

The Positive Impact of University-Community Engagement Projects: A Case Study in the Context of Universiti Malaya

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Received date: 15 June 2023
Published date: 31 Dec 2023

How to cite:

Siti Idayu Hasan et al. (2023). The positive impact of university-community engagement projects: A case study in the context of Universiti Malaya. *Journal of Research Governance and Management*, 5(1), 30-49. Retrieved from <https://ejournal.um.edu.my/index.php/JRMG/article/view/44476>

DOI:

<https://doi.org/10.22452/jrmg.vol5no1.3>

ABSTRACT

Collaborative partnership or engagement between university and community are essential and have become a widespread practice adopted by many universities worldwide. While university-community-engagement projects which are undertaken in a variety of ways of multidiscipline are growing rapidly, questions about its impact on communities remain largely ignored. Little empirical evidence is available exploring the impact of such partnerships for either the community partners or the university. This study presents a case study of the Universiti Malaya's experience of evaluating the impact of such engagements through several funded community projects. These university-community engagement funding are disbursed and managed by UM's Community Engagement Centre (UMCares). The result chain model was applied to collect data on the input, activities, output, outcomes and impact of the funded projects. Differences in nine impact areas and indicators were also identified. The results show that the funding projects are able to create an impact in different areas of community engagement. However, the development and maintenance of a dedicated database, in combination with periodic, systematic impact assessments is crucial to increase impact in community engagement.

Keywords: University-Community Engagement; Change Management; Research Impact; Public Relations; Sustainable Development

1. Introduction

Over the past fifty years, the concept of community engagement (CE) has remained crucial although there have been debates within the realm of higher education (HE) research and discussion. (Benneworth et al., 2008; Farrar & Taylor, 2009; Mtawa et al., 2016). This is due to universities having the capacity to enable communities to live in sustainable ways (Shiel et al., 2016). The community engagement concept has transformed from a one-way to a two-way approach which entails delivering knowledge to the public and developing partnerships, reciprocity as well as mutual learning (Mtawa et al., 2016).

For the past decade, academia has been discussing the importance of the non-academic impact of research activities conducted in universities. It is well-known that research has to demonstrate academic impact in their respective fields to enhance the understanding or application of a particular theory or framework. However, research and development are also increasingly being conducted to improve the well-being of the community. Hence, it is essential for research to demonstrate their contribution to society, the economy and environment. Wróblewska (2021) defines an impact as the ability of academic research to influence areas beyond the academic sphere, such as education, public health, and culture. It is also common now for researchers to align their projects to the Sustainable Development Goals (SDGs).

To date, Malaysia has five Research Universities (RU), including Universiti Malaya (UM). These universities are required to lead research and innovation, and this will entail engagement with multiple stakeholders and community groups. This highlights the importance of community engagement. Although there are various definitions and interpretations of the term 'community engagement', UM has defined community engagement as "active and meaningful engagement within and outside the university across local, national and international levels with the aim of exchanging knowledge and enabling learning for the benefit of society" (UMCares, 2013). The establishment of the community arm for the University, i.e., UM Community Engagement Centre (UMCares), signifies UM's commitment to community engagement and engagement for sustainability.

UMCares is constantly driven by its core value of raising UM to a prominent level in terms of its impact to society, inclusive engagement and action for communities and the environment. UMCares has funded numerous projects that have targeted different communities in Malaysia. The fundings for these projects are generated from the Ministry of Higher Education as well as other government ministries and agencies, and industries in Malaysia. The projects have shown significant success based on community feedback, and the continuation of support and recognition at the local and global levels. In monitoring the alignment of the funded projects with the mission and vision of UM, this paper aims to evaluate the impact of the community projects managed by UMCares from 2015 to 2020.

2. Methodology

The following sections explain the methodology used in this study.

2.1. Study design and participants

Scholars have proposed that university needs to emphasise impactful research to address on community needs within a region. Thus, a retrospective study was conducted among Universiti Malaya researchers from different faculties who were awarded the community engagement research grants funded by UMCares from 2015 to 2020 to evaluate their impact.

2.2. Data collection procedures

A Research Electronic Data Capture (REDCap™) survey was developed and faculty members who received the grants were invited to participate in the survey. The REDCap™ online survey link (<https://redcap.link/communityengagementimpacetevaluationsurvey>) was distributed via email to 122 researchers. The survey was in English and included a description of the survey and its purpose. A reminder was sent via email to all researchers to encourage their participation in the study. The survey took approximately about 35 to 40 minutes to complete. Informed consent was obtained on this web-based survey.

2.3. Variables

The questionnaire for the survey was adapted from the University Community Engagement Toolkit (Syed Kechik et al., 2019). The survey consisted of three parts; general information of participants, alignment towards Sustainable Development Goals (SDGs) and project details. The five components of community engagement impact pathway (i.e., input, activities, output, outcomes, and impact) and sustainability were assessed and included the following questions:

- i) Input - financial contributions, key partners, key resources, basic infrastructures, and human capitals.
- ii) Activities and Output - type of community engagement using the International Association for Public Participation spectrum for public participation (IAP2) (International Association for Public Participation, 2021), duration of the activity delivered to targeted groups and direct products delivered.
- iii) Outcomes - changes that result from the community engagement activities conducted.
- iv) Impact - type of impact, knowledge transfer, awards received, promotion of stakeholders and external funding.
- v) Sustainability - continuity of project, continuity of impact, community empowerment and sustainability after completion of project.
- vi) Type of impact and indicator were also measured (Research Excellence Framework, 2021).

2.4. Data analysis

Data were analysed using IBM SPSS version 22. Descriptive analyses (percentages) were carried out on the project's variable. Results for categorical variables were expressed as percentages. The variables with multiple-choice questionnaires, in which researchers were allowed to select multiple options that corresponded to the outcomes of their respective projects, were reported as percentages represent the proportion of respondents stating the presence of each specific sub-variable, rather than a percentage from the main variables.

3. Results

Out of 122 questionnaires distributed, 32 principal investigators (PI) participated in the survey evaluating the impact of the projects funded by UMCares. A total of 29 PIs completed the survey. Only 27 responses (22.1%) were considered as complete for inclusion in the evaluation. Hence, the analysis was done based on these 27 projects.

3.1. Input

Table 1 shows the breakdown of the various inputs from the projects involved in this study, categorised into four main variables: financial contributions by stakeholders, the number of key partners, the number of key resources (internal or external collaborators) provided in-kind, and the number of human capital. In terms of financial contributions by the stakeholders, most of the CE projects received their funding from UM (58.6%), followed by shared value (institution/government agencies/communities) (24.1%), shared value (institution/industry/community) (20.7%), institution/community funding (17.2%), shared value (institution/government agency/industry/community) (10.3%).

Twenty-four studies collaborated with either internal or external key partners with 11 studies having two or more key partners. Three studies had no key partners as for key resources (internal or external collaborators – in kind), seven studies had no key resources, 12 studies had one key resource and another eight studies had two or more key resources. Most of the studies had no basic infrastructure in their project (55.6%). For the number of human capital (e.g., research assistant and students) 10 studies reported having four human capital (37.0%), followed by seven studies with no human capital (25.9%), six studies with one human capital (22.2%) and one study with more than five human capital in their project (3.7%).

Table 1: Input from the projects

	Input	Percentage (%)
Financial contributions by the stakeholders	Institution funding	58.6
	Institution/ Community funding	17.2
	Shared value (Institution/ Government agency/ Community)	24.1
	Shared value (Institution/ Industry/ Community)	20.7
	Shared value (Institution/ Government agency/ Industry/ Community)	10.3
Number of key partners	0	11.1
	1	48.1
	2	18.5
	3	7.4
	4	11.1
	≥5	3.7
Number of key resources (internal or external collaborators)	0	25.9
	1	44.4
	2	7.4
	3	3.7
	4	18.5
	≥5	0
Number of basic infrastructure	0	55.6
	1	29.6
	2	11.1

	Input	Percentage (%)
Number of human capital	3	3.7
	4	0
	≥5	0
	0	25.9
	1	22.2
	2	11.1
	3	0
	4	0
	≥5	3.7

3.2. Output

Participants and activity

The activities conducted and participants involved in these projects are summarised in Table 2. All CE projects managed by UMCares were clustered in nine areas including education, culture, health, welfare, sports and recreational, rural development, environment, information and communication technology (ICT) and entrepreneurship. The results indicate that only five clusters were reported in the survey: education, health, environment, welfare, and information and communication technology (ICT) as shown in Table 2. The amount awarded to each project ranged from RM 6,000 – RM 58,500.

Alignment with the 17 goals of the United Nations' Sustainable Development Goals (SDG) designed by the United Nation was explored in the survey. Our findings revealed that 24 projects predominantly aligned with Goal 4 (Quality Education), while ten projects related to Goal 3 (Good Health and Well-being). Three studies were consistent with Goal 12 (Responsible Consumption and Production), and two studies each showed alignment with the following goals: Goal 1 (No Poverty), Goal 2 (Zero Hunger), Goal 11 (Sustainable Cities and Communities), Goal 16 (Peace, Justice, and Strong Institutions), and Goal 17 (Partnerships for the Goals). This data suggest a prevailing focus on education and health-related objectives among the evaluated projects.

Table 2: List of project participants, activities, clusters and SDGs

No.	Participants	Activities	Clusters	SDGs
1	Secondary school students	Seminar, career talk, group activities, survey	Education	Goal 4 (Quality education)
2	Secondary school teachers	Mentor-mentee program	Education	Goal 4 (Quality education); Goal 9 (Industry, innovation and infrastructure)
3	Local community	Psychoeducational tool, exposure to breast health literacy materials and breast cancer survivors, charity mammogram service	Health; Education	Goal 3 (Good health and well-being) ; Goal 4 (Quality education); Goal 17 (Partnerships to achieve the goal)
4	Secondary school teachers	Workshop	Education	Goal 4 (Quality education); Goal 16 (Peace and justice strong institutions)
5	Non-governmental organization	Application testing	Information and Communication Technology (ICT)	Goal 4 (Quality education)

No.	Participants	Activities	Clusters	SDGs
6	Parents and children with special educational needs and special educational needs teachers	Delivering effective techniques and activities of Ecotherapy to parents via 'hands-on' while being monitored by expert trainers.	Health; Education	Goal 3 (Good health and well-being); Goal 4 (Quality education).
7	Director and head of department of Teacher Training Institute	Researchers and assistance	Health; Education	Goal 3 (Good health and well-being); Goal 4 (Quality education).
8	School teachers, school children, sports officers	Training of trainers	Health; Education	Goal 3 (Good health and well-being); Goal 4 (Quality education); Goal 10 (Reduce inequality); Goal 17 (Partnerships to achieve the goal).
9	People with disabilities	Education and technology sharing	Education	Goal 3 (Good health and well-being); Goal 4 (Quality education)
10	Local community	Training on a proper waste management practices and garden composting process, actual hands-on training	Environment; Education	Goal 1 (No poverty); Goal 4 (Quality education); Goal 12 (Responsible consumption and production)
11	Secondary school club	Consultancy services, course and training services, project guidance services	Education	Goal 4 (Quality education); Goal 16 (Peace and justice strong institutions).
12	Post treatment cancer survivors, public, undergraduate students	Annual cancer walks, free colon screening, free cancer prevention talk, supervised walk/physical activity in the community for supportive and cancer prevention advocacy	Health	Goal 3 (Good health and well-being); Goal 4 (Quality education).
13	Underprivileged local community	Intensive classes, "Linking Charity with Sustainability" program, car boot sale	Welfare	Goal 3 (Good health and well-being); Goal 4 (Quality education).
14	Local community	Knowledge transfer	Education	Goal 2 (Zero hunger); Goal 4 (Quality education); Goal 11 (Sustainable cities and communities); Goal 12 (Responsible consumption and production)
15	Adolescent and young adults	Interactive workshop	Education	Goal 4 (Quality education).
16	Secondary school students	Building gazebo	Education	Goal 4 (Quality education); Goal 11 (Sustainable cities and communities) Goal 12 (Responsible consumption and production)
17	Primary school students	Motivational program, banner, poster, pamphlet, educational videos, art competition.	Education	Goal 4 (Quality education)
18	Local community	Poster presentation, counselling, hands-on activities	Education	Goal 4 (Quality education).

No.	Participants	Activities	Clusters	SDGs
19	People with spinal cord injury	Awareness exhibition, train the trainer workshop	Health	Goal 3 (Good health and well-being)
20	Primary school students	STEM-based activity	Education	Goal 4 (Quality education);
21	General public, breast cancer survivors	Talks, meetings, road show and show case during breast cancer awareness month	Health	Goal 3 (Good health and well-being)
22	Primary school students	Module development, teaching and learning activities	Education	Goal 4 (Quality education).
23	Wheelchair users	Module teaching, module training, competition	Health	Goal 3 (Good health and well-being); Goal 4 (Quality education).
24	Local community	Weekly lesson	Education	Goal 4 (Quality education).
25	Primary school students	One-day workshop	Education	Goal 4 (Quality education).
26	Primary school students and teachers	Training for students and teachers	Education	Goal 1 (No poverty) ; Goal 2 (Zero hunger); Goal 4 (Quality education).
27	School students	Awareness booths, poster, video competitions, climate change and energy efficiency workshops	Education	Goal 4 (Quality education).

Type of community engagement

Five types of community engagement as classified by the International Association for Public Participation (2021) were assessed: inform (Figure 1), consult (Figure 2), involve (Figure 3), collaborate (Figure 4) and empower (Figure 5). As shown in Figure 1, social media (59.3%) was the highest platform used in providing balanced and objective information to the public. In obtaining the public feedback on analysis, alternatives and/or decisions (see Figure 2), surveys (51.9%) were the most used platform used by the researchers. In addition, workshops (59.3%) were the most used platform to work directly with the public to ensure that their concerns and aspirations were consistently understood and considered (see Figure 3).

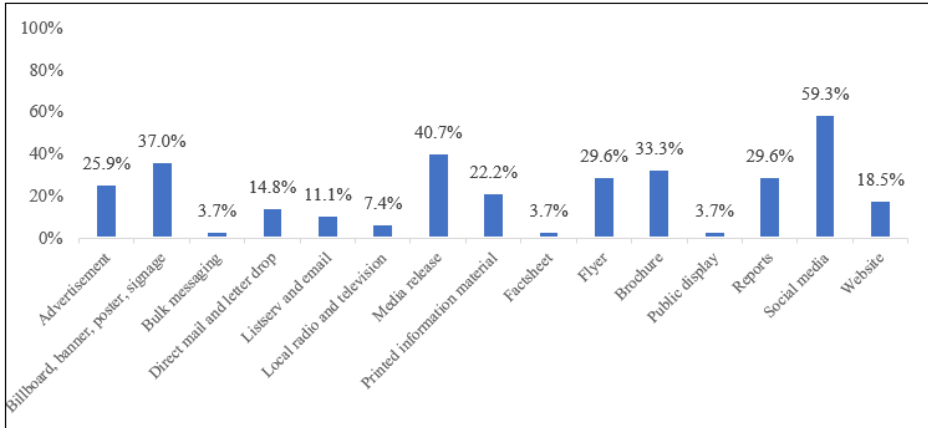


Figure 1: Type of community engagement: Inform

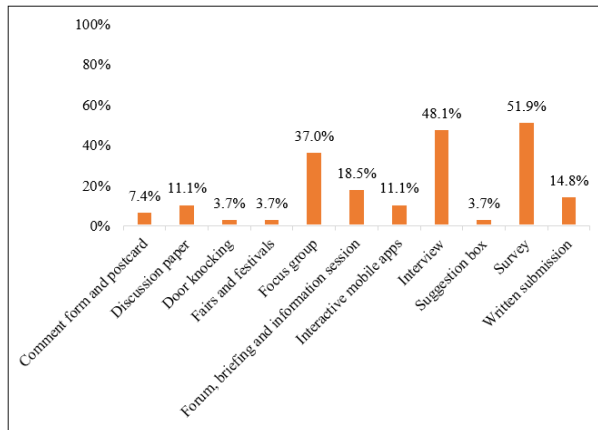


Figure 2: Type of community engagement: Consult

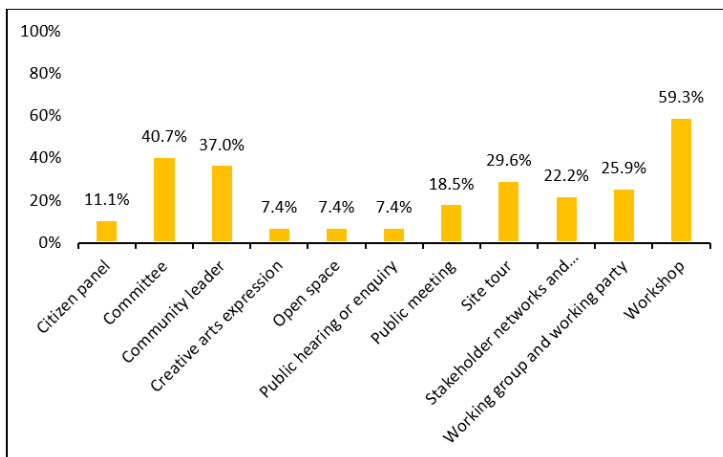


Figure 3: Type of community engagement: Involve

Collaboration with the public is another type of community engagement (see Figure 4). Researchers involved in CE projects under UMCares had mostly partnered with the public in developing alternatives and identifying the preferred solution via dialogues and roundtable discussions (50.0%). Finally, in empowering the type of community engagement, i.e., placing final decision making in the hands of the public, co-developing a program or service and final decision e.g., programme design (66.7%) was the most chosen implementation (see Figure 5).

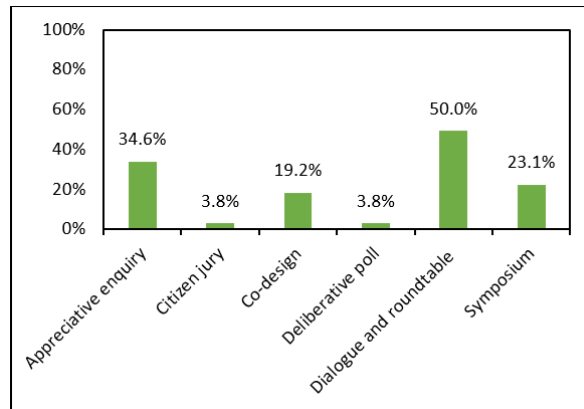


Figure 4: Type of community engagement: Collaborate

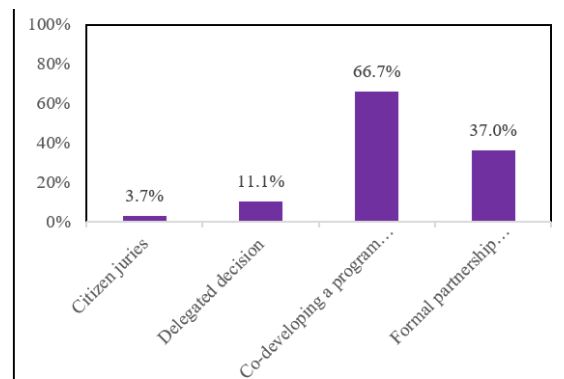


Figure 5: Type of community engagement: Empower

In addition, several activities achieved their targets in terms of knowledge transfer, technology transfer, marketing mix, marketing chain, hand-over process over the given period (duration of the activity delivered to the targeted group). For knowledge transfer, 33.3% of the projects were able to achieve this target within 12 months, 25.9% did this within 6 months, 22.2% took more than 24 months, 7.4% achieved their targets within 18 months and another 7.4% within 24 months. For technology transfer, most of the projects (40.7%) did not have this target and for the projects that did, this target was mostly (22.2%) achieved within 12 months. A total of 70.4% of the projects did not have marketing mix and marketing chain activities. In terms of the handover process, 25.9% of the projects that had this target were able to achieve it within 12 months, 18.5% more than 24 months, 14.8% within 18 months and 3.7% within 24 months.

Direct products

The average number of target communities/beneficiaries and activities/channels of delivery that researchers were able to achieve in relation to fulfilling the objectives of their programmes or projects were 150.96 (*SD* = 394.09) and 6.85 (*SD* = 6.42), respectively.

Type of output produced (academic)

The highest type of academic output produced (Figure 6) was human capital development (55.6%), followed by book/chapter in books (44.4%), IPR/copyrights (37.0%), papers indexed in Scopus/peer-reviewed journals (29.6%) and indexed in the Web of Science (25.9%) and policy papers (3.7%).

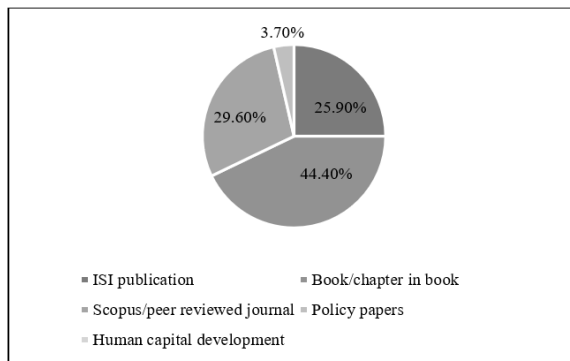


Figure 6: Type of academic output produced

Type of output produced (non-academic)

In terms of non-academic output produced (Figure 7), societal engagement was the highest (74.1%), followed by media articles (48.1%), others (29.6%), website (22.2%), commercialization of research output (18.5%) and software/applications (7.4%). Others included creating a healthy competition at the end of the workshop and Memorandum of Agreement with the international association.

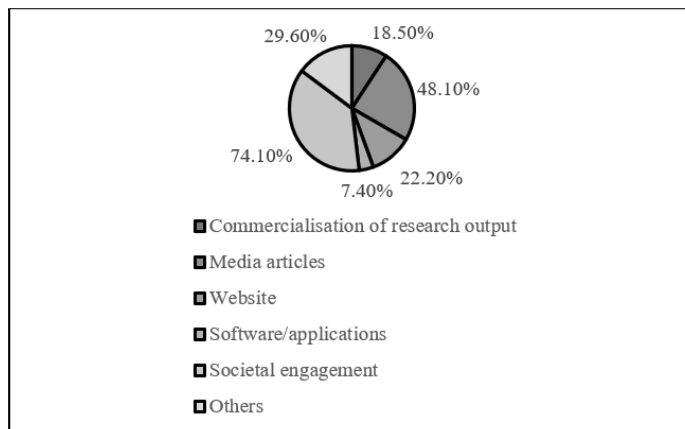


Figure 7: Type of non-academic output produced

Outcome (short-medium results)

An overwhelming majority (96.3%) reported that the communities involved in their projects showed an increase in their well-being (knowledge/attitude, behaviour/skills/status/job opportunity/earning/level of functioning) as a result of the activities conducted throughout the CE projects. For example, educational intervention led to significant literacy enhancements among students. Post-intervention data showed a doubling in both the number of students who could read and those utilizing dictionaries to comprehend English, with reading proficiency and Quranic reading each increasing by 100%. Reading comprehension also improved from 40% to 60%. These outcomes indicate a comprehensive improvement in the students' linguistic abilities and literacy. Intervention on a sports exergaming programme facilitated holistic empowerment among disadvantaged youths, enhancing their active lifestyles, mental acuity, spiritual engagement, and life quality. Concurrently, the initiative fostered soft skills development, boosting self-confidence, leadership, and independence. Additionally, participants acquired effective teamwork, self-discipline, and a sense of community equality.

Impact (long term results)

Our survey indicated that most of the projects demonstrated impact in the related areas of practice (70.4%). For instance, one noteworthy project centred on the establishment of a peer support group specifically designed to cater to individuals afflicted with spinal cord injuries. Subsequently, it was observed that this initiative has become a standard referral practice for UMMC rehabilitation facility, with newly injured patients routinely directed towards the group. This practice facilitates the provision of enhanced support to these patients in the critical period preceding their hospital discharge. Intervention programmes were the second highest (51.9%), followed by procedures (37%), social entrepreneurship (18.5%) and policies (14.8%). The majority (96.2%) demonstrated a transfer of knowledge/skills/competencies from their projects. Half of the projects had received societal/community/institutional recognition/awards (50%). For example, the project on technological application in Quranic lessons for special needs children was awarded the Grand Prize during the Workshop, Exhibition, and Competition Related to Persons with Disabilities and the Elderly (WEC2017). In addition, 57.7% had promoted and uplifted the stakeholders and programme owner/solution provider through their projects. The peer support group, for instance, currently identified as the Malaysia Spinal Cord Injury Advocacy Association (MASAA), has achieved prominent recognition nationwide within Malaysia. It serves as an association to which other rehabilitation facilities frequently refer their patients. Further, 42.3% had also received funding and other types of contributions from industry/ the community. An as example, a project designed to reduce illiteracy rates within FELDA children secured funding from the State of Institute of Islamic Studies of Jember in Indonesia and the Beijing Institute of Technology, China. Another project, which focused on incorporating sustainability development goals within the educational curricula, received a donation of 50 solar-powered lights from industrial partner.

Impact areas and indicators

Nine impact areas and indicators (Figure 8a-i) of the projects included in this study were observed: (1) health, well-being of people and animal welfare; (2) creativity, culture, and society; (3) social welfare; (4) commerce and economy; (5) public policy, law and service; (6) production; (7) practitioners and delivery of professional service, or ethical practice; (8) environment; and (9) understanding, learning and participation.

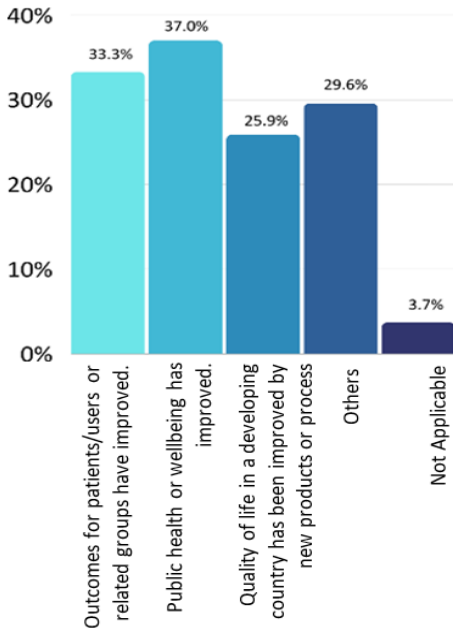


Figure 8(a): Impact on health and wellbeing

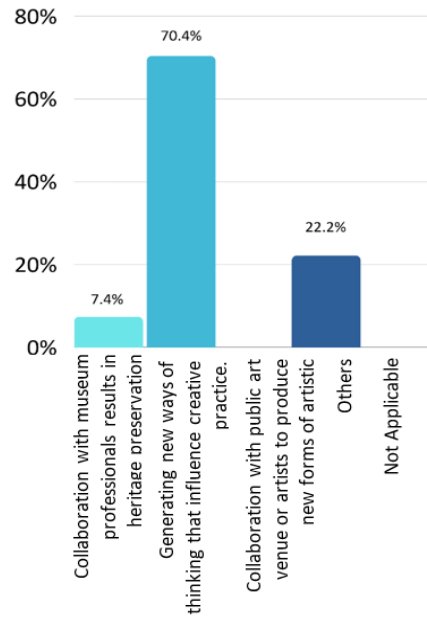


Figure 8(b): Impact on creativity, culture and of people and animal welfare Society

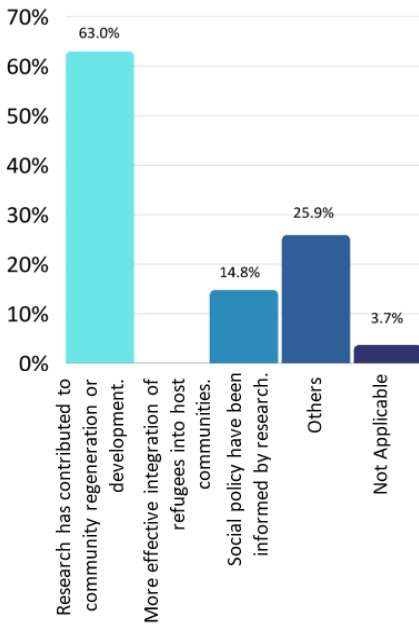


Figure 8(c): Impact on social welfare

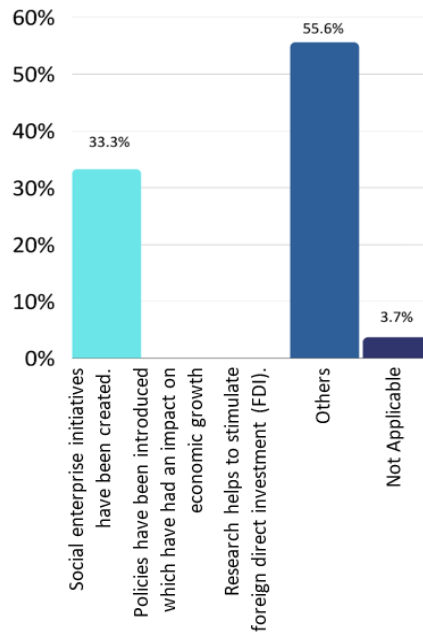


Figure 8(d): Impact on commerce and the economy

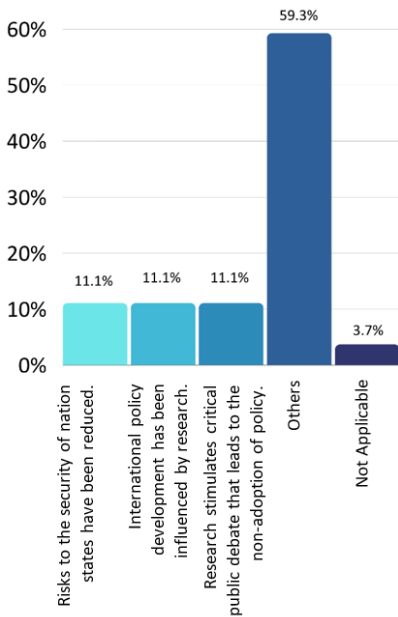


Figure 8(e): Impact on public policy, law and services

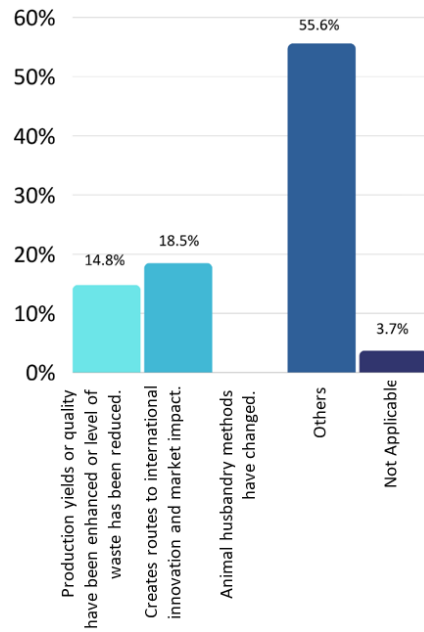


Figure 8(f): Impact on production

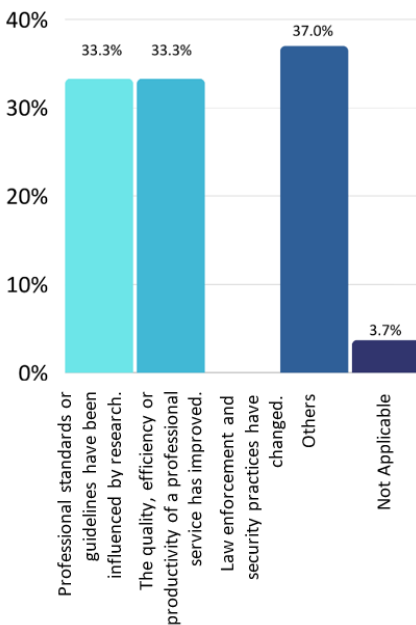


Figure 8(g): Impact on creativity, culture and society

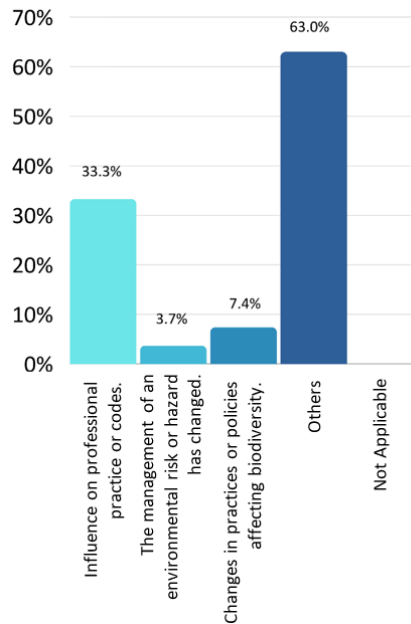


Figure 8(h): Impact on commerce and economy

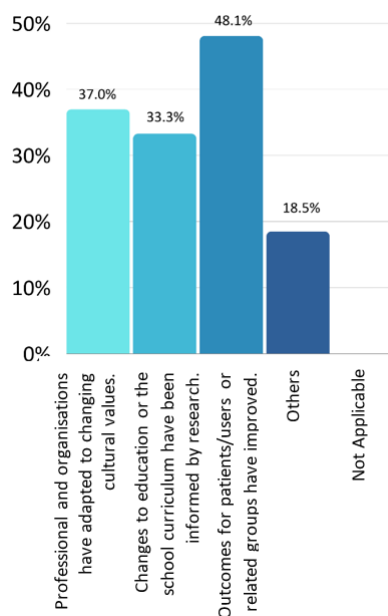


Figure 8(i): Impacts on understanding, learning and participation

Health, well-being of people and animal welfare

The highest percentage in relation to impact indicators was that public health or well-being had improved (37.0%). For example, in the *Be Able* study on technology and innovation for people with disabilities, the positive effects include continued learning and a decrease in inequality. This followed by the outcomes for patients/users or related groups which improved (33.0%) such as a project focused on improving the well-being of breast cancer survivors by assessing their dietary intake and nutritional status. Other indicators of impact included reduction of pollution from kitchen waste (29.6%), and improved quality of life in a developing country (25.9%) study on *Train The Trainers* to promote exercise - *360° Titanium Core Strength Exercises*.

Creativity, culture, and society

For this area, the highest indicator was the ability to generate new ways of thinking that influenced creative practice (70.4%) such as a project on reducing illiteracy among Federal Land Development Authority (FELDA) children using the *Asas Membaca Murid Pendalaman* or AMUD [*Basic Reading for Children from Rural Areas*] 4M (*Menyebut, Menyanyi, Melakon dan Mengeja* [*Saying, Singing, Acting and Spelling*]) curriculum module. Other indicators were the use of organic fertiliser for landscaping (purposes (22.2%) and being able to collaborate with museum professionals resulting in heritage preservation (7.4%).

Social welfare

In terms of social welfare, the highest indicator for this area was that their research contributed to community regeneration or development (63.0%). For example, the *Safe School Safe Surrounding and Safe City* project which emphasized the importance of this theme to the community by effectively addressing a range of child safety concerns, notably the prevalent issue of bullying within the local

neighbourhood. This was followed by other indicators, e.g., enabling the local community to establish vermicomposting set-ups (25.9%) and changes to social policy that have been informed by research (14.8%).

Commerce and economy

A total of 36% of the respondents indicated that social enterprise initiatives had been developed. Other indicators included the sale of products to generate side-income.

Public policy, law and service

The indicators in this section included the following: risks to the security of nation-states have been reduced (12%); international policy development has been influenced by research (12%); and research stimulates critical public debate that leads to the non-adoption of policy (12%). There were many other indicators as well mentioned by 64% of the respondents, and these included feedback about sexual harassment policy from the project #itubukancinta: Programme to Enhance Healthy Relationship Practices and Discourage Unhealthy Relationships.

Production

A total of 18.5% of the respondents mentioned that their projects had created routes to international innovation and market impact while another 18.5% indicated that they were able to increase production yield or enhanced quality and that waste had been reduced. Another 55.6% of them indicated other impact in terms of production (e.g., enhanced composting process allowing the production of better-quality compost).

Practitioners and delivery of professional service, or ethical practice

The indicators in this section included professional standards or guidelines that had been influenced by research (33.3%) and the quality, efficiency or productivity of a professional service had improved (33.3%). Other indicators (37.0%) were an improved sense of awareness of student and health clinic staff regarding issues related to relationships among the students.

Environment

The indicators for impact on the environment included the re-use of waste to build a gazebo; influence on professional practice or codes (33.3%); changes in practices or policies affecting biodiversity (7.4%) and the management of environmental risks or hazards that have changed (3.7%). Sixty three percent indicated impact on other aspects of the environmental.

Understanding, learning and participation

The highest indicator for this area was outcomes for patients/users or related groups which improved (48.1%); professionals and organisations having adapted to changing cultural values (37.0%); changes to education or the school curriculum informed by research (33.3%) and other indicators such as understanding and learning new skills and participating in the building of the gazebo in an area called *Laman STEM* (18.5%).

Sustainability

The sustainability of all CE projects under UMCares were measured based on the level community empowerment specifically the following:

- i) independently sustain the practices that were introduced through the project (88.9%)
- ii) continuity of the impact beyond the programme/ project duration (85.2%).

For 88.9% of the respondents their projects had empowered their target groups/communities. For 37.0% of them, their projects were sustainable in terms of social economy, and for 48.1% of them, their project was sustainable in terms of the environment.

4. Discussion

Research will have to undergo several phases before impact is created and often the process is described by a logical framework of the pathway to real impact for university-community engagement. In this study, we identified the UMCares' pathway to an intended real impact as represented in Figure 9.

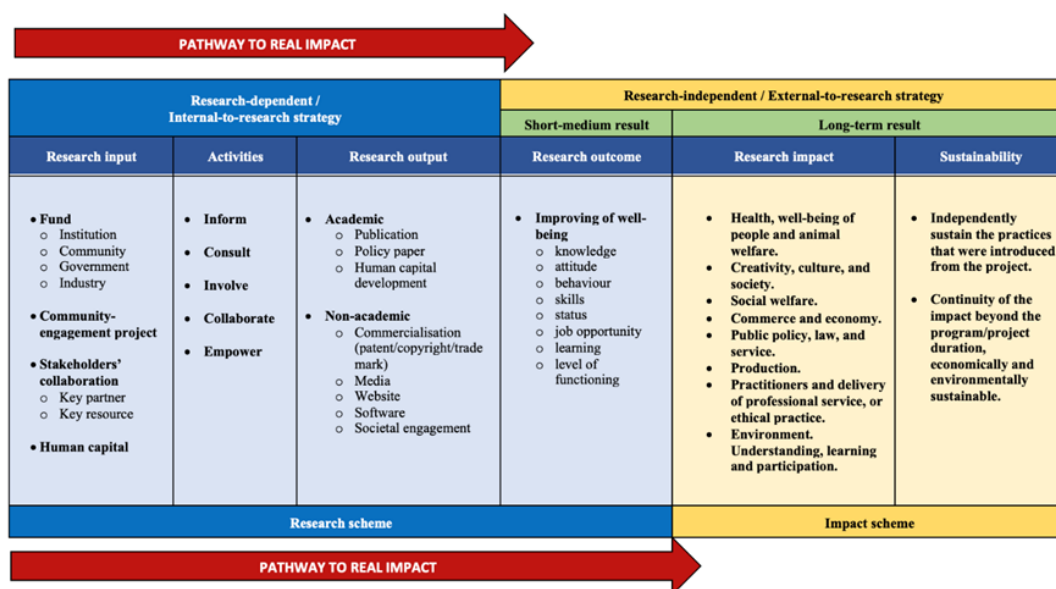


Figure 9: Logical framework of the pathway to real impact for community engagement

The evaluation of these CE projects indicates the resources they utilised to carry out the activities and in transforming the inputs into outputs. This study provides insights into the structure and resource allocation of various projects by examining financial contributions, key partners, resources in-kind, basic infrastructures, and human capital. The distribution of these inputs can have significant implications for project outcomes and sustainability. Most of the projects received institutional support (58.6%), i.e., from the RU allocation, reflecting a trend towards traditional funding mechanisms within the sector. The contribution from other stakeholders indicate a move towards a shared value approach that benefits all stakeholders, suggesting a strategic move towards more collaborative financial models. The various financial contribution structures also reflect a landscape in which traditional funding predominates but is supplemented by innovative, collaborative approaches. Under the management of UMCares, several

criteria were set for the CE projects, for example, the number of communities involved, sustainable projects, quick execution, low cost, and positive changes from the community in terms of knowledge, skills, behaviours, or aspiration. The success of many projects (including community-related projects) can be attributed to the participation, contribution and support of internal and external partners.

Engagement with the community is an ongoing process that requires active interaction in order to build trust, confidence, and partnership. This paper evaluated the various levels of CE from “inform” to “empower”. At each level, the impact is expected to increase. The IAP2 Spectrum of Public Participation posits that the highest level of impact is attained when public participation empowers individuals or communities. The information dissemination landscape is changing quickly, and the variety of channels utilised and their varied degrees of engagement reflect this, as shown by the data in this study.

The digital transformation that has taken place in the communication space is demonstrated by the prominence of "Social Media" as the main channel for information dissemination at “inform” level, as noted by 59.3 percent of respondents. This change is in line with the more general digital revolution in communication techniques. Researchers can use social media as a platform to disseminate their findings, updates, and instructional information quickly and easily to a large audience.

The results indicate that the participants preferred using the community for "consultation." "Surveys" reveal that 51.9 percent of participants highlight the continued value of surveys in gathering quantitative data. Surveys provide an organised way to gather feedback from a broad audience, making it easier to identify patterns and trends in public opinion. Close preference for "Interviews" (48.1%) among respondents shows how important qualitative information from in-person interactions is. Through rich narrative data that surveys frequently fail to capture, interviews enable a thorough understanding of participant perspectives. The preferences point to a nuanced approach to public participation, where digital tools are used in conjunction with traditional methods and direct interaction is valued in addition to anonymous feedback. An adaptable and comprehensive engagement strategy is reflected in this well-balanced methodological mix.

The most innovative forms of public engagement for “involve’ are interactive techniques such as workshops. The wide range of instruments that are emphasised suggests that a comprehensive strategy that can be tailored to the particular goals and target audiences of each engagement project is required. The inclination towards interactive and cooperative approaches implies that forthcoming tactics ought to prioritise bidirectional communication, guaranteeing that public involvement is not only acknowledged but also incorporated into the process of making decisions.

The most popular option for “collaborate” was "dialogue and roundtable," which was endorsed by half (50.0%) of the respondents. This predominates popularity highlights the modern focus on encouraging candid dialogue and idea sharing in public engagement activities and indicate strong commitment to collaborative approaches in community engagement. Prioritizing dialog ensures that community engagement transcends simple consultation to true partnership and shared decision-making. Communities are encouraged to collaborate, share perspectives, and produce solutions that are reflective of the collective voice.

The practise of 66.7 percent of entities "co-developing a programme or service and final decision" is extremely pertinent to initiatives aimed at empowering and engaging the community. Participatory governance provides the framework for communities to be actively involved in the design, development, and execution of policies and programmes that impact them, in addition to being consulted. This strategy is in line with community empowerment programmes that provide locals the tools they need to make changes in their communities. Involving people in programme co-development strengthens their ownership and utilises their local knowledge and creativity as well as produces powerful and enduring solutions.

The information on the method of engagement in each level shows that the projects under UMCares were able to maximise the participation of their targeted community using various types of platforms. However, there is a limitation of data in knowing the most preferred type of community engagement i.e., inform, consult, involve, collaborate, empower each project. Obtaining information on such data may help to observe the level of impact brought about by each of the projects.

As for outputs or the direct results achieved from the activities, the CE projects have produced both academic and non-academic outputs. Our results showed that the highest academic output was human capital development including research assistants and students. Human capital development is essential as it is related to increasing human capital effectiveness (Marimuthu et al., 2009). This can lead to an increase in performance in organisations involved in these projects. However, this cannot be accomplished without efficient research project administration, which needs initiative categorization and coordinated support for human capital capacity building. This is in line with the study of engaging universities in capacity building for sustainable development in local universities by Shiel et al. (2016), who emphasised that ample human capital who are skilled with the adequate technical capability will be engaged with the right collaborative engagement for sustainable development.

In the realm of research impact, societal or community engagement is essential since it extends beyond academia to affect real-world change. This engagement is about the range of ways that the public can be informed about the work and benefits of higher education and research. To utilise research findings and knowledge to address social concerns, it entails collaboration between researchers and external stakeholders, including industry, the public sector, and the broader community. The finding that the greatest non-academic output was societal engagement suggests that the research community is beginning to recognise how important it is to expand the scope of research beyond scholarly publication and direct academic application. According to this tendency, researchers are progressively becoming as agents of change, making an effort to make sure that their findings influence public policy, advance economic growth, improve people's quality of life, and benefit society as a whole. Haseeb (2020) highlights the importance of this kind of engagement which a vital step for research to create a real impact on the community and suggests that the true measure of research should be based on its ability to influence and interact with societal stakeholders rather than being limited to the parameters of traditional academic metrics like citations and journal impact factors. In order to close the gap between academic research and society demands, this involvement can take many different forms, such as public lectures, policy briefs, community projects, participatory research, and joint ventures. Research organisations and individual researchers can improve their responsiveness to the short- and long-term

needs of the communities they serve by encouraging this kind of interaction. Research goals that are in line with society interests facilitate the co-creation of information that is both academically sound and practically useful. It also builds public trust in the research process, as people witness the tangible benefits of research in their daily lives. The acknowledgment of societal engagement as a significant output thus underscores the evolving role of research in society and the increasing emphasis on the social accountability of academia.

The analysis of the impact of the projects under UMCares for the past five years was mainly the impact on the practices area. The projects have had an impact on several key areas including health and well-being, culture, economics, policy influence and the environment impact. These findings support the top four SDGs alignments of the CE projects which are (1) Goal 1 (No Poverty), (2) Goal 2 (Zero Hunger), (3) Goal 3 (Good Health and Well-being), (4) Goal 4 (Quality Education) (5) Goal 11 (Sustainable Cities and Communities), (6) Goal 12 (Responsible Consumption and Production), Goal 16 (Peace, Justice, and Strong Institutions), and Goal 17 (Partnerships for the Goals).

5. Conclusion

Through UMCares, UM has been able to enable communities to benefit via various funded projects over the past five years. The evaluation in this paper indicates that the projects funded by UMCares have created impact in the following areas:

- health of human and animals
- creativity, culture and society
- social welfare
- commerce and economy
- public policy, law and service
- production
- ethical practices
- Environment
- understanding, learning and practices.

These projects have also displayed engagement with the community or beneficiaries at several different levels. Given that the survey in this study had a low return rate (26.3%), the findings cannot be generalised about all the community engagement projects that have been supported by UM from 2015 to 2020. In addition, the study relies on self-reported responses from respondents; thus, recall bias, social desirability bias, and information bias should be addressed. There should be careful consideration, as respondents tend to over- or under-report the frequency and actual impact of project.

The data highlights the necessity of developing a more robust impact evaluation framework for Community Engagement (CE) funding in order to guide future planning and strategic direction. A thorough database under UMCares' management would enable real-time monitoring and assessment of project outcome, ensuring a transparent and accountable framework for impact measurement. In addition to making the mapping of ongoing initiative easier, this resource would be essential for determining areas of need, influencing future funding decisions, and aligning with both domestic and international agendas. Furthermore, into the long-term impact and sustainability of CE initiatives can

also be gained through the longitudinal monitoring of projects. Selected projects can be revisited to identify best practises and areas for improvement. This information can then be used to develop adaptive strategies for current and future engagements. UMCares stands to benefit from such a structured approach to data management as a facilitator of this community engagement. It has the potential to result in more strategic funding allocations with a clear focus on evidence-based outcomes. This ensures that investments are not just reflective to immediate community needs, but also in line with UM's overarching mission and vision for societal impact. Finally, the development and maintenance of a dedicated database, in combination with periodic, systematic impact assessments, can considerably improve the strategic deployment of CE awards. By doing so, UM would not only increase the effectiveness and visibility of its community engagement programmes but would also help to foster a culture of continuous improvements and accountability in the field of academic-driven societal development.

Acknowledgement

The authors gratefully acknowledge the assistance of all staff at the UM the UM Community Engagement Grant recipients who responded to the survey.

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