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| 轉譯（Translation）過程 | 問題化 | 利益綑綁 | 徵召 | 動員 |
| 預期達成目標 | * 解決青年失業問題 * 提高高齡工作者的社會價值 | * 吸引Takers 和 Givers到平台 | * 鼓勵Givers積極參與 | * 維持網絡穩定性 * 擴大網絡影響力 |
| 技術可供性 | 擷取  Appropriative Affordance | 錨定  Anchoring Affordance | 根源  Rooted Affordance | 自我強化  Self-enforcing Affordance |
| IT 人造物銘印 | * 高級配對演算法(基於 AI ) * 反饋機制(持續的) | * 平台提供工具   + 以確保Givers和Takers需求一致性 | * 平台建立Giver achievement mechanism   + 加強Givers和Takers間聯繫 | * 平台動員參與者的核心機制   + 知識共享   + 學習機制 |
| 可供性實現 | 開發並內部測試「Be A Giver」平台 | 平台推出了兩個利益綑綁裝置(devices)：   * Resume Coach * Resume Clinic | 平台引入Giver achievement system：   * 幫助Givers提升其社會角色和身份 | 平台引入Intelligent recommendation system，用於：   * 知識共享 * 學習系統 |
| 實質具體成果 | 平台根據反饋和Takers 的需求調整演算法：   * 提升Takers曝光度 * 加強Takers與Givers互動 | 平台將Givers和Takers 進行配對，同時提供個人化指導和資源，幫助Takers 提升技能 | Givers可以從幫助他人中獲得成就感和社會價值 | 平台已建立可持續的知識共享生態系統，使其他求助者 (Help Seekers) 受益 |

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| The analytical lens- Actor-network Theory | | |  |
| 理論來源 | 中文 | 英文 | 備註 |
| (Sarker et al., 2006). | ANT可作為Socio-technical (社會科技論觀點)的分析鏡頭，因為ANT用於分析科技與人類過程間的相互作用 | Also, actor-network theory (ANT) is employed as our analytical lens since ANT is a socio-technical perspective for analyzing the interactions between technology and human processes | An Actor-Network based Technology Affordances Analysis for Digital Social Innovation: The Case of the Be A Giver Platform |
| (Faraj et al., 2004). | ANT 方法有助於創建一種全面的語言，以描述技術、參與者和社會安排如何通過時間的推移、及通過它們(行動者間)的互動　不斷影響和塑造彼此 | The ANT approach facilitates the creation of a comprehensive language to describe how technology, actors, and social arrangements continually influence and shape one another through their interactions over time | “ |
| (Stanforth, 2006)  (Elbanna, 2006) | ANT 其中的關鍵主題之一，就是當Actors進行利益談判（Stanforth，2006 ）和行動者們為實現特定目標而形成聯盟時非常適用 | A key theme of ANT is that it is highly applicable when actors negotiate interests (Stanforth, 2006) and the formation of alliances by an actor to help achieve specific goals (Elbanna, 2006) | “ |
| (Sarker et al., 2006) | 第三，ANT 並沒有將非人類行為者（例如IT工件）排除在分析之外，  所以能夠更明確地判斷數位解決方案在社會技術過程中的促進或限制作用 | ANT does not exclude nonhuman actors (such as IT artifacts) from the analysis, allowing for a more explicit examination of the enabling or restricting role of digital solutions in a sociotechnical process | “ |
| (Korsgaard, 2011) | ANT 強調  分散式能動性、非線性過程，以及人造物的持續（再）創造 | ANT emphasizes distributed agency, non-linear processes, and the continuous (re-)creation of artifacts | “ |
| Callon （1986）  Latour （1987） | ＡＮＴ也稱為翻譯社會學  Callon （1986） 和 Latour （1987） 試圖 解決日益複雜 的 社會技術世界。 | Ｔhe analytical lens of the current study is actor-network theory, also known as the sociology of translation, an interpretive theory initiated by Callon (1986) and Latour (1987) with an attempt to address the increasingly complex sociotechnical world. | “ |
| (Matthewma, 2011) | ANT 是在科學技術研究 （STS） 領域開發的主要方法，旨在避免對科學和技術發展進行純粹的社會（社會建構）和純粹的技術解釋（技術決定論） | ANT is the main method developed in the field of Science and Technology Studies (STS), which aims to avoid purely social (social construction) and purely technical explanations (technological determinism) of scientific and technological development (Matthewma, 2011) | “ |
| (Stanforth, 2007) | 探討了將技術融入社會理論的問題 | while STS researcher mainly explores the issue of integrating technology into social theory | “ |
| (Callon, 2001) | ANT透過Actor的概念來強調能動性以及微觀分析以及網路的概念討論結構和宏觀分析 | The term ANT combines two concepts that are often seen as opposing: “actor” emphasizes agency and micro-analysis, while “network” focuses on structure and macro-analysis | “ |
| (Elbanna, 2006). | 參與者如何結成聯盟以實現特定目標 | ANT mainly discusses how actors form alliances to achieve specific goals | “ |
| (Hald & Spring, 2023) | ANT 強調建立、維護和解構社會技術網路的過程 | ANT emphasizes the process of establishing, maintaining, and deconstructing sociotechnical networks (Hald & Spring, 2023). | “ |
| (Latour, 1987). | 稱為廣義對稱性 | The most distinctive feature of ANT is that it gives equal status to society (human) and material (non-human) in the analysis of how networks are established, maintained, and deconstructed. This is called generalized symmetry in ANT literature. | “ |
| (Sarker et al., 2006) | 人類、人類集體、意識形態、方法論、概念、文本、圖形表示、電腦和其他技術工件 | ANT does not exclude non-human actors from participating in the analysis. Accordingly, examples of actors include humans, human collectives, ideologies, methodologies, concepts, texts, graphical representations, computers, and other technical artifacts | “ |
|  | ANT認為社會現象被視為不同行動者間複雜互動所產生的結果 | In actor-network theory, social phenomena are viewed as the outcome of complex interactions among different actors | “ |
| (Gao, 2005) | 銘印和轉譯 | Inscription and translation are the core concepts of ANT and are also the key concepts for understanding and calibrating the interests of all actors to achieve consistency and form an actor-network | “ |
| Wickramasinghe, 2017) | 銘印（Inscription）  指的是創造各種人造物（如技術文件、溝通工具、軟體、使用者需求、法規等）的過程，這些東西的目的在於「確保某些行動者的利益」（Muhammad & Wickramasinghe, 2017）。  換句話說，非人行動者（如技術、設備、系統）的利益，其實反映了設計這些東西的人的利益（Sarker et al., 2006）。  也就是說，設計者在技術或制度裡內建了一些意圖，讓使用者在不知不覺中按照設計者預設的方式行動。 | Inscription is a process of creating artifacts (e.g., technical texts and communication artifacts, writing, software, user requirements, or legislation) that focuses on securing the interests of certain actors (Muhammad and Wickramasinghe, 2017) | “ |
| (Sarker et al., 2006) | 非人行動者（如技術、設備、系統）的利益，其實反映了設計這些東西的人的利益 | The interests of non-human actors can be equated with the interests of their designers of an artifact (Sarker et al., 2006) | “ |
| 轉譯 | 問題化Problematization：  定義問題(使其利益相同  與定義行動者 | Problematization is the first initial stage of deliberation, where the focal actor (or initiator of the network) frames the problem and defines the other actors that are consistent (not identical) with their own interests. | “ |
| Callon (1986) | 焦點參與者將提出問題的可能解決方案，並綜合這些解決方案，  通過建立強制性經過點 （OPP） 達成初步共識，從而使自身變得不可或缺（Callon， 1986）。 | The focal actor will propose possible solutions to the problem and synthesize these solutions to reach a preliminary consensus by establishing an obligatory passage point (OPP), thereby making itself indispensable (Callon, 1986). | “ |
| (Sage et al., 2020) | 假設定義中所有參與者及其利益圍繞著一個共同的問題和解決方案 | In short, at this stage, the hypothetical definition of all actors and their interests revolves around a common problem and solution (OPP) (Sage et al., 2020). | “ |
| (Sarker et al., 2006) | OPP是由焦點行動者設立的情況或流程使所有其他行為者能夠實現共同的關注點，從而成功追求他們共同的利益 | In a broad sense, OPP refers to the situation or process set by the focal actor that enables all other actors to achieve a shared focus and thus successfully pursue the interests they share (Sarker et al., 2006). | “ |
|  | 利益綑綁 |  | “ |
| (Callon, 1986) | 利益綑綁：涉及到與其他行動者通過協商以接受焦點行動者的定義，且因彼此利益而形成聯盟 | Interessement is the second stage of translation, which involves negotiating with the other actors to accept the focal actor’s definition (Callon, 1986) | “ |
| (Mähring et al., 2004) | 利益綑綁：這必然涉及利用激勵措施，使行動者們願意克服障礙來成為ＡＮＴ網絡中的參與者，甚至使他們脫離其他競爭網絡 | Interessement is actions that arouse the interest of other actors (Elbanna, 2006). This necessarily involves creating incentives (interessement devices) for actors to be willing to overcome the barriers to becoming part of an actor-network (Mähring et al., 2004) or even to leave other competing networks | “ |
| (Callon, 1986). | 成功的利益捆綁：證實了問題化階段構想的聯盟關係是有效的 | Successful interessement confirms that the alliance relationship conceived during the problematization phase is effective (Callon, 1986). | “ |
|  | 徵召：是轉譯過程的第三階段，涉及與演員協商角色並協調演員。 | Enrollment is the third stage of translation and involves negotiating the roles with actors and coordinating the actors. | “ |
| (Denis et al., 2007) | 關鍵行動者們的代表會被指派，同時會為了建立聯盟而聚集起來 | Representatives of key actor groups are assigned and brought together to build coalitions (Denis et al., 2007) | “ |
| (Muhammad and Wickramasinghe, 2017). | 如果行動者們願意接受網絡中的角色（與執行任務），這會促使更多聯盟者的加入 | If actors are willing to accept a role in the network, more allies will join (Muhammad and Wickramasinghe, 2017). | “ |
| (Sarker et al., 2006) | 利益綑綁成功，也意味者徵召也會成功執行 | If interessement are successful, it means that enrolment is also successful (Sarker et al., 2006) | “ |
| (Sage et al., 2020). | 網路內不同參與者之間的角色和利益是多邊協調的 | In this phase, roles and interests among different actors within the network are multilaterally coordinated (Sage et al., 2020) | “ |
| (Stanforth, 2007). | 關鍵參與者定義了要扮演的角色，以及其他人在這些網路中相互關聯的方式 | In the case of St. Brieuc Bay scallops, key actors defined the roles to be played and the ways in which others related to each other in these networks (Stanforth, 2007 | “ |
|  | 一旦行動者之間達成協議，承諾就需要通過銘刻記錄到社會系統的共同記憶中 | Once an agreement is reached between actors, the commitment needs to be recorded into the shared memory of the social system through inscription (i.e., "stabilization" | “ |
| (Sarker et al., 2006). | 銘印包含創建文字（軟體手冊）及科技人造物（例如安全系統） | Inscription strategies include creating text (e.g., software manuals) or technical artifacts (e.g., security systems) (Sarker et al., 2006). | “ |
| (Callon, 1986)  Sage et al., 2020 | 動員  號令動員：主要在說明確保行為者代表所有行為者的利益，並且有一個穩定的行動者網絡和黑盒子 | Mobilization is the final stage of the transition. Mobilization by command is about ensuring that actors represent the interests of all actors (Callon, 1986) and that there is a stable actor-network and black box (Sage et al., 2020). | “ |
| (Walsham, 1997) | 黑盒子是一個技術隱喻，用於描述穩定且通常具有不可逆性的網路 | The black box is a technological metaphor that describes a network that is stable and usually has irreversibility (Walsham, 1997). | “ |
| Callon, 1986). | 動員是個體（或實體）用來確保與不同集體代言人足夠代表該個體，而不會被團體背叛的一組方法 | Mobilization is a set of methods that entities use to ensure that spokespeople associated with various collectives are able to represent them and not be betrayed by them (Callon, 1986) | “ |
| (Muhammad and Wickramasinghe, 2017 ) | 通過說服行動者的轉譯過程和說服參與者彼此是有共同利益的，從而維護網路，而「招募」可以成為積極的支援（或方式） | Recruitment can become active support by convincing actors that the translation process and the interests of the actors are the same, thus maintaining the network (Muhammad and Wickramasinghe, 2017 | “ |
| (Elbanna, 2006). | 轉譯並非被明確定義的線性步驟 | It is important to note that translation does not necessarily proceed in well-defined linear steps (Elbanna, 2006). | “ |
| (Callon, 1986). | 時機（timing）與策略（strategy）是相互重疊 | In fact, timing and strategy overlap (Callon, 1986). | “ |

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| The Theoretical Lens- The Affordance of IT | | |  |
| 理論來源 | 中文 | 英文 | 備註 |
| (Leonardi, 2011; Markus & Silver, 2008). | 可供性 促使 研究人員 能夠更好地理解 技術與人類行為者 之間的關係 | the affordances lens has enabled researchers to better understand the relationship between technology and human actors | An Actor-Network based Technology Affordances Analysis for Digital Social Innovation: The Case of the Be A Giver Platform |
| (Majchrzak et al., 2016: 272) |  | Affordance Theory is “a lens that is particularly well suited to help IS scholars build theory about ICT use” | “ |
| Gibson (1977) | 「可供性」（affordance）這個概念最早由 Gibson（1977）提出，源自生態心理學，主要用來解釋動物如何感知環境。  」 | The concept of affordance, originally proposed by Gibson (1977), is rooted in ecological psychology and it explains how animals perceive their environment. | “ |
| Markus and Silver (2008) | Markus 和 Silver（2008）則將其定義為：「技術物件為特定使用者群體提供的目標導向行動可能性。 | Markus and Silver (2008) define affordances as "the possibilities for goal-oriented action afforded to specific user groups by technical object.” | “ |
| (Thapa and Sein, 2018)  (Faik et al., 2020).  Qureshi et al. (2021) | 這個概念已被應用於許多研究，例如遠距醫療（Thapa 和 Sein, 2018）以及社會變遷（Faik 等, 2020）。Qureshi 等人（2021）指出，「可供性」已成為研究組織實務中資訊系統設計與發展的熱門框架。 | The affordance concept has been used, for example, in studies of telemedicine (Thapa and Sein, 2018) and societal change (Faik et al., 2020). Qureshi et al. (2021) highlight that the concept of affordance has become a popular framework for examining the design and development of information systems within organizational practices | “ |
| (Leonardi, 2011). | 然而，技術本身具有物質特性，使其在不同情境下能夠支持各種可能的行動 | technologies have material properties that enable various possibilities for action, depending on the contexts in which they are used | “ |
| (Leonardi 2012, p. 29). | IT 的「物質性」指的是「其物理或數位材料被組織成特定形式，並能夠在不同時間與地點保持穩定」 | The materiality of IT refers to “the ways that its physical and/or digital materials are arranged into particular forms that endure across differences in place and time” (Leonardi 2012, p. 29) | “ |
| (Orlikowski & Iacono, 2001) | 資訊系統（IS）領域對「可供性」的關注日益增加，主要是為了理解 IT 的物質特性，以及它與社會情境之間的關係 | Accordingly, the growing interest in affordances within the IS field arises from a need to understand the material nature of IT and its relationship with the social context of use (Orlikowski & Iacono, 2001) | “ |
| (Faik et al., 2020) | 基於可供性的概念，我們認為，參與數位社會創新（DSI）的行動者必須探索技術所提供的社會創新行動可能性（Faik 等, 2020）。這種探索過程發生在他們與技術人造物的物質特性互動時。 | We argue that, based on the concept of affordance, actors involved in DSI must explore the possibilities for social innovation actions that they perceive within a technology (Faik et al., 2020); this exploration occurs as they interact with the material aspects of its artifacts | “ |
|  | 列舉Facebook作為例子：臉書具有參與溝通社群導向的輸入、互動與內容共享的可供性，進而因此社群(的概念)得以實現，無法保證使用者的使用方法皆相同。  可供性（affordances） 是指目標導向的行動無論是與社群互動相關，還是與數據儲存有關，皆是某一artifact為特定目的所提供的可能行為 |  | “ |
| (Thapa and Sein, 2018).  Strong et al. (2014)  (Strong et al., 2014) | 三重點：   1. 可供性通過感知來實現，且可供性實現可能出現連鎖反應而使新的可供性實現產生 2. 應聚焦在數位工具所能實現的結果，並非只關注在科技/技術的特性 3. 可供性實現（actualization process） 的過程涉及個體為了達成特定、即時且具體的目標，利用技術來實現一項或多項行動潛能的過程   全文：  具體而言，資訊技術（IT）的可供性（affordances） 會從被感知（perceived）轉變為被實現（actualized），而這些可供性的實現可能進一步促使新的可供性出現（Thapa & Sein, 2018）。這種觀點鼓勵研究者關注數位工具所促成的行動及其結果，而不僅僅是技術本身的特徵；這正是 Strong et al. (2014) 所提倡的可供性實現（affordance actualization） 的核心理念。  可供性實現（actualization process） 涉及個體為了達成特定、即時且具體的目標，利用技術來實現一項或多項行動潛能的過程（Strong et al., 2014）。 | Specifically, IT affordances move from being perceived to being actualized, and the actualization of these affordances can lead to the emergence of new ones (Thapa and Sein, 2018). This perspective encourages researchers to focus on the actions enabled by digital tools, as well as their outcomes, rather than just the features of technology; this is the essence of what Strong et al. (2014) advocate as affordance actualization. An actualization process involves the steps taken by individuals to realize one or more action potentials by utilizing technology to achieve specific, immediate, and concrete outcomes that support their objectives (Strong et al., 2014) | “ |
| Tim et al. (2018 | 也就是學姊將可供性的觀點拆成三點的原因：  （1） 技術可供性  （2） 實現過程  （3） 即時的具體結果 | Summarized by Tim et al. (2018), the affordance perspective provides explanatory power through three core constructs: (1) technological affordances, (2) the actualization process, and (3) immediate concrete outcomes. | “ |

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| Social Innovation and DSI | | |  |
| 理論來源 | 中文 | 英文 | 備註 |
| (Bonina et al., 2021) |  | In finding innovative solutions to pressing societal challenges, digital innovation appears as a ray of hope to solve societal problems | An Actor-Network based Technology Affordances Analysis for Digital Social Innovation: The Case of the Be A Giver Platform |
| Qureshi et al. (2021) |  | Qureshi et al. (2021) indicated that DSI involves utilizing digital technologies to develop and implement innovative products, services, processes, and business models aimed at improving the well-being and agency of socially disadvantaged groups or addressing social issues related to marginality, inequality, and social exclusion | “ |
| (Campomori & Casula, 2023) | 首先，現在人們普遍認為，社會創新取決於環境 | it is now widely acknowledged that social innovation depends on context | “ |
| (Voorberg et al., 2014)) | 參與：因為社會創新是一種開放式的參與流程 | engage: since social innovation is an open process of participation | “ |
| (von Schnurbein et al., 2023), | 提升 增強：合作是社會創新能成功的重要因子 | enhance: since cooperation is an important factor for the success of social innovations | “ |
| (Bonina, 2021) | 因為新數字技術的可負擔性  為以商業為導向的角度  來解決社會問題  創造了許多機會（Bonina，2021 年） | enable: since the affordability of new digital technologies has created numerous opportunities to address social problems from a business-oriented perspective | “ |
| (Sotarauta and Mustikkamäki, 2012; von Schnurbein et al., 2021) | 社會創新與改變若在沒有合作的情況下實施變革，通常會因為利益衝突而難以持續 | social innovations and changes that are implemented without collaboration are often difficult to sustain due to conflicting interests | “ |
| Phills et al. (2008) | 比現有解決方案更有效、更高效、更可持續或更公正的社會問題的新解決方案  ，並且創造的價值主要歸屬於整個社會，而不是個人。 | focusing on the solution, Phills et al. (2008) have defined social innovation as “a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals.” | “ |
| Voorberg et al. (2014) | 將社會創新定義為  「通過與相關利害關係人的參與、交流和協作的公開過程，創造旨在解決社會需求的長期成果，從根本上改變利害關係人之間的關係、立場和規則， 包括最終使用者，從而跨越組織邊界和管轄區。 | define social innovation as “the creation of long-lasting outcomes that aim to address societal needs fundamentally changing the relationships, positions, and rules between the involved stakeholders, through an open process of participation, exchange and collaboration with relevant stakeholders, including end-users, thereby crossing organizational boundaries and jurisdictions.” | “ |
| (von Schnurbein et al., 2021). |  | social innovation takes into consideration the relationships among stakeholders on a collective basis to improve people’s quality of life by addressing societal needs | “ |
| (Ziegler, 2017). |  | This research stream leads to a focus on “social innovation as a collaborative concept | “ |
| (Campomori & Casula, 2023) | 社會創新方法越來越多地被用於提供公共服務(政府的)，因為複雜的社會挑戰的發展需要新的多方實施結構和安排 | The social innovation approach is increasingly adopted by governments to deliver public services, as the development of complex societal challenges necessitates new multi-actor implementation structures and arrangements | “ |
| (Ziegler, 2017) | 整合了眾多學科和專業，涉及來自政府、民間社會和企業的行動者。 | Collaborative concepts integrate numerous disciplines and specialties, involving actors from government, civil society, and business | “ |
|  | 社會創新在集體基礎上考慮了利害關係人之間的關係，通過解決社會需求來提高人們的生活品質 |  | “ |
|  | 它不僅從政府的角度強調社會創新，而且從社區本身的角度強調社會創新 |  | “ |
| (Han et al., 2024). | 另一主流認為新興數位設計是組織的替代品 | Another stream aligns with the open call to view emergent digital design as a substitute for organizations. | “ |
| Qureshi et al. (2021) | Qureshi 等人（2021）提出，DSI 研究框架包含  內嵌式能動性、社會嵌入性與發掘問題與機會，  這些因素驅動 DSI，最終促成社會影響的擴展與系統層級的變革，以理解如何運用數位技術與平台來應對各種社會議題。 | propose that the DSI research framework includes embedded agency, social embeddedness, and problem opportunity identification, which lead to DSI and ultimately result in scaling social impact and systemic level changes to understand how digital technologies and platforms can be leveraged to address various social issues | “ |
| (Tim et al., 2021). | 科技技術在加速社會創新中扮演重要角色  強調了對數位社會創新概念的倡議，即強調其可持續發展的影響，  包括改善健康和福祉、促進環境永續、加強公民參與 | Apparently, technology plays a crucial role in accelerating social innovation. Recent research in information systems (IS) has highlighted various DSI initiatives and their impact on sustainable development, including improvements in health and well-being, promotion of environmental sustainability, and enhancement of civic engagement | “ |