, and honing their soft skills. These advantages contribute to their growth as visionary leaders capable of providing exemplary service to the community in the future. As Leung et al. (2010) emphasize, it is important to note that community service learning should not be mandatory but rather a voluntary, continuous effort that promotes character development and helps students establish their identity within various communities. To promote and maintain community engagement programs, it is beneficial to participate in university initiatives that provide creative and resilient opportunities for community development, guided by the standards of qualified agencies.

The author would like to mention one of the programs organised by the Student Leadership and Development Committee Bank Rakyat Residential Hall of Universiti Utara Malaysia. In June 2023,

it successfully implemented the University Social Responsibility (USR): *Tautan Kasih, Sentuhan Jiwa* program in Kampung Gadong Jaya, Labu, Negeri Sembilan, Malaysia. This program aims to allow the committee to develop their interpersonal skills by helping the village people through a cookery activity involving villagers and an NGO. They cook Negeri Sembilan delicacies of *Rendang Ayam* and *Ayam Masak Lemak Cili Api*, and program participants also interact with locals in the *Pusat Aktiviti Warga Emas* (PAWE) hall and donate to the underprivileged members of the neighborhood.

The USR or community engagement program presents significant challenges. It plays a crucial role in determining how participants, specifically UUM students, can achieve notable outcomes that ensure the program's substantial impact and recognition by external rating agencies. To ensure the success of this event, several factors must be considered, including financial budgeting, schedule planning, community outreach, and program timing. While it is acknowledged that organising a community engagement program can be demanding and stressful, it undoubtedly offers substantial benefits to both the students and the community.

University Social Responsibility: "Tautan Kasih Sentuhan Jiwa" in collaboration with Universiti Kebangsaan Malaysia (UKM)



FIGURE 18



FIGURE 19





FIGURE 20



FIGURE 21

## CONCLUSION

This research paper meticulously analyzes the feedback on community engagement initiatives adopted by UUM students. Quantitative surveys have shed light on the unique aspects of student development and sustainability at UUM, illustrating how each club's participation contributes to the university's community life. The findings indicate that community engagement significantly aids in the growth and development of UUM students by exposing them to new experiences and providing a comprehensive education. However, implementing these programs has encountered challenges, including financial budgeting, planning, engaging the audience, and generating innovative ideas.

The problem statement for the community engagement program developed by UUM is critically important, as it assesses the program's effectiveness in promoting resilience and innovation for the benefit of both students and the wider community. The author made an extensive effort to address the issue of how community engagement benefits the students. By overcoming specific obstacles, the students can build long-lasting and advanced abilities. Aside from that, this paper will undoubtedly persuade the Centre

for University-Industry Collaboration (CUIC) to develop more proactive and creative guidelines for implementing community engagement. UUM students need to deepen their understanding of the system to implement these programs effectively. With the support of the latest technology developed by UUM, students can accurately manage the planning and budgeting of the program.

The study offers relevant information to help UUM cultivate well-prepared future leaders, boost national innovation, and fulfill employer requirements for employability. This study inspires further research and writings in related fields and enriches the academic literature on student sustainability and development. In summary, fostering a resilient and innovative culture in societal development requires understanding the importance of community engagement and its associated challenges. However, it is crucial to critically assess whether the UUM system meets both national and international standards.

## REFERENCES

Burton, S. L. (Ed.). (2017). *Engaged scholarship*



- and civic responsibility in higher education*. IGI Global.
- Butin, D. (2010). *Service-learning in theory and practice: The future of community engagement in higher education*. Springer.
- Masnida Hussin, Mohamad Syahmi Said Noris, Mohd Norowi, Nor Azura Husin & Mas Rina Mustafa. (2021). Authentic assessment for affective domain through student participation in community services. *Asia-Pacific Journal of Information Technology and Multimedia*, 10 (1), 52-62. <https://doi.org/10.17576/apjitm-2021-1001-05>
- Leung, K.-K., Tsai, S. S., & Wang, W.-D. (2010). Community service-learning and cultivation of humanity and social awareness in medical students. *Journal of Medical Education*, 14(2), 143-153. [https://doi.org/https://www.airitilibrary.com/Common/Click\\_Doi?DOI=10.6145%2fjme.201006\\_14\(2\).0007](https://doi.org/https://www.airitilibrary.com/Common/Click_Doi?DOI=10.6145%2fjme.201006_14(2).0007)
- Juritah Misman & Azrina Abu Bakar. (2019). Community service engagement in primary schools: Pre-TESL students' experiences. *International Journal of Language Education and Applied Linguistics (IJLEAL)*, 9(1), 1-11. <https://mycite.mohe.gov.my/en/files/article/142026>
- Soykan, E., Gunduz, N., & Tezer, M. (2015). Perceptions of the teacher candidates towards community service learning. *Procedia-Social and Behavioral Sciences*, 197, 2468-2477. <https://doi.org/https://doi.org/10.1016/j.sbspro.2015.07.314>

Nurul Aminah Kamarudin,  
School of Computing (SOC),  
Universiti Utara Malaysia,  
06010 UUM Sintok, Kedah D.A., Malaysia

Faeiq Shauqy Kareem Semmard\*  
School of Economic, Finance and Banking (SEFB),  
Universiti Utara Malaysia,  
06010 UUM Sintok, Kedah D.A., Malaysia.

\*Corresponding author: [Shauquyum@gmail.com](mailto:Shauquyum@gmail.com)