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Social Impact Enhancement: Developing Social Businesses through Impact Measurement, Performance Measurement, and Knowledge Management

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Abstract

This paper aims to confirm that by implementing certain performance measurement criteria and impact measurement strategies, organisations can enlarge the social impact of their social projects by enhancing their project knowledge management. I first build a framework that links performance and impact measurement with knowledge management, and knowledge management with social impact. I then empirically test this framework's significance in raising social impact using ANOVA regression analysis on gathered data from 70 organisations around the world with social impact projects (social enterprises, non-profit organisations, and conventional businesses with social projects). The novel purpose and value of this study are to promote the use of social impact measurements to resolve social organisations' current difficulties in both finance and impact scale, killing two birds with one stone. The overall conclusion is that effective knowledge management has a positive influence on project social impact and that certain critical success factors, key performance indicators, and impact measurement strategies are significant in enhancing project social impact by improving knowledge management. This conclusion could help social businesses to upscale their social impact. Policies to support social impact projects and impact measurements are also addressed.

Keywords

Impact Measurement Strategy, Knowledge Management, Performance Measurement Criteria, Rippled Social Impact

1. Introduction

This paper "breaks out of the box" by being the first empirical paper that builds and tests a framework which links performance and impact measurement with knowledge management, and knowledge management with social impact. The novelty and value of this paper also lie in its innovative focus on using social impact measurements to both resolve financial difficulties and enhance the social impacts of social organisations.

Amid rising social and economic disparity worldwide, businesses need to be more socially sustainable in modern times. However, with the rise of the social enterprise industry in recent decades, social interest projects are facing more apparent challenges to enlarge and measure their impacts. In competing with commercial enterprises and traditional social knowledge, social impact projects are facing lots of obstacles from a lack of funding to insufficient comprehension of the social organisations' aims. At the same time, there is also the challenge of measuring social impact, with social organisations struggling to implement impact measurement tactics and thus finding it difficult to understand the current level of social change achieved. However, promoting social sustainability in businesses is of great urgency as production starts to resume around the world after COVID-19, the next business cycle should welcome the rise of social sustainability among businesses. As a result, I wish to prove whether business can enhance their social impact scale by enhancing the performance and impact measurements, achieving a double win that resolves both the difficulty of impact measurement and the competition faced by social impact projects. This conjecture is not without backing.

Studies have correlated the implementation of critical success factors (CSF) and key performance indicators (KPI) to project success. In addition, suitable strategies for documenting and measuring performance are proposed to be beneficial to project performance. Moreover, past studies have suggested a knowledge management theory that could be important in improving project performances through past knowledge evaluation.

However, most of the studies correlating improved performance with knowledge management, CSF, and KPI have focused primarily on conventional business projects with profit and revenue as the main goal, but not on social projects with social impact in mind. Todorović et al. (2015)'s work, for instance, linked CSF and KPI to knowledge management success, but it is yet unproven whether CSF and KPI have a positive influence on the performance of social projects, which have a very different definition of success compared with conventional business projects. Moreover, despite having found that CSF and KPI and strategies for measuring performance have a positive impact on knowledge transfer and improvement, there is a lack of a complete and standardised set of CSF and KPI and impact measurement strategies that all or most companies can follow for their social impact projects. This creates a dilemma, such that people already know that measuring performance and impact is important, but they do not

know which criteria and strategy to use for measuring performance and impact. The lack of knowledge regarding specific CSF and KPI and impact measurement strategies presents a key difficulty for social interest organisations to measure impact (Keizer et al., 2016).

Thus, compared with existing literature on performance measurement or knowledge management, the novelty in this research study resides in the fact that it builds a framework which links CSF and KPI and strategies for measuring performance with knowledge management, and knowledge management with social impact. This study takes on a knowledge management perspective and specifically focuses on how social enterprises, non-profit organisations, and other businesses can enlarge their social impact through knowledge transfer in their social impact projects, promoted by performance and impact measurement.

The paper has two purposes and objectives: 1) to prove the link between the success of knowledge management and enhanced social project impact; 2) to fill in the knowledge gap of specific CSF and KPI and measurement strategies that organisations can use to enhance the impact of their social projects.

This paper hypothesizes that the knowledge management process of "enhanced acquisition, application, and transfer" of project knowledge can enhance the efficiency and effectiveness of a social interest project to deliver its social impact. I find that the transfer of knowledge is directly significant to enhanced social impact, and the acquisition and application are relevant to enhanced social impact. Then, this paper selects some CSFs and KPIs based on past literature and finds that they could directly contribute to knowledge management and social interest projects' impact. The paper also selects some top strategies for measuring impact (theory of change, data collection monitoring program, publicity of impact evaluation actions, use of external organisations), and finds that some of these strategies can directly lead to enhanced knowledge management and social projects' impact. The paper lastly finds that when acting together, both the selected CSF and all of the selected strategies of measuring impact are relevant to enhanced knowledge management and social projects' impact.

The findings of this paper may help social interest organisations to have a clearer picture of what performance measurement criteria and impact-measuring strategies to use to enhance the impact of their social impact projects. This could resolve the current difficulties relevant to finance and impact scale faced by many social organisations.

2. Literature Review

Conventional businesses have focused excessively on profits and revenues, and so have the Keynesian and new classical economics emphasised solely economic growth. However, Raworth (2017) has argued that economies in modern times should shift their focus on social and environmental balances. Similarly, Batrabcea and Nichita (2015) argue that an equal distribution of resources to promote socially sustainable development on poverty reduction and citizens' well-being is

equally important as growth and productivity. Batrancea et al. (2021) also suggested policies to promote green transition for world businesses. Businesses should transition to becoming more socially sustainable. However, there are multiple issues facing businesses to enlarge their social impact.

2.1. Problem and Causes

The social enterprise sector around the world is still in its early stage of development, and social interest projects from all kinds of businesses face many challenges that impede their growth and impact. Among those various challenges, the lack of external funding poses considerable difficulties, according to numerous previous literature by Abramson and Billings (2019), Dzomonda (2021), and Keizer et al. (2016). Many potentially impactful social enterprises and social organisations might have faltered before they became industry leaders to transform world business models, due to a lack of funding.

2.1.1. Lack of External Funding

In a study conducted by Halcyon (2017), nearly two-thirds of the social enterprises surveyed relied on self-financing. A study conducted by Dzomonda (2021) also shows that the lack of funding was the most pressing challenge faced by most of the respondents of social organisations. The issue is especially significant for start-up social businesses. Kapitsinis et al. (2021)'s study on Welsh SMEs reports a low demand for and supply of equity investment. World Bank (2019) notices that funding was a key challenge faced by SMEs. Yet, Kim and Cho (2020)'s study shows that institutional funding is essential for company performance. Without funding, small and medium social businesses will have little chance of enhancing their impact scale. Even more, Batrancea, Balcı, Chermezan, et al. (2022) argue that SMEs may eventually become leaders of industries to transform businesses, but if these small and medium social businesses all perish during their start-up phase, they would never have the chance of transforming industries to become more socially sustainable.

At first glance, challenges related to funding, though most pressing, might be beyond the scope of discussion of this paper, yet past studies show that difficulties in attracting funding could also be attributed to the lack of impact and performance measurements. Abramson and Billings (2019) and Battilana and Lee (2014) show the funders' lack of understanding and/or trust in the organisation impedes organisations' access to funding, because there is "increasing scepticism" among customers regarding the organisations' "claims of doing good". Additionally, Dzomonda (2021) shows that since most financing organisations lack a clear understanding of what the social organisations (social-interest organisations) are exactly doing, these organisations face difficulties in sourcing funds. Moreover, without clear performance and impact measurement, potential investors might find it difficult to estimate the value of their investments in terms of financial gains and social and environmental benefits. According to Fulda and Andreas (2017) and Panda et al. (2023), performance measurement gives higher

levels of transparency and responsibility to the social enterprises' funders: "Social companies must prove they spent money effectively and achieved the desired results". Without clear performance measurement, potential investors will be unable to evaluate the organisation and will be disincentivised from making investments.

2.1.2. Difficulties in Upgrading Impact Scale

For enterprises, quantified impact data can enable feedback and improvement on their project impact scale as well as help in securing capital and contracts. However, a social enterprise industry report by Keizer et al. (2016) shows that less than half of the social enterprises measure their impact, and the primary reason is the lack of standards and infrastructures for impact measurement. Moreover, according to Abramson and Billings (2019), the need for social enterprises to demonstrate both social and economic performance involves analysing various largely different kinds of data—it can be hard to define and focus on both social and financial indicators. This is particularly true when different stakeholders with varying needs and incentives are involved: the entrepreneur and the community may have a goal of social benefit in mind, while the investor may regard financial incentives as predominant.

2.2. Importance of Performance and Impact Measurement for the Success of Social Organisations

Performance and social impact measurements may resolve social organisations' current difficulties in both finance and impact scale. Lee and Roh (2012)'s study comprising 230 of the most prominent Fortune 2008 American companies shows that corporate reputation was significantly and positively related to financial performance. A study conducted by Cocis et al. (2021) concludes that airline companies with a high and positive reputation record good financial performance and equilibrium. Batrancea, Nichita, et al. (2022) also find a "fairly strong link" between financial performance and corporate reputation. Interestingly enough, for social organisations, corporate reputation is directly and positively related to enhanced social impact scale. Arshad et al. (2012) report that the social responsibility activities of companies were directly related to corporate reputation and financial performance. Batrancea, Nichita, et al. (2022) reach the same conclusion. Since measuring and evaluating performance and impact can enhance corporate social impact and performance, actively using certain performance criteria and impact measurement strategies can also potentially solve social businesses' financial challenges by enhancing their reputation.

2.3. The Framework of Social Impact

The previous section of the literature review establishes that measuring performance and impact can be essential in improving companies' impact scale and funding. Thus, a framework of strategies for measuring social impact is of practical use for social organisations. The following section of the literature review

provides an overview of some social impact frameworks and project management theories that can help define the impact process and enhance the performance of social projects.

2.3.1. Rippled Effect Framework

The Rippled Effect (RE) framework is an evaluation of the success of an organisation's social project to produce rippled effects which eventually lead to system-level change in the society (**Figure 1**). In this sense, Amulya (2023) and Udechukwu et al. (2022) show that ripple effects refer to a set of indirect and short-term changes brought to the society that lead to a long-term broad and targeted impact. Amulya (2023) furthers that shorter-term outcomes (i.e., the success in building, applying, and spreading knowledge) within a RE framework can be equally or even more relevant and significant in showcasing the social impact of a social-interest project, as they result in the intermediate and systematic change which social enterprise, non-profits, and other businesses with social initiatives aim to achieve. The stage of "spread" is especially critical in showcasing the impact of a project since it is the stage where social knowledge accumulates, and social change begins to replace individual change.

2.3.2. Knowledge Management

According to Kulkarni et al. (2006), knowledge management refers to the process where organisations extract value and information from their experience, context, interpretation, and reflection, usually to help with their future projects or developments. Knowledge management theory is based on the process that a higher quality of knowledge that is acquired and applied to projects, along with ideal evaluation and knowledge documentation strategies, has a positive influence on knowledge transfer (**Figure 2**). Todorović et al. (2015) find that the transfer of knowledge from projects in turn leads to performance success in future projects. It is important to note that for an effective knowledge management system, the transfer of knowledge can directly contribute to project performance improvement, yet the acquisition and application of knowledge are also significant to project performance since they are prerequisites for knowledge transfer.

2.4. Performance Measurement

It is stated above that the lack of standardised methods of performance evaluation presents a key obstacle for organisations to evaluate their social impact projects. With the RE framework and knowledge management theory in mind, this section considers certain criteria for performance evaluation that could help resolve this obstacle.

2.4.1. Critical Success Factors and Key Performance Indicators

Critical Success Factors (CSF) and Key Performance Indicators (KPI) are important project performance indicators which enhance the knowledge management process. The CSF of organisations involves their resources, attributes and

Build	Apply	Spread	Intermediate change	Systems change
Participants gain or strengthen capacities, such as awareness, knowledge, skills, attitudes, contacts	Participants put new capacities into practice	Participants spread new capacities to others	Change as a result of participants applying and spreading new capacities needed for systems change	Change at the level of an institution, community, or other social system

Figure 1. Rippled Effect social impact framework (Amulya, 2023).

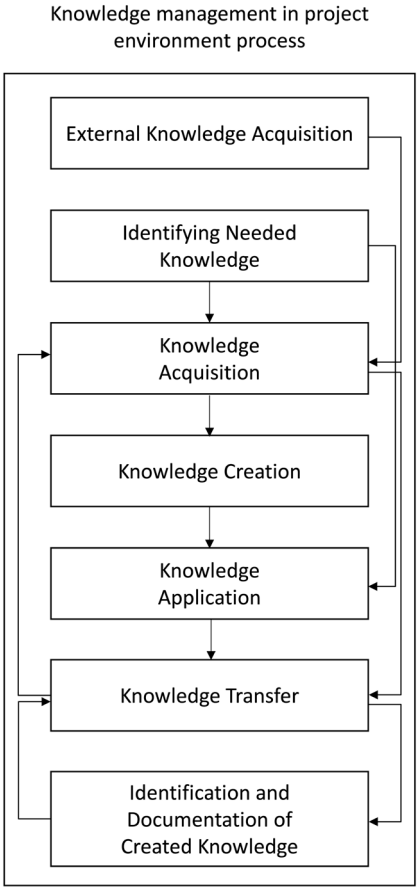

Figure 2. Knowledge management framework in projects (Todorović et al., 2015).

skills, which are essential for them to outperform their market competitors. A company's internal factors, its resources and capabilities, and external environmental factors constitute a company's complete set of CSFs, according to Musinguzi et al. (2023). The definition of KPI is a direct identification of the knowledge necessary for performing certain projects. Qureshi et al. (2009) and Todorović et al. (2015) argue that KPIs are essential in evaluating project performance and success, which are important to define which knowledge to retain and transfer, and which to improve on.

However, Bryde (2005) shows that it is also important to take into consideration the CSF when evaluating the success of projects and the effectiveness of

knowledge since KPI cannot improve the project performance if the goals and incentives of the organisation which operates the project are not taken into regard. Todorović et al. (2015) have shown that both the definition of CSF and KPI, as well as the act of measuring performance, positively influence on the acquisition and transfer of knowledge.

Moreover, according to Musinguzi et al. (2023), most companies define CSF based on the variables and characteristics which significantly influence their success in organisational planning, and the study finds that business planning practices are directly significant in improving the performance of rural social enterprises. This thus gives CSF an indirect significance to enhancing project performance.

2.4.2. Specific Elements of CSF and KPI

Keizer et al. (2016) suggest that for social interest projects ("social changers" projects) to be able to compete with the projects of commercial business, "social changer" organisations need to also consider financial and market performance as a key indicator of their success and performance. In a personal interview, the founder and CEO of Indian social enterprise Krishi Star stated that "a social enterprise needs to balance its business sustainability with impact. If it decides to not take a market share or take a decreased profit margin, then it will not be sustainable." As a result, certain common CSFs such as good customer relationships and KPIs such as market share could still be very important for the measurement of social interest projects' performance. Skilled labour employment could also be important as a CSF since it is fundamental to the company's and the project's performance, argues Keizer et al. (2016).

2.5. Impact Measurement Strategies

Apart from performance evaluation, the lack of standards for measuring impact is also a key obstacle for organisations to evaluate their social impact. Defining certain evaluation strategies could help resolve the challenges that organisations face in evaluating their impact.

2.5.1. Theory of Change

A research study by Connell and Kubisch (1998) shows that social or community initiatives, since their origin in the 1980s and 1990s, have always faced the challenge of finding evaluation methods that match their complicated goal and design. As Weiss et al. (1995: p. 80) put it, it has long been wondered if the conventional quantitative measurements are comprehensive and fitting enough for the complexity of knowledge engaged in social initiatives encountered by social enterprises, non-profit organisations, and other businesses with social interest projects

Conventional approaches are suitable for where a "common metric of effect size" can be established, but multiple factors are involved in community- or social-centred programs. Under this light, Weiss et al. (1995: pp. 79-105) propose a

theory-based evaluation—theory of change—synthesises the complicated sets of different factors involved in social change, by allowing the decision makers of an organisation to define and agree upon the central issue which the organisation seek to address and thus the issue which impact evaluations should focus on. Dembek et al. (2017) explain that the theory of change framework correlates input, activity, outcome, and expected outcome of a community or social initiative (**Figure 3**). Additionally, Connell and Kubisch (1998) identify two advantages of using theory of change to measure the performance of social or community initiatives which are relevant to this study: it develops an intended outcome which builds a knowledge and resources base for the project to begin with. This corresponds with the knowledge acquisition and identification stage in the knowledge management theory. It also guides the "when" and the "how" in measuring impacts, which helps with the transfer of existing knowledge, by evaluating what knowledge is effective and what is not. As a result, Gugerty and Karlan (2018) argue that identifying the initial steps in the theory of change of a company is a critical prerequisite to effective impact measurement and project impact improvement.

2.5.2. Publicity of the Organisation's Impact Measuring Actions

Apart from enhancing the performance of future projects, the primary goal of social impact measurement is to show what value the organisation is delivering to its beneficiaries and society (Understanding and Advancing Social Enterprise, 2023). This is important because Flanigan and Freiman (2022)'s study on billionaires and Keizer et al. (2016)'s social enterprise report show that financial providers, such as loan providers or impact investors, look very closely at the organisation's intentions and actions, as well as potential returns when allocating funds. The lack of transparency in such information poses an obstacle for the investors to evaluate the value of the organisation's projects and could cause a lack of financial funding, according to numerous literatures, such as studies by Abramson and Billings (2019), Battilana and Lee (2014), Dzomonda (2021), and Keizer et al. (2016).

In contrast, letting the organisation's stakeholders be aware of its impact-measuring actions could alleviate the financial stress that social organisations are facing.

2.5.3. Establishment of a Data Collection Monitoring Program

Keizer et al. (2016) identify that 32% of the Dutch social enterprises that fail to measure their impact face difficulties finding methods to collect data or measure impact. In response to this, Gugerty and Karlan (2018) and Sawhill and Williamson (2001) propose that before struggling with impact measurement, organisations could establish a program that monitors the data collected of impact measurements to avoid the problem of misplaced priority. Such a program helps ensure that the data collected is relevant to the social goal of the project and functions to guide effective data collection to measure impact.

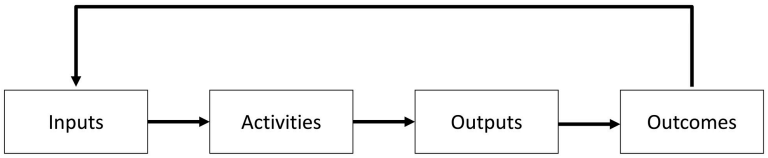

Figure 3. Theory of Change process (Dembek et al., 2017).

2.5.4. Employment of External Performance Evaluation Organisations

Financial constraint is the reason that 30% of Dutch social enterprises fail to measure their impact—they cannot afford to invest in impact measurement, according to Keizer et al. (2016). Gugerty and Karlan (2018) further argue that the lack of human resources (i.e., impact evaluation experts) and knowledge resources (i.e., experience in impact measurement) could also impede organisations from measuring their impacts. As a result, the use of an external performance or impact evaluation company could significantly help organisations that lack impact measurement resources to measure impact and improve their performance.

3. Research Method

3.1. Framework Design and Hypothesis

I first design a framework (**Figure 4**) that links impact and performance measurement criteria to social impact enhancement through knowledge management and then test its validity empirically. The framework is inspired by Batrancea, Balcı, Akgüller, et al. (2022)'s study on European economic growth using multiplex network analysis. The authors argue that interacting actors in modern economics and businesses can be regarded as nodes, and a framework which connects these nodes is an essential tool in modern times to determine the interaction between different factors. Similarly, Weiss et al. (1995: p. 80) show that multiple factors and layers are in play for the social impact of businesses, so a framework connecting the complex layers and factors ("nodes") involved in social impact is the best way to test the interaction and significance of different impact-measuring factors. Therefore, I designed a framework that links CSF and KPI and strategies of impact measurements with knowledge management, and knowledge management with social impact.

H0: Social enterprises, non-profit organisations, and conventional businesses can enhance the efficiency and effectiveness of their project's delivery of rippled social impacts through certain CSF and KPIs, and through strategies for measuring project impact.

The abovementioned correlation is supported by the primary and secondary auxiliary hypotheses.

The explanatory variables of H0 (elements of CSF, KPI, and strategies of impact measurement) are set as instrumental variables for this study and will appear in the secondary auxiliary hypotheses because the direct relation between elements of CSF, KPI, and strategies of performance measurement and efficiency

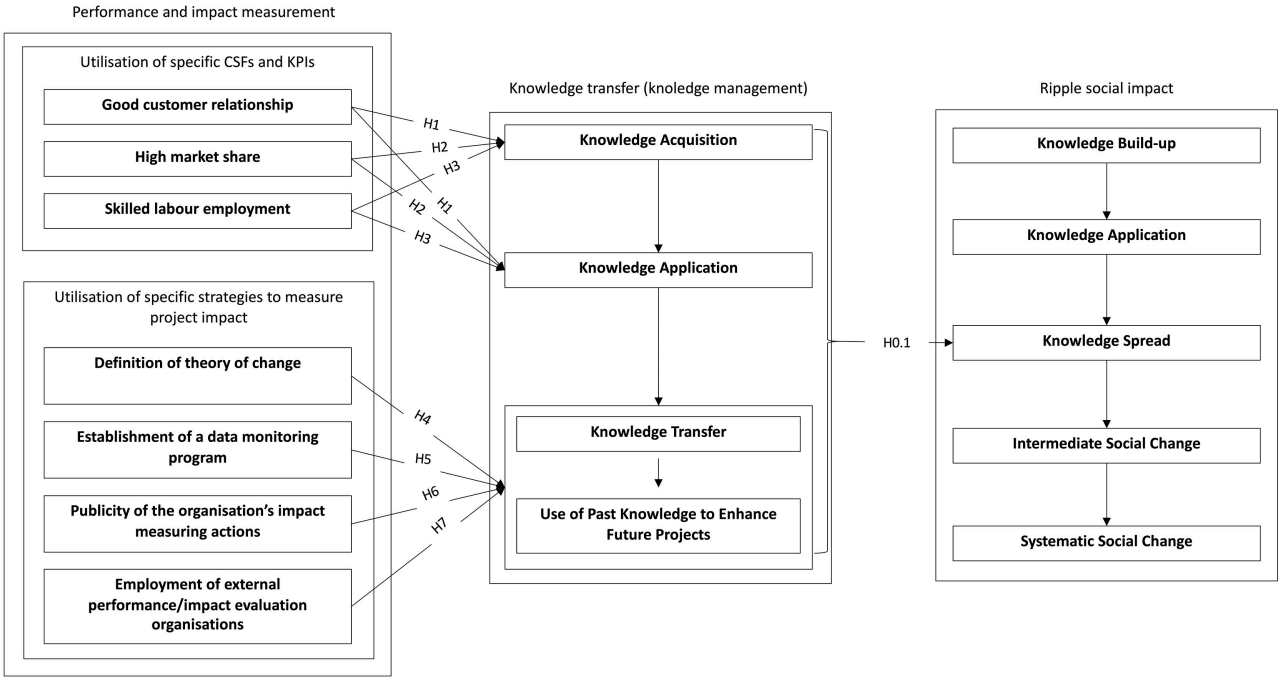

Figure 4. Framework of the enhancement of rippled social impact through performance and impact measurement.

and effectiveness of social projects is hard to establish. However, these instrumental variables might affect elements of knowledge management, and variations in knowledge management could affect project performance more directly (Kulkarni et al., 2006; Todorović et al., 2015). As a result, this paper defines its variables in the following way (**Table 1**):

- Instrumental variables: seven elements of CSF, KPI, and strategies of performance measurement (which will be mentioned later in H1-7).
- Explanatory variables: two elements of knowledge management (which will be mentioned in H0.1).
- Response variable: efficiency and effectiveness of achieving rippled social impacts, measured by the time at which organisations achieve the knowledge "spread" stage of the RE framework.

The primary auxiliary hypotheses connect the response variable of with two explanatory variables, aiming to link knowledge management with project social impact. The response variable is quantified to be the time at which organisations achieve the knowledge "spread" stage of the RE framework, since this is the stage where social knowledge accumulates, and social change begins to replace individual change (Amulya, 2023). Achieving the "spread" stage in less time therefore implies that the organisation is more efficient and effective in delivering its rippled social impact. The primary auxiliary hypotheses are listed:

H0.1:

Part 1: The ability to acquire and apply the necessary knowledge for a social-impact project allows organisations to achieve the knowledge spread stage of the RE framework at a faster pace.

Table 1. Description of variables with abbreviations used later in the paper.

Variable type	Variable	Abbreviation
Instrumental Variable	usage of good customer relationships as a CSF	Cust. Relat.
	usage of skilled labour employment as a CSF	Skill. Labr.
	usage of high market share as a KPI	Mark. Share
	development of a theory of change	Theo. Cha.
	establishment of a program monitoring the data collection process	Dat. Coll. Prog.
	publicity of the company's impact measuring actions to stakeholders	Publ. Eval.
	employment of external performance or success evaluation organisations	Ext. Org.
Explanatory Variable	ability to acquire and apply the necessary knowledge	Acq. & App.
	ability to improve upcoming projects by transferring knowledge of past projects	Impr. Trans.
Response Variable	time at which organisations achieve the knowledge "spread" stage of the RE framework.	Soc. Spr.

Part 2: The ability to transfer knowledge of past social-impact projects allows organisations to achieve the knowledge spread stage of the RE framework at a faster pace.

It is also important to note that although two explanatory variables are proposed, Part 1 of the hypothesis is the prerequisite for the confirmation of Part 2. That is, acquiring and applying knowledge is a necessary step for transferring past knowledge to new projects (Kulkarni et al., 2006; Todorović et al., 2015). Thus, even if the relation of DV to Part 1 of H0.1 is not directly confirmed, it could still be significant as long as Part 2 is confirmed (but the reverse is not the case: Part 1 being confirmed does not mean Part 2 is confirmed). Todorović et al. (2015) have already shown that the acquisition, application, and transfer of knowledge enhance project performance. Thus, the two parts of H0.1 serve to confirm that Todorović et al.'s findings on project performance apply to social projects whose success is measured by social impact.

The secondary auxiliary hypotheses connect the explanatory variables of H0.1 with seven instrumental variables and aim to find the universal CSF, KPI, and impact measuring strategies that can enhance knowledge management and thus social impact. H1-3 are connected with Part 1 of H0.1 (H1-3 can only be confirmed if Part 1 of H0.1 is significant) and focus on CSF and KPI as instrumental variables. H4-7 are directly connected with Part 2 of H0.1 (H4-7 can only be confirmed if Part 2 of H0.1 is significant and confirmed) and focuses on performance measurement approached as instrumental variables:

H1: The usage of good customer relationships as a CSF allows organisations to be more able to acquire and apply the necessary knowledge for their social-impact projects.

H2: The usage of skilled labour employment as a CSF allows organisations to be more able to acquire and apply the necessary knowledge for their social-impact projects.

H3: The usage of high market share as a KPI allows organisations to be more able to acquire and apply the necessary knowledge for their social-impact projects.

H4: The development of a theory of change allows organisations to improve their upcoming projects with the knowledge transfer of past projects.

H5: The establishment of a program monitoring data collection process allows organisations to improve their upcoming projects with the knowledge transfer of past projects.

H6: The publicity of the company's impact-measuring actions to stakeholders allows organisations to improve their upcoming projects with the knowledge transfer of past projects.

H7: The employment of external performance or success evaluation organisations allows organisations to improve their upcoming projects with the knowledge transfer of past projects.

3.2. Empirical Test

3.2.1. Questionnaire Design and Variable Description

Quantitative data is collected through questionnaires distributed to organisations with social projects. The questionnaire has two parts.

The first part asks the demographics of the organisation, including whether the organisation is a social enterprise or non-profit and if not, whether the organisation has social interest projects. Data from organisations that are neither social enterprises, non-profits, nor conventional businesses with social interest projects are excluded from data analysis.

The second part involves questions that address the individual explanatory variables, response variable, and instrumental variables. The instrumental variable questions asked respondents to grade the level (from 1 to 10) to which they used the three aforementioned CSF and KPI, and the level to which they used the four aforementioned strategies to measure their project impact. The explanatory variable questions asked the respondents to grade the level (from 1 to 10) to which they were able to acquire and apply the necessary knowledge for their projects or improve their upcoming projects with past knowledge transfer. These questions effectively quantify the instrumental and explanatory variables (Todorović et al., 2015).

The response variable questions asked the respondents to state the pace (in months) at which their organisation achieved the transition from pushing social change to customers willingly sharing their knowledge of social change with new customers. This is a measurement of the rate at which the organisation achieves the "spread" stage of its rippled social change (Amulya, 2023).

3.2.2. Sample Description

I distributed questionnaires to 70 organisations around the world. The sample focused on organisations based in the US, UK, Singapore, China, India, and several European and African countries. The result excluded data submitted by

pure commercial businesses. Therefore, the final result used by this study contains 19 social enterprises, seven non-profits, and nine conventional businesses with social impact projects. Among the respondents that submitted valid data, 83% gave data on organisations that have been established for more than five years.

4. Results

The data collected are numerical values. The response variable values show the number of months it took for the organisation to achieve the "spread" stage of its rippled social change. The explanatory variable values show the level, between 1 to 10, that the organisation grades its knowledge management status. The instrumental variable values show the level, between 1 to 10, that the organisation grades its usage of certain CSF, KPI, and impact measurement strategies.

I analysed the results of this study using multi-variable regression analysis. The Significance F, computed from the F value, and the P-value are used to determine the collective and individual significance of the variables. For the variables that are significant, their coefficients are analysed to determine whether the original hypotheses are confirmed and whether the variable has a very significant effect on the response or explanatory variable. First, I analysed the effect of the explanatory variables on the response variable. Then, I analysed the effects of the instrumental variables on their corresponding explanatory variables.

4.1. Descriptive Analysis

The first step of data analysis is to conduct descriptive analysis by characterising data distribution using the Skewness and Kurtosis test, as well as the Jarque-Berra test to determine if the variables are normally distributed. The descriptive statistics are determined for all variables, including the instrumental variables, the explanatory variables, and the response variable.

Table 2 indicates that Soc Spr has the largest volatility, while Theo Cha has the lowest volatility, according to standard deviation values. This is to be expected because the questionnaire inputs for Soc Spr range from 0 to 60, while those for other variables range from 1 to 10. In terms of the skewness values, all variables except Mark Share and Soc Spr show negative skewness. Kurtosis values demonstrate that Mark Share, Skill Labr, and Ext Org have platykurtic distribution, while all other values have leptokurtic distribution. None of the variable distributions, except for the response variable Soc Spr, substantially depart from normality (absolute skew value <2 and absolute proper kurtosis value <7) according to previous literature (Kim, 2013; West et al., 1995: pp. 56-75). Jarque-Bera test shows all instrumental variables, except Cust Relat, are normally distributed. The explanatory variables, the response variable, and the instrumental variable Cust Rela are non-normally distributed to the 0.01 significance level.

Despite having four variables being non-normally distributed, studies conducted

Table 2. Descriptive statistics of the variables for the social organisations.

	Cust. Relat.	Mark. Share	Skill. Labr.	Theo. Cha.	Dat. Coll. Prog.	Publ. Eval.	Ext. Org.	Acq. & App.	Impr. Trans.	Soc. Spr.
Mean	8.057	5.514	6.114	7.457	6.886	6.800	4.914	7.086	7.257	10.548
Median	8	5	7	8	8	7	6	7	8	7
Maximum	10	10	10	10	10	10	10	10	10	60
Minimum	2	1	1	3	1	1	1	1	1	0.5
Standard Deviation	1.846	2.628	2.576	1.755	2.220	2.336	2.984	1.869	1.899	12.959
Skewness	−1.278	0.019	−0.463	−0.860	−0.823	−0.918	−0.222	−1.365	−1.649	3.091
Kurtosis	5.385	1.953	2.310	3.801	3.096	3.233	1.451	6.436	6.812	14.047
Jarque-Bera	17.828***	1.602	1.944	5.248	3.962	4.996	3.785	28.084***	37.043***	140.226***
Observations	35	35	35	35	35	35	35	35	35	21

Note: The symbol *** denotes statistical significance at the 0.01 level.

by Schmidt and Finan (2018), Statistics Solutions (2013), and Zeileis et al. (2008) all demonstrate that non-normality in variables does not have a noticeable impact on regression analysis results, especially with large samples having more than 10 observations per variable (Schmidt & Finan, 2018). Since the observations for all variables are above 10 in my data, it is concluded that non-normality will not affect further regression analysis noticeably.

4.2. Correlation Analysis

In addition to descriptive analysis, multicollinearity is controlled using correlation analysis among the explanatory and instrumental variables separately, to further ensure that regression analysis may be used for the data. Correlation analysis is not done on the response variable because there is only one response variable.

The primary concern during my data collection was that multicollinearity might be present in the analysis of the explanatory variables due to the procedural relationship between acquiring and applying knowledge and knowledge transfer identified in Todorović et al. (2015)'s study. However, in **Table 3**, the correlation coefficient between the two explanatory variables is below the 0.9 significance level identified in previous literature (Batrancea, 2022; Lacasa et al., 2015). Thus, it may be concluded that the risk of multicollinearity is low and would not affect the regression analysis. Multicollinearity will again be controlled with the variance inflation factor (VIF) during regression analysis for explanatory variables and response variables.

In **Table 4**, for instrumental variables, the highest significant correlation is observed between Publ Eval and Dat Coll Prog, while the lowest significant correlation is observed between Theo Cha and Skill Labr. Since all correlation coefficients are below the 0.9 significance level, the risk of multicollinearity is low (Batrancea, 2022; Lacasa et al., 2015). Multicollinearity will again be controlled with the variance inflation factor (VIF) during regression analysis for instrumental variables and explanatory variables.

4.3. Regression Analysis

4.3.1. The Relation of the Response Variable to the Explanatory Variables (H0.1)

The actual intercept of regression is calculated by decreasing all explanatory and instrumental variable results by Equation (1). The adjusted regression equation for each final regression analysis table is the following

$$y = \alpha + \beta_1 (x_1 - 1) + \beta_2 (x_2 - 1) = (\alpha - \beta_1 - \beta_2) + \beta_1 x_1 + \beta_2 x_2 . \quad (1)$$

The adjusted actual intercept, therefore, would be calculated as

$$y = \alpha - \beta_1 - \beta_2 = 33.694 - (-3.497) - 0 = 37.191. \quad (2)$$

1) Variable Significance

First, in Table 5, the VIF test is done on the two explanatory variables acquire and apply knowledge (Acq. & App.), and transfer knowledge (Impr. Trans.). Both VIF values are below the caution value of 5 and the standard certain value of 10 identified in previous literature (O'brien, 2007; Sureiman & Mangera, 2020), indicating no multicollinearity between the two explanatory variables. Since there is no multicollinearity risk, I proceed with the analysis using

Table 3. Correlation matrix of the explanatory variables for the social organisations.

	Acq. & App.	Impr. Trans.
Acq. & App.	1	
Impr. Trans.	0.830	1

Table 4. Correlation matrix of the instrumental variables for the social organisations.

	Cust. Relat.	Mark. Share	Skill. Labr.	Theo. Cha.	Dat. Coll. Prog.	Publ. Eval.	Ext. Org.
Cust. Relat.	1						
Mark. Share	0.473	1					
Skill. Labr.	0.203	0.278	1				
Theo. Cha.	0.328	0.133	0.021	1			
Dat. Coll. Prog.	0.396	0.494	0.218	0.271	1		
Publ. Eval.	0.303	0.271	0.263	0.525	0.648	1	
Ext. Org.	0.108	0.347	0.361	0.300	0.367	0.478	1

Table 5. Initial regression analysis on the relation between the response variable and explanatory variables.

	Significance F				
Regression	0.03031853				
	Coefficients	Standard Error	t Stat	*p*-value	VIF
Intercept	[1]$\alpha = 34.6173992$	*10.7739831*	*3.2130549*	*0.00482206*	-
[2]x_1 Acq. & App.	[3]$\beta_1 = 4.15848886$	3.03197045	1.37154663	0.18706079	3.221391386
[2]x_2 Impr. Trans.	[3]$\beta_2 = -7.1097231$	2.96206582	-2.4002583	0.02741233	3.221391386

1. α = coefficient of intercept. 2. x_n = explanatory variable *n*. 3. β_n = coefficient of explanatory variable *n*. Significance F is calculated from the F value.

both explanatory variables.

In Table 5, the initial regression analysis of the relation of response variable to the explanatory variables reveals Significance F (Sig. F = 0.030), computed from the F value, to be below the common 0.05 significance level identified in previous literature (Mathews, 2018), indicating a low probability that the results are not statistically significant. This suggests that acquire and apply (project knowledge) and transfer (knowledge) acting together have a significance on the response variable (Sureiman & Mangera, 2020). However, the relation of the response variable to the explanatory variable acquire and apply is not confirmed since it has a p-value highly above the standard significance level ($p = 0.187$). This generates the need to take out the variable acquire and apply and re-run the regression.

In Table 6, the final regression analysis confirms the significance of variable transfer (of knowledge) ($p < 0.05$). The coefficient (<0) shows that increased ability to transfer (knowledge) leads to decreased time to achieve the spread stage (response variable), or a faster rate to achieve the spread stage.

2) Result Interpretation

In Table 6, the calculated intercept ($p < 0.05$) estimates that among the organisations surveyed if the organisation rated itself as having no ability to transfer (knowledge), the organisation would have spent 37.2 months before it could achieve the spread stage.

The coefficient of variable transfer (−3.497) shows that within the questionnaire's ten levels of the organisation's ability to transfer knowledge from past projects to improve future projects, a one-unit increase in the ability to transfer knowledge leads to 3.5 months decrease in the time required for the organisation to achieve the spread stage of the RE framework, which translates to a significant and considerable increase in the efficiency and effectiveness in the organisation's delivery of its rippled social impact. (If, for instance, the organisation only rated themselves as half able to transfer past knowledge, they would roughly be using 17.5 months less to achieve the spread stage and start social systematic change). This means that the variable transfer is not only confirmed but is also strongly significant and influential to the response variable.

Table 6. Final regression analysis on the relation between the response variable and explanatory variables.

	Significance F			
Regression	0.02068974			
	Coefficients	Standard Error	t Stat	p-value
Intercept[4]	$\alpha = 33.6937155$	*9.50985358*	*3.54303199*	*0.00217236*
Adjusted intercept	$\alpha = 37.191$	-	-	-
x_2 Impr. Trans.	$\beta_2 = -3.4968923$	1.38575142	−2.5234629	0.02068974

4. Since the questionnaire asked respondents to grade their Impr. Trans. explanatory variable on a scale of 1 to 10, the intercept of the final regression analysis is calculated by decreasing all explanatory variable data by 1.

4.3.2. The Relation of Part 1 Explanatory Variable to Its Instrumental Variables (H1-3)

1) Variable significance

Firstly, in Table 7, the VIF test for all three variables, customer relationships (Cust. Relat.), Market share (Mark. Share), and Skilled labour (Skill. Labr.), are below the caution value of 5 and the standard certain value of 10 (O'brien, 2007; Sureiman & Mangera, 2020), indicating no multicollinearity between the three instrumental variables. Since there is no multicollinearity risk, I proceed with the analysis using all three instrumental variables.

In Table 7, the initial regression analysis on the relation of the Part 1 explanatory variable to its instrumental variables disproves market share's significance due to its exceedingly high p-value ($p = 0.703$). Moreover, the coefficient (−0.049) is negative, which contradicts with H2. As a result, variable market share is excluded from the second regression.

In Table 8, the second regression shows a Significance F very close to the lowest significance level of 0.01 ($p = 0.010$) (Mathews, 2018), which suggests that the variables customer relationships and skilled labour acting together is significant in influencing the Part 1 explanatory variable (the ability to acquire and apply knowledge). However, even with variable market share excluded the individual variable skilled labour still has $p > 0.05$ ($p = 0.142$), disproving the significance of skilled labour.

In Table 9, the final regression confirms the significance of H1 ($p < 0.05$). Moreover, the significance is less than the significance level $p = 0.01$, suggesting that customer relationships is highly significant to the ability to acquire and apply knowledge.

Table 7. Initial regression analysis on the relation between Acq. & App. and elements of CSF and KPI.

	Significance F				
Regression	0.02743607				
	Coefficients	Standard Error	t Stat	p-value	VIF
Intercept	*2.79399976*	*1.37424219*	*2.03312034*	*0.0506789*	-
Cust. Relat.	0.42931235	0.17906399	2.39753595	0.02271727	1.2970158
Mark. Share	−0.0492736	0.12825323	−0.38419	0.70346042	1.34780752
Skill. Labr.	0.18062491	0.1177432	1.53405814	0.13515916	1.09143933

Table 8. Second regression analysis on the relation between Acq. & App. and elements of CSF and KPI.

	Significance F			
Regression	0.01034409			
	Coefficients	Standard Error	t Stat	p-value
Intercept	*2.82601831*	*1.35332002*	*2.08821141*	*0.04482184*
Cust. Relat.	0.39885866	0.15841048	2.51788042	0.01700633
Skill. Labr.	0.17108046	0.11354927	1.50666279	0.14170627

Table 9. Final regression analysis on the relation between Acq. & App. and elements of CSF and KPI.

Regression	Significance F 0.0078783			
	Coefficients	Standard Error	t Stat	*p*-value
Intercept	*3.92948718*	*1.1520701*	*3.41080564*	*0.00172692*
Adjusted intercept	*3.482*	-	-	-
Cust. Relat.	0.44723866	0.15807865	2.829216	0.0078783

2) Result Interpretation

In Table 9, the intercept of the final regression ($p < 0.05$) is calculated to be 3.482, following Equation (1). This suggests that had the organisation graded itself as completely not using customer relationships as its CSF, its level of being able to acquire and apply knowledge (for its projects) would be 3.5 out of a scale of 1 to 10. However, since both the level to which the organisation used customer relationships as a CSF and the level to which the organisation is able to acquire and apply knowledge are assessed on a quantified scale of 1 to 10, the mere number 3.5 for the ability to acquire and apply knowledge does not demonstrate the exact ability and only shows that the ability is low.

The coefficient of the variable customer relationships is mildly positive (0.447). This confirms that customer relationships has a positive effect on the acquisition and application of knowledge, since as the instrumental variable increased, the explanatory variable increased. This is in line with Keizer et al. (2016)'s suggestion that conventional CSF could also be important for social impact projects. The value 0.447, however, cannot suggest the exact degree to which the instrumental variable affects the explanatory variable, the reason is the same as above.

4.3.3. The Relation of Part 2 Explanatory Variable to Its Instrumental Variables (H4-7)

1) Variable significance

Again, in Table 10, the VIF test for all four variables, Theory of change (Theo. Cha.), Data collection program (Dat. Coll. Prog.), Publicise evaluation action (Publ. Eval.), and External organisation (Ext. Org.), are below the caution value of 5 and the standard certain value of 10 (O'brien, 2007; Sureiman & Mangera, 2020), indicating no multicollinearity risk between the four variables. Thus, I proceed with the analysis using all four instrumental variables.

In Table 10, the initial regression analysis shows that data collection program and publicise evaluation action are very statistically insignificant ($p > 0.25$) and thus disproves the significance of data collection program and publicise evaluation actions on the transfer of knowledge. Notably, however, the significance F is well below the 0.01 level of significance ($p = 0.003$), meaning that though data collection program and publicise evaluation actions are rejected, the four variables—theory of change, data collection program, publicise evaluation action, and external organisation—acting together has a very high significance on the organisation's ability to transfer knowledge.

In Table 11, the final regression, with variables theory of change and external organisation retained, still has a Significance F below the lowest 0.01 level of significance (p = 0.001) (Mathews, 2018). This means that theory of change and external organisation acting together is extremely significant to the Part 2 explanatory variable. In addition, theory of change has an individual p-value below the 0.01 significance level (p = 0.007) and external organisation has an individual p-value below the 0.05 significance level (p = 0.048). This confirms the significance of theory of change and external organisation in transferring knowledge.

2) Result Interpretation

In Table 11, the intercept of the final regression (p < 0.01) is 2.846, following Equation (1). However, same as the result for H1-3, the intercept is not meaningful in its pure value since it is only a grade between 1 and 10. It does, however, demonstrate that had the organisations considered themselves completely neglecting theory of change and external organisation in their evaluation approach, they would have considered themselves to have a quite low ability to transfer past knowledge.

The coefficient for theory of change is 0.463 and for external organisation is 0.195. Since both values are positive, theory of change and external organisation both have a positive effect on the transfer of knowledge. The coefficients also suggest that theory of change is more influential than external organisation. This is in line with the study of Weiss et al. (1995) and Connell & Kubisch (1998), who suggest that theory of change could be a more suitable evaluation method for community initiative projects. The significance of the employment of external organisation to evaluate performance is also in line with the findings of Gugerty and Karlan (2018) and Keizer et al. (2016).

Table 10. Initial regression analysis on the relation between Impr. Trans. and strategies of measuring impact.

	Significance F				
Regression	0.002997838				
	Coefficients	Standard Error	t Stat	*p*-value	VIF
Intercept	*2.068098548*	*1.29749305*	*1.59391879*	*0.12143708*	-
Theo. Cha.	0.392754674	0.18083715	2.17186936	0.03790083	1.40473375
Dat. Coll. Prog.	0.173030632	0.15989674	1.08213986	0.28781227	1.75766615
Publ. Eval.	0.056738619	0.17780411	0.31910747	0.75185641	2.40764706
Ext. Org.	0.138973299	0.10283586	1.35140892	0.18666794	1.3136944

Table 11. Final regression analysis on the relation between Impr. Trans. and strategies of measuring impact.

	Significance F			
Regression	0.000887382			
	Coefficients	Standard Error	t Stat	*p*-value
Intercept	*3.50360952*	*1.02873817*	*3.40573494*	*0.00179506*
Adjusted intercept	*2.846*	-	-	-
Theo. Cha.	0.463044994	0.16104865	2.87518704	0.0071239
Ext. Org.	0.195076628	0.09470302	2.05987749	0.04762136

5. Discussion

5.1. The Explanatory Variable Is Significant to the Response Variable

The first analysis (Table 5 & Table 6) confirms Part 2 of H0.1 (explanatory variable transfer), which is that the higher the organisation's ability to transfer past knowledge for future projects, the higher the rate at which the organisation is able to achieve the "spread" stage of the RE framework. However, Part 1 of H0.1 (explanatory variable acquire and apply) is not confirmed. On the other hand, the confirmation of Part 2 of H0.1 suggests that the explanatory variable of Part 1 of H0.1 could still be significant to DV, although Part 1 is not directly confirmed. This is because acquire and apply comes before transfer in a knowledge management process identified in previous literature (Kulkarni et al., 2006; Todorović et al., 2015). This is also confirmed by the data, for the significance F confirms that when acting together, both Part 1 and Part 2 of H0.1 are significant to the DV ($p < 0.05$). As a result, transfer of knowledge is directly related to and is very significant to the efficiency and effectiveness of the organisation's delivery of its rippled social impact. It is also notable that the acquisition and application of project knowledge is likely to be indirectly significant to the efficiency and effectiveness of delivering an organisation's rippled social impact (Todorović et al., 2015). On the other hand, since Todorović et al. (2015)'s research did not focus specifically on social interest projects nor on social impacts as the definition of project success, there is a chance that the conventional knowledge management model does not apply to social interest projects—though the chance of this is low considering the fundamental theory behind knowledge management is a form of resource management, which is important for social interest projects too (Kulkarni et al., 2006; Todorović et al., 2015). Despite this, further research could be done on this area: confirming that the standard flow of knowledge management model applies to social projects.

It is also notable that transfer (of knowledge) is found to be very significant in enhancing the efficiency and effectiveness of the social impact project to deliver its social impact, which is in line with past research done on conventional business projects.

5.2. The Elements of CSF and KPI Are Partially Significant to the Explanatory Variable

The regression analysis shown in Tables 7-9 disproves H2 and H3 but proves H1. This is not entirely in line with most previous literature, since customer relationships, when compared with market share and skilled labour employment, is not usually the primary and commonest CSF or KPI (Keizer et al., 2016). However, it is worth noting that the measurement of impact differs from measurements of commercial business success. Social impact is measured by the number of people that are substantially influenced by the projects and the degree of the influence, instead of by the mere vastness of the population that the

project reaches (Cahalane, 2023). Individual customer experience, therefore, could be more important when it comes to the acquisition and application of knowledge of social impact projects.

Despite the rejection of H2 and H3, it is notable that when acting together, customer relationships and skilled labour employment are both very relevant to the organisation's ability to acquire and apply knowledge (initial regression significance $F < 0.05$). This is in line with previous literature. Market share, however, is not positively correlated with the ability to acquire and apply knowledge.

5.3. The Strategies of Measuring Impact Are Partially Significant to the Explanatory Variable

The regression analysis shown in **Table 10**, **Table 11** disproves H5 and H6 but proves H4 and H7. Moreover, theory of change (H4) is found to be very significant in positively influencing the transfer of knowledge. This is in line with past literature. The confirmation of H7 also suggests that the employment of an external organisation to help conduct impact evaluation has a positive effect on the transfer of knowledge. This is reasonable given that such external organisations could have more specialty in impact evaluation, possess more resources, and would charge less fee than the amount would be invested had the organisation chosen to evaluate impacts on its own. H6's rejection is reasonable since the publicity of impact measuring actions might be able to enlarge the impact of the organisation by attracting more funds (Abramson & Billings, 2019; Battilana & Lee 2014; Dzomonda, 2021; Keizer et al., 2016), but it is not directly relevant to the ability of the organisation's transfer of knowledge—the organisation could have an ineffective knowledge management system but still be able to publicise its impact measuring actions.

Similar to the case of H1-3, when acting together, theory of change, data collection program, publicise evaluation action, and external organisation are all very relevant to the organisation's ability to transfer knowledge. This is in line with previous literature.

5.4. Implication to Central Hypothesis

It is concluded that Part 2 of H0.1 is proven, and Part 1 of H0.1 is not proven, yet both transfer and acquisition and application of knowledge have a positive effect on the efficiency and effectiveness of the social impact project to enhance its social impact.

At the same time, customer relationships is individually significant in enhancing the acquisition and application of knowledge, and when acting together, customer relationships and skilled labour employment are both very relevant to the organisation's ability to acquire and apply knowledge. Therefore, using customer relationships as a CSF on its own could have a positive effect on the efficiency and effectiveness of enhancing social impact. Additionally, using customer relationships and skilled labour employment as CSF collectively could have a

significant effect on the efficiency and effectiveness of enhancing social impact.

Moreover, development of theory of change and employment of external organisation are both individually significant in enhancing the transfer of knowledge. When acting together, theory of change, data collection program, publicise evaluation action, external organisation are all very relevant to the organisation's ability to transfer knowledge. Therefore, developing a theory of change and employing external organisations for impact measurement could have a positive effect on the efficiency and effectiveness of enhancing social impact. And theory of change, data collection program, publicise evaluation action, and external organisation collectively are very influential to the efficiency and effectiveness to enhance social impact.

6. Limitation

6.1. Limitations in Data

This paper was not able to control for some of the variables that may interfere with the relationship between the instrument variable and the explanatory variable, and between the explanatory variable and response variable. For instance, the scale of the organisation, whether the organisation has political connections or collusions, and the market concentration of the industry could all strongly influence the value of the response variable. However, variables like these are not controlled, due to the limited access to information and limited contact with the organisations surveyed.

The limited control of interfering variables could also be the reason why H2, H3, H5, and H6 are rejected. This suggests that less than 50% of the values in the two explanatory variables are explained by the seven instrumental variables. Therefore, other factors (e.g., the time the company has been using the CSF and KPI or the impact measuring strategies, the amount of labour directed to performance and impact measurement, the establishment of a knowledge management system) might influence the explanatory variable and interfere with the effect of the instrumental variables (H1-7 could have all been confirmed had the controlled variables been controlled appropriately, as the significance F for both initial regressions show that when acting together, all the variables are very significant to the ability to acquire and apply or transfer knowledge). As a result, further research should be done when it becomes possible to control for the interfering variable and test the validity of H1-7 again.

6.2. Limitations in Method

The framework used by this paper focuses tightly on knowledge management. However, the effectiveness and efficiency of the project to deliver its social impact could be influenced by more direct factors irrelevant to knowledge management: the organisation's active attention to upholding social change and facilitating social knowledge spread could significantly and directly lead to enhanced social impact. Further research should be done on factors like this which could

pose a more direct effect on the impact of social interest projects to better facilitate the development and impact of social enterprises, non-profits, and other organisations with social interest projects.

Moreover, the study relies heavily on subjective data generated by surveys. Although this is common for social science studies, the subjectiveness of the respondents could mildly influence the data, since every person could perceive the value of a number differently when answering surveys (some may think a level of 5 out of 10 is average, while some may think it is below average). Therefore, further research could be done by including more samples to minimise the effect of subjective data.

7. Conclusion

This paper finds that enhanced transfer of project knowledge can significantly enhance the rippled social impacts of social interest projects. Moreover, acquisition and application of project knowledge is also relevant to enhanced social impact. Secondly, this paper confirms that using customer relationships as a CSF, defining the social impact theory of change, and using external organisations for impact evaluations all have a positive impact on the rippled social impact of social interest projects; defining theory of change and customer relationships are especially significant. Lastly, the paper finds that when acting together, the CSFs customer relationships and skilled labour employment are both significant to enhanced social impact; in addition, when acting together, defining the theory of change, establishing a data collection monitoring program, publicizing impact evaluation actions to stakeholders, and using external organisations for impact evaluation are all significant to enhanced social impact.

The implications of this research study apply to most social organisations or social impact projects worldwide. Firstly, measuring impact and performance positively impacts knowledge management, which in turn enhances the project's social impact. This may also benefit the corporate reputation and finance (Arshad et al., 2012; Batrancea et al., 2022). Therefore, social organisations should actively measure their social impact using effective indicators and strategies. Secondly, the framework established in this paper (**Figure 4**) is proven true for the organisations surveyed, so social organisations may consider utilising this framework to measure performance and impact to resolve their current difficulties in terms of enlarging their social impact and sourcing fund, killing two birds with one stone.

Regarding policy recommendations, establishing global social impact measurement standards is important for encouraging more social impact evaluation, which can promote better social impact in businesses. Industries should also enhance their social impact measurement infrastructure, such as online connections between social organisations and external performance measurement organisations or consultancy firms. Banks and financial institutions should increase their impact investments and financial support for impact measurement

purposes. In the long term, Batrancea et al. (2021) identified that structural changes usually lead to inevitable economic losses. Thereby, if world businesses are to eventually change from profit-driven business models to social and environmental-centred models (as this study, along with other studies on business social responsibilities, tries to promote), then policymakers must brace their economies accordingly for potential losses during the process of transition (e.g. Unemployment in the traditional profit-driven business sectors merits scrutiny, through worker re-skilling, better worker-occupation connection, etc.).

However, as with all studies, this research study has certain limitations. Firstly, this paper is not able to control for some of the variables that may interfere with the relationship between the instrument variable and the explanatory variable, and between the explanatory variable and response variable, causing some hypotheses to be rejected. Moreover, the sample only includes 35 valid observations. Future studies could design methods that can better control the control variable and include more sample observations. Secondly, the study relies heavily on subjective data generated by surveys. This limitation is common for most survey-based studies, so future studies may consider basing their results on experimental observations. Thirdly, the instrumental variables tested could be widened, by including more CSFs, KPIs, and performance measurement strategies that may positively influence project social impact through knowledge management.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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