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About the journal

The journal aims to address issues related to the third sector and community-based activities. The magazine therefore has the aim of spreading the culture of the third sector (voluntary organizations, social promotion associations, philanthropic bodies, social enterprises, mute aid companies, recognized and non-recognized associations, ecclesiastical bodies), the topics of interest are:

Social services

Health interventions and services

Education, health education and training

Safeguarding and improving environmental conditions

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University and post-university education

Organization and management of cultural, artistic or recreational activities of social interest

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The journal also welcomes contributions on medical activities or groups of citizens that have an impact on general well-being.

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Ecosistemi nei settori profit e non profit: comunanze e differenze

Ecosystems across Profit and Non-Profit Sectors: Shared Features and Distinctions

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Abstract

Scopo – Il presente studio ha l'obiettivo di analizzare l'applicazione del paradigma dell'ecosistema di business, originariamente sviluppato nel contesto profit, al settore non profit, evidenziando comunanze, differenze e lacune metodologiche tra i due ambiti. Il focus è comprendere come la metafora biologica dell'ecosistema possa essere efficacemente trasposta per interpretare le dinamiche collaborative del Terzo Settore, dove l'impatto sociale sostituisce il profitto come finalità primaria.

Metodologia – Lo studio adotta un approccio qualitativo comparativo di tipo concettuale. La revisione della letteratura è stata condotta su Scopus e Google Scholar, con un arco temporale compreso tra il 1993 e il 2024, ottenendo circa quaranta contributi selezionati. Le informazioni estratte sono state organizzate attraverso una matrice comparativa strutturata attorno a quattro

dimensioni analitiche — finalità, attori, strumenti di misurazione e orizzonte temporale — mediante codifica deduttiva e un processo iterativo di validazione interna tra gli autori.

Risultati – L'analisi evidenzia che, sebbene entrambi i modelli condividano i principi di co-evoluzione e interdipendenza, emergono differenze sostanziali. Negli ecosistemi profit la finalità è l'incremento della competitività attraverso la salute collettiva della rete; negli ecosistemi non profit prevale la generazione di impatto sociale collettivo. Gli attori si differenziano per ruolo: nei BE prevalgono keystone, dominator e niche player orientati al mercato; nei non profit emergono nuclei operativi, fondazioni, settore pubblico e imprese sociali, uniti da una missione condivisa.

Originalità – Il lavoro colma una lacuna nella letteratura proponendo una griglia comparativa omogenea tra ecosistemi profit e non profit, finora trattati in modo separato. Identifica inoltre aree critiche inesplorate, quali la trasposizione del ruolo del dominator nei non profit e la necessità di framework integrati che armonizzino efficienza economica e impatto sociale. Sottolinea infine l'urgenza di risposte normative strategiche a livello europeo per standardizzare la misurazione dell'impatto sociale sostenibile.

Parole chiave: Ecosistema di business, ecosistema Non-profit, analisi comparativa, Salute ecosistemica, Tassonomia Europea

Abstract

Purpose – This study aims to analyze the application of the business ecosystem paradigm, originally developed in the for-profit context, to the non-profit sector, highlighting commonalities, differences, and methodological gaps between the two domains. The focus is to understand how the biological metaphor of the ecosystem can be effectively transposed to interpret the collaborative dynamics of the Third Sector, where social impact replaces profit as the primary objective.

Methodology – The study adopts a qualitative comparative conceptual approach. The literature review was conducted on Scopus and Google Scholar, covering the period from 1993 to 2024, yielding approximately forty selected contributions. The extracted information was organised through a comparative matrix structured around four analytical dimensions — objectives, actors, measurement tools, and time horizon — using deductive coding and an iterative internal validation process among the authors. **Findings** – The analysis reveals that, although both models share the principles of co-evolution and interdependence, substantial differences emerge. In for-profit ecosystems, the objective is to enhance competitiveness through the collective health of the network; in non-profit ecosystems, the generation of collective social impact prevails. Actors differ by role: in business ecosystems, market-oriented keystones, dominators, and niche players predominate; in non-profit ecosystems, operational cores, foundations, the public sector, and social enterprises emerge, united by a shared mission.

Originality – This work addresses a gap in the literature by proposing a uniform comparative framework between for-profit and non-profit ecosystems, which have thus far been treated separately. It also identifies unexplored critical areas, such as the transposition of the dominator role in non-profit settings and the need for integrated frameworks that harmonize economic efficiency and social impact. Finally, it emphasizes the urgency of strategic regulatory responses at the European level to standardize the measurement of sustainable social impact.

Keywords: Business ecosystem, Non-profit ecosystem, Comparative analysis, Ecosystem health, European Taxonomy

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1. Introduzione

Il concetto di ecosistema di business è nato con l'intento di descrivere contesti in cui imprese diverse, pur mantenendo la propria autonomia, operano con dinamiche interdipendenti. Gli albori di questo concetto vanno collocati nel periodo in cui due colossi economici quali Microsoft e Walmart capirono che il loro destino era condiviso con quello degli altri membri della loro rete aziendale. Queste, che poi sono divenute consolidate multinazionali, capirono infatti che sarebbe stato possibile essere vincenti solo se si fosse continuato a sostenere ed incrementare la salute collettiva (Iansiti & Levien, 2004b) delle proprie reti di partners aziendali. Le due statunitensi nello specifico, sostenevano che piuttosto che concentrarsi sulle loro capacità interne, sarebbe stato importante enfatizzare le capacità delle reti nelle quali erano inserite. Nel tempo si cominciò quindi a considerare i propri partners più come membri di un ecosistema che come meri componenti di una comune supply chain (Iansiti & Levien, 2004a) e a capire i benefici reciproci che ne potevano derivare. Oggi molte industrie ormai si comportano come una rete interconnessa di organizzazioni, di tecnologie, di consumatori e di prodotti (Biancuzzi et al., 2024). Forse il più grande esempio di tale fenomeno è quello ricavabile analizzando il settore informatico. A differenza di quanto avveniva negli anni '60 e '70, periodo in cui era particolarmente diffusa l'integrazione verticale, oggi, e più precisamente da circa 20 anni, questa industria è divisa in un gran numero di segmenti che realizzano prodotti, tecnologie e servizi altamente specializzati. Questo è quindi un settore che oggi si caratterizza per l'alto grado di interconnessione e per la presenza di varie forme di modularità (Iansiti & Levien, 2004b).

È proprio a causa di questa struttura frammentata ma pur sempre interconnessa che nel tempo l'attenzione, e il punto focale su cui concentrarsi per poter competere, si sono spostati dalla gestione di risorse interne alla gestione e all'influenza sulle attività che sono al di fuori della diretta proprietà e controllo dell'impresa (Iansiti & Levien, 2004b). Ciò significa che il destino di molte organizzazioni

è legata assieme, e l'interazione tra le imprese è diventato un fenomeno sempre più critico e complesso (Biancuzzi et al., 2024). È importante far notare che questa interazione non avviene più lungo i confini tradizionali del “settore”, ma collega i destini e le strategie di clienti e fornitori, partner e concorrenti, rimodellando le dinamiche competitive in profondità (Massaro et al., 2023). L'impatto di questa tendenza è importante e recentemente amplificato da sempre più stringenti normative europee, le quali richiedono il rispetto di crescenti parametri. L'introduzione del Regolamento (UE)2020/852 noto come Tassonomia Europea può rappresentarne un valido esempio (Unione Europea, 2020). Questo quadro normativo definisce quali attività economiche possano essere considerate sostenibili dal punto di vista ambientale, creando una dinamica in cui per esempio se le realtà non sono allineate, l'intero ecosistema in cui si trovano inevitabilmente ne risente, limitando l'accesso al capitale e influenzando i *partner* (fornitori, clienti, finanziatori).

Solo attraverso una lunga attività di ricerca, primo tra tutti J. Moore (Moore, 1993), seguito da altri come Iansiti e Levien (Iansiti & Levien, 2004b) capirono che un ecosistema biologico offre un'analogia efficace per comprendere appieno le reti aziendali ed enfatizzarne i benefici, oltre che essere fonte di ispirazione per la comprensione del comportamento dei vari attori (Aarikka-Stenroos & Ritala, 2017; J. F. Moore, 1993)). Come la rete aziendale, l'ecosistema biologico è caratterizzato da un elevato numero di partecipanti interconnessi che dipendono l'uno dall'altro in termini di sopravvivenza. E come per le aziende facenti parte della rete aziendale, i membri del sistema biologico condividono il loro destino l'uno con l'altro. Infatti, se l'ecosistema è sano, le singole specie prospereranno, in caso contrario verranno danneggiate. Come le reti aziendali, il sistema biologico è essenzialmente costituito da comunità di soggetti con interessi diversi ma legati assieme sia dal fatto di svolgere un ruolo collettivo all'interno del sistema, sia perché traggono beneficio dal dinamismo e alla lunga durata delle reti stesse, elementi che contribuiscono ad aumentare il loro potere. Esempi di tale fenomeno si possono riscontrare nel fatto che alcune specie in un ecosistema possono consumare gli “outputs” (i rifiuti, il rifugio etc.) di altri organismi facenti parte del sistema, sfruttandoli come

base per la loro attività. Il fatto di avere la capacità di sfruttare questi elementi-outputs provenienti dalla loro rete consente loro di evitare di doverli creare da sé (Dal Mas et al., 2024). Questo gli permette di risparmiare energia e di specializzarsi in altre attività che altrimenti non sarebbero stati in grado di eseguire. Si può quindi affermare che ogni membro dell'ecosistema dipende in qualche misura dalla presenza degli altri organismi per la semplice ragione che essi si sono adattati alla loro reciproca presenza nell'ecosistema.

Trasporre questi concetti all'interno dell'ecosistema di business significa prendere atto che in tale rete d'impresa le singole entità sono tra di loro collegate e che quindi le aziende interagiscono. Quindi la salute e le prestazioni di ciascuna impresa dipendono dalla salute e dalle prestazioni del tutto. Appare evidente che imprese e specie biologiche sono contemporaneamente influenzate sia dalle loro capacità interne sia dalle loro complesse interazioni con il resto dell'ecosistema. Questa analogia opera in diversi livelli: imprese, unità di business, tecnologie, prodotti.

Anche in ambito non profit, composto da organizzazioni che operano senza finalità di lucro, caratterizzate dall'obiettivo di perseguire missioni sociali, culturali, ambientali o di interesse collettivo, questa logica ha preso piede, sebbene con finalità e strumenti differenti (Kania & Kramer, 2011; Salamon & Anheier, 1992). La crescente complessità delle sfide sociali ha favorito l'adozione di modelli basati sulla co-creazione e sulla *governance* reticolare (Juntunen et al., 2013). Questo vuol dire che le organizzazioni del Terzo Settore, nonostante perseguano obiettivi non economici, ormai sempre più si trovano ad operare in panorami interconnessi, ove il successo di un singolo attore dipende fortemente dalla capacità di collaborare con altri stakeholder, costruendo relazioni stabili e resilienti. Il concetto di ecosistema viene quindi qui reinterpretato in chiave sociale, diventando una metafora utile a descrivere una rete di attori che cooperano per generare impatto collettivo, piuttosto che un profitto. In questi contesti ogni organizzazione contribuisce con le proprie competenze, risorse e visione alla risoluzione di problematiche comuni, come la povertà, l'esclusione sociale, la tutela

dell'ambiente o l'accesso all'istruzione. La logica competitiva cede il passo a quella collaborativa: l'obiettivo non è l'avanzamento rispetto agli altri, ma la creazione delle condizioni affinché l'intero sistema produca valore condiviso e sostenibile.

Come avviene nel *business*, anche nel *non profit* il benessere dell'ecosistema risulta essere un indicatore fondamentale: un'organizzazione isolata, per quanto efficiente, difficilmente si impone sul mercato in modo significativo senza una rete solida che la circonda (Bonomi et al., 2017). Si diffondono così pratiche di *partnership*, progettazioni partecipate, piattaforme digitali per la condivisione di dati e di competenze, tutte soluzioni che rispecchiano l'approccio modulare e interdependente già osservato nell'industria informatica, di cui al paragrafo precedente. Alcuni concetti presi in prestito dall'ecologia, come resilienza, adattività e simbiosi sono risultati utili anche per la comprensione delle dinamiche che si generano all'interno del Terzo Settore. Ad esempio, un ente del terzo settore può adattarsi alle mutevoli esigenze del territorio grazie a un'attenta osservazione degli altri attori e alla capacità di riconfigurare il proprio ruolo in funzione delle esigenze collettive. Allo stesso tempo, la presenza di soggetti "abilitanti" – analoghi ai "*keystone species*" degli ecosistemi biologici (Paine, 1969)– come fondazioni, enti pubblici o grandi organizzazioni non governative (ONG), può aumentare la coesione e la capacità di risposta dell'intero sistema.

2. Materiali E Metodi

Il presente lavoro adotta un approccio qualitativo comparativo di tipo concettuale (*conceptual comparative analysis*) (Hulland, 2020; Jaakkola, 2020; Massaro et al., 2015), finalizzato a sistematizzare e confrontare la letteratura esistente sugli ecosistemi di business nei settori profit e non profit. L'obiettivo è quello di costruire una griglia analitica omogenea che consenta di leggere i due fenomeni attraverso dimensioni comuni, colmando una lacuna di sistematizzazione rilevata nella letteratura.

La revisione della letteratura è stata condotta interrogando due banche dati, Scopus e Google Scholar, utilizzando le seguenti parole chiave, in lingua italiana ed inglese: ecosistema non-profit, ecosistema di business, terzo settore¹. I contributi analizzati sono stati quelli pubblicati in un arco temporale compreso tra il 1993, anno della pubblicazione di Moore, universalmente considerato il padre del concetto di ecosistema di business (J. F. Moore, 1993), e il 2024. Sono stati esclusi tutti i contributi privi di pertinenza diretta con il costrutto di ecosistema o riferibili a contesti settoriali non generalizzabili. Nei casi in cui i contributi adottavano definizioni parzialmente divergenti del costrutto di 'ecosistema' — distinguendolo da concetti affini quali value network, supply network e multi-stakeholder partnership — si è adottato come criterio guida la presenza esplicita di co-evoluzione degli attori e di interdipendenza sistemica, in linea con la definizione fondativa di Moore (1993) Il corpus finale comprende circa quaranta contributi scientifici, selezionati per rilevanza teorica e citazionale.

Le informazioni estratte dalla letteratura sono state organizzate in una matrice comparativa strutturata attorno a quattro dimensioni analitiche, identificate come trasversali ai due ambiti: (i) *finalità*, intesa come l'obiettivo primario che orienta il comportamento degli attori dell'ecosistema; (ii) *attori*, con riferimento ai ruoli ricorrenti e alle loro caratteristiche funzionali; (iii) *strumenti di misurazione*, ovvero le metriche e i framework adottati per valutare la performance e la salute ecosistemica; (iv) *orizzonte temporale*, ossia la prospettiva di breve, medio o lungo periodo prevalente nelle strategie dei diversi tipi di ecosistema. La mappatura delle fonti nelle dimensioni della matrice è avvenuta mediante codifica deduttiva, partendo dalle categorie teoriche già presenti nella letteratura di riferimento. La matrice è stata sottoposta a un processo iterativo di verifica interna tra gli autori, al fine di minimizzare i bias interpretativi e garantire coerenza nelle attribuzioni categoriali.

¹ Stringa di Scopus: non-profit ecosystem OR third sector AND business ecosystem AND PUBYEAR > 1993 AND PUBYEAR < 2025 AND (LIMIT-TO (OA , "all"))

3. Revisione Della Letteratura

3.1 Ecosistemi nel settore profit

L'ecosistema di business è una comunità economica composta da diversi stakeholder che abitano lo stesso paesaggio e co-evolvono (Dal Mas et al., 2020; Iansiti & Levien, 2004a; J. F. Moore, 1993; Rong & Shi, 2014) e le cui capacità e ruoli tendono ad allinearsi con la direzione stabilita da una o più aziende centrali (J. F. Moore, 1993; Pütz et al., 2019; Radziwon & Bogers, 2019; Schneider et al., 2020). La letteratura maggioritaria (Den Hartigh & Van Asseldonk, 2004; Goncearuc et al., 2022; Iansiti & Levien, 2004b; Peltoniemi et al., 2005) concorda con Moore (J. F. Moore, 1993), uno dei pionieri di questo paradigma declinato sul *business*, presentando solo lievi deviazioni dalla definizione iniziale di BE dello studioso, considerandolo il naturale miglioramento ed espansione dello spazio concettuale creato dalle reti del valore (Leviäkangas & Öörni, 2020).

Gli attori dell'ecosistema sono diversi e più o meno numerosi (John Harte, Bill Shireman, 2001; J. F. Moore, 1993; Radziwon & Bogers, 2019; Schneider et al., 2020). Una delle diffuse classificazioni prevede la possibile presenza di *keystone*, *dominator* e *niche player*. Il *Keystone* viene definita come un'entità/azienda che funge da "*hub*" in una rete di interazioni² (Cui et al., 2022; Iansiti & Levien, 2004a). La sua principale funzione è quella di produrre benefici per l'ecosistema nel suo complesso e per i suoi membri, governando la salute dell'ecosistema stesso, spesso senza esserne una parte significativa. Può quindi essere definito in breve come un regolatore della salute dell'ecosistema. Il *keystone* influenza, infatti, i parametri chiave che determinano la salute ecosistemica, riassumibili in tre categorie: stabilità, diversità e produttività. Un'altra possibile figura è il *dominator*, entità che

² Un esempio di *Keystone* è Microsoft Corporation, i cui sistemi operativi e strumenti di programmazione fin dagli anni '80 hanno supportato l'innovazione di migliaia di altre organizzazioni. Questa realtà ha promosso la produttività migliorando costantemente gli strumenti e alimentando la sua comunità di sviluppatori e partner.

svolge un ruolo contrastante rispetto al *keystone* (Iansiti & Levien, 2004a). Il *dominator* è facilmente distinguibile per la sua grande dimensione fisica, in quanto occupa numerosi nodi della rete ecosistemica, rispetto al *keystone*, il quale risulta molto meno diffuso. Il *dominator* tende per sua natura a danneggiare la salute dell'ecosistema in cui si instaura, rendendolo instabile e vulnerabile, riducendo la diversità, eliminando la concorrenza, limitando le scelte dei consumatori e soffocando l'innovazione. Il *dominator* può manifestarsi sotto due forme: il *Dominator Classico*, e l'*Hub Landlord*. Nella prima forma ottiene il controllo e possiede buona parte della rete, mirando alla massimizzazione e alla cattura del valore creato³, nella seconda invece ottiene invece il controllo indirettamente, appropriandosi del valore estratto dalla rete senza crearne di nuovo⁴ (van den Brink, 2022). Infine, possiamo trovare il *niche player*, azienda che adotta una strategia operativa consistente nello specializzare le proprie capacità per differenziarsi dalle altre all'intero dell'ecosistema. Individualmente non ha un grande impatto, ma uniti, questi attori costituiscono il cuore dell'ecosistema in termini di massa totale e varietà. Se infatti i *keystone* determinano la rotta, i *niche player* sono ciò che l'ecosistema fa concretamente. Occupano solo una parte della rete e spesso si trovano ai margini della stessa, ove si persegue attivamente l'innovazione, lo sviluppo di prodotti/servizi e l'esplorazione di nuovi mercati, attività essenziale per l'efficienza dell'ecosistema. La strategia del *niche player* è strettamente interdipendente con quella dei *keystone*: il primo si specializza sfruttando i servizi (strumenti, tecnologie, standard) forniti dal secondo.

Passando alla finalità primaria di un ecosistema di business, la letteratura maggioritaria è concorde sul sostenere che sia, come in precedenza affermato, il sostegno e l'incremento della salute collettiva delle vaste reti di partner aziendali, poiché si è capito che seguendo questa dinamica sia possibile essere più competitivi sul mercato. L'obiettivo strategico si è spostato in questa dinamica di evoluzione dalla gestione delle risorse interne, alla gestione e influenza delle attività esterne alla

³ Es. Apple, IBM, DEC.

⁴ Es. ENRON, Yahoo! – iniziale.

diretta proprietà e controllo dell'impresa (Biancuzzi et al., 2024). In termini di valore economico e strategico quindi la finalità è passata dallo sfruttare il vantaggio derivante dalla proprietà di intere filiere, al diventare il migliore nella zona di specializzazione prescelta. L'interdipendenza tra i membri è ormai vista come cardine della stabilità, produttività e creatività del sistema. Infatti, per un'azienda con un ruolo di leadership, la finalità principale è migliorare la salute generale dell'ecosistema per migliorare le performance delle aziende che ne fanno parte. Questo si realizza attraverso la creazione e la condivisione del valore con tutta la sua rete.

Il successo di un ecosistema, inteso come la sua capacità di creare durevolmente opportunità per tutti i membri, viene tendenzialmente misurata attraverso tre elementi chiave: produttività, robustezza e creazione di nicchie (Iansiti & Levien, 2004a). La produttività misura la capacità di conversione dei fattori di produzione e la propensione a condividere innovazione. Il valore tende ad essere misurato attraverso indici come il ROI (Return on Investment), calcolato a livello di ecosistema, aggregando il ROI medio di tutte le imprese e monitorando l'indice stesso in un arco temporale. La robustezza, intesa come la capacità dell'ecosistema di resistere e sopravvivere di fronte a perturbazioni e interruzioni esterne viene misurata determinando il numero di imprese nella comunità e monitorandone l'andamento. Infine, la creazione di nicchie, cioè la capacità di aumentare significativamente la diversità nel corso del tempo attraverso la creazione di nuove funzioni di pregio, viene misurata attraverso il monitoraggio del numero di nuove start-up create all'interno dell'ecosistema in un dato periodo e l'analisi del numero di nuovi prodotti, tecnologie o imprese in fase di creazione nell'ecosistema. Relativamente all'impatto sull'orizzonte temporale, il panorama degli ecosistemi profit è fortemente orientato alla durata e alla stabilità a lungo termine, ormai in netto contrasto con l'antecedente focus sul breve termine.

3.2 Ecosistemi nel Settore Non Profit

L'ecosistema nel settore non profit (ENP) è una comunità composta da organizzazioni e individui interconnessi, i quali cooperano al fine di generare un impatto sociale collettivo su sfide complesse (Crutchfield et al., 2011), partendo dal vincolo di non distribuzione degli utili (Salamon & Anheier, 1992). La sua struttura reticolare è spesso orientata a colmare i fallimenti di mercato e di Stato, con una finalità primaria intrinseca: l'intento sociale (J. F. Moore, 2013).

Gli attori degli ENP sono numerosi e diversificati a seconda dei contesti culturali e geografici e, pur avendo obiettivi diversi, i loro ruoli sono definiti dalla missione condivisa (Aarikka-Stenroos & Ritala, 2017; Adner, 2017; de Vasconcelos Gomes et al., 2018; Oskam et al., 2021; Tsujimoto et al., 2018). Gli attori che la letteratura maggioritaria analizza sono numerosi: nucleo operativo, comunità e beneficiari, volontari, fondazioni e founders, settore pubblico ed imprese sociali (Biancone et al., 2022; Herman, 2005; Kania & Kramer, 2011).

Il nucleo operativo, impersonificato tendenzialmente da ONG, fondazioni, associazioni o cooperative sociali, risulta essere il motore degli ENP, essendo il principale detentore della mission e del know-how del settore. La sua funzione è quella di progettare e implementare le soluzioni rispetto alle problematiche sociali, oltre a quella di advocacy e di erogazione servizi. Interagisce principalmente con comunità e beneficiari a cui offre i servizi, e con volontari, i quali supportano l'erogazione. Per l'advocacy, il nucleo operativo è interlocutore chiave per il settore pubblico. L'ampio ventaglio di possibili realtà che possono rivestire il ruolo di nucleo operativo (ad esempio ONG vs. cooperative sociali) determina il livello di ibridazione tra logiche non profit e imprenditoriali. Le comunità e i beneficiari sono invece gli attori che garantiscono legittimità e rilevanza all'ecosistema. Il loro coinvolgimento nella co-progettazione trasforma i servizi in soluzioni basate sulle reali esigenze, aumentandone l'efficacia e l'impatto sociale. Sono lo stimolo alla circolarità del flusso di

informazioni, perfezionando così l'adattamento e l'evoluzione delle strategie del nucleo operativo. I volontari sono i portatori di capitale umano, sociale e di competenze trasversali. Supportano il nucleo operativo e interagiscono direttamente con comunità e beneficiari. Le fondazioni e i *funders* rappresentano invece i catalizzatori ed investitori dell'ecosistema, spingendosi spesso oltre agli stanziamenti, ed introducendo per esempio criteri di misurazione di impatto ed influenzando le priorità attraverso l'erogazione, per esempio, di *grant*. Il settore pubblico delinea il quadro normativo e fiscale, fornendo inoltre risorse finanziarie attraverso bandi ed appalti. Infine, le imprese sociali agiscono come *trait d'union* tra il settore profit e non profit. Possono competere o collaborare con il nucleo operativo e sono spesso beneficiarie di finanziamenti da fondazioni e funders. La loro capacità di auto-sostentamento economico le rende più indipendenti da donazioni o fondi pubblici, rendendo l'ecosistema più resiliente.

Le finalità emergenti dagli ecosistemi non profit sono principalmente la creazione di valore pubblico e di impatto sociale sostenibile, ovvero il significativo e duraturo cambiamento sociale per i beneficiari o la comunità (Napolitano, 1999; Nogales & Zandonai, 2014; Venturi & Zandonai, 2016). L'efficienza economica risulta essere in questo ambito solo un mezzo e non un fine ultimo, per garantire la massima efficacia nell'adempimento della missione (M. H. Moore, 2000). Un ulteriore obiettivo è quello di costruire e mantenere un rapporto di fiducia con i *funders* e la comunità, i quali rappresentano il capitale strategico per attrarre donazioni e volontariato (Weisbrod, 2000). Infine, è possibile individuare anche la sperimentazione e l'implementazione di soluzioni innovative a problemi sociali che il mercato non considera o non lo fa in modo sufficiente.

Il successo di un ENP viene principalmente misurato attraverso l'efficacia nell'adempimento della missione e l'impatto sociale generato (Ranieri, 2018). La misurazione si concentra quindi sull'impatto collettivo, sul miglioramento delle condizioni dei beneficiari e sulla capacità di risolvere il problema sociale individuato. Vengono utilizzati strumenti come il SROI (Social Return on Investment) o metriche qualitative relative alla missione (Vurro & Perrini, 2013). Relativamente all'impatto

sull'orizzonte temporale, l'attenzione è intrinsecamente orientata alla stabilità e alla sostenibilità a lungo termine della missione e del cambiamento sociale promosso, riflettendo la natura profonda e spesso strutturale delle sfide sociali affrontate.

4. Findings

Nonostante la solida base teorica nel campo del *business*, l'applicazione del paradigma ecosistemico al settore non profit è risultato essere un filone di ricerca più recente e meno strutturato. La metafora biologica si è dimostrata utile per comprendere le dinamiche del Terzo Settore, dove l'obiettivo è principalmente quello di generare un impatto collettivo anziché un profitto. In questo contesto, il successo dipende dalla capacità di co-creazione e *governance* reticolare tra enti, pubblici e privati. Kania e Kramer (Kania & Kramer, 2011) hanno formalizzato il concetto di impatto collettivo, sottolineando l'importanza di una visione e misurazione condivisa tra *stakeholders*, ove la logica collaborativa è preponderante rispetto alla competitiva.

L'analisi comparativa condotta rivela che, sebbene entrambi i modelli condividano i principi di co-evoluzione e interdipendenza, la divergenza nelle finalità primarie (competitività nel profit e impatto sociale nel non profit) riconfigura profondamente il significato di "salute ecosistemica". La letteratura maggioritaria tratta i modelli profit e non profit in modo tendenzialmente separato, concentrandosi per il primo su metriche di efficienza economica e per il secondo su metriche di cambiamento sociale. Sebbene esistano confronti sulle comunanze strutturali (interconnessione, co-evoluzione, ruoli differenziati), è risultata assente una disamina strutturata che utilizzi una griglia comparativa omogenea per finalità, attori, strumenti di misurazione e orizzonte temporale. Il presente studio colma quindi questa lacuna, evidenziando come l'efficienza economica sia, nel Terzo Settore, lo strumento essenziale, e non il fine, per la sopravvivenza di un'identità fondata sulla piena interdipendenza tra gli attori.

Il confronto sulla mappatura degli attori rivela una divergenza sostanziale tra i due settori. Mentre il mondo profit è caratterizzato da posizionamenti chiari (attori chiave e di nicchia), il non profit propone un modello di *governance* unico: un *know-how* che trae la propria ragion d'essere e la propria legittimazione dalla capacità di rispondere ai bisogni reali della comunità e dei destinatari.

Inoltre, emerge un significativo gap metodologico relativo alla misurazione e ai quadri normativi. L'assenza di un *framework* integrato che armonizzi ROI e SROI impedisce una valutazione sistemica dell'impatto. Tuttavia, l'analisi suggerisce che la Tassonomia Europea (Regolamento UE 2020/852) stia agendo come catalizzatore, spingendo verso una standardizzazione non solo ambientale ma anche sociale. Questo scenario normativo impone agli ecosistemi una risposta strategica: la necessità di evolvere verso modelli di rendicontazione omogenei che permettano ai finanziatori di stabilire criteri chiari e sostenibili per l'erogazione dei fondi.

Infine, i risultati evidenziano un'area d'ombra teorica riguardante la figura del dominator. Se nel profit tale ruolo è chiaramente associato alla cattura di valore e al soffocamento dell'innovazione, la ricerca indica la necessità di indagare se grandi fondazioni o enti pubblici possano involontariamente agire come "dominatori" negli ecosistemi non profit, limitando la diversità delle nicchie sociali attraverso vincoli eccessivamente stringenti nell'erogazione dei fondi.

Tabella 1. Matrice comparativa tra ecosistemi profit e non profit: finalità, attori, misurazione e orizzonte temporale⁵

⁵ La Tabella elaborata dagli autori rappresenta una sintesi concettuale sulla base della revisione della letteratura teorica di riferimento.

	Ecosistemi settore profit	Ecosistemi settore non profit
Finalità	La finalità primaria è l'incremento della salute collettiva delle reti di partner aziendali con il fine di diventare più competitivi sul mercato. L'obiettivo è strategico ed economico, focalizzato sulla creazione e condivisione del valore economico e sul miglioramento delle <i>performance</i> aziendali.	La finalità primaria è la generazione di impatto sociale collettivo e la risoluzione di sfide sociali complesse, colmando gli eventuali fallimenti di mercato e di Stato. L'efficienza economica è solo un mezzo per garantire la massima efficacia della missione.
Attori	<p>Gli attori si allineano alla direzione di una o più aziende centrali. La classificazione è basata sul ruolo di <i>leadership</i> o di nicchia nel mercato:</p> <ul style="list-style-type: none"> ○ Keystone: Regolatore della salute ecosistemica, funge da "hub". ○ Dominator: Danneggia la salute ecosistemica (es. Dominator Classico, Hub Landlord). ○ Niche Player: Specializza le capacità e realizza concretamente le attività. 	<p>Gli attori sono definiti dalla missione condivisa e sono più diversificati:</p> <ul style="list-style-type: none"> ○ Nucleo Operativo: Motore e detentore della <i>mission</i> (ONG, cooperative sociali, Associazioni). ○ Fondazioni e Funders: Catalizzatori e investitori. ○ Settore Pubblico: Regolatore e co-finanziatore. ○ Imprese Sociali: Agiscono da ponte tra i due settori.
Misurazione	<p>Il successo è misurato quantitativamente attraverso tre elementi chiave legati all'efficienza economica:</p> <ul style="list-style-type: none"> ○ Produttività: Capacità di conversione dei fattori e condivisione dell'innovazione (misurata con ROI aggregato). ○ Robustezza: Capacità di resistere alle interruzioni. ○ Creazione di Nicchie: Aumento della diversità (misurata con nuove <i>start-up</i> e prodotti). 	<p>La misurazione si concentra sull'efficacia nell'adempimento della missione e sul cambiamento sociale generato:</p> <ul style="list-style-type: none"> ○ Si valuta l'impatto collettivo e il miglioramento delle condizioni dei beneficiari. ○ Vengono utilizzati strumenti come il SROI (Social Return on Investment) e metriche qualitative sulla missione.
Orizzonte Temporale	Forte orientamento alla durata e stabilità a lungo termine , in netto contrasto con il precedente <i>focus</i> sul breve termine.	Orientamento intrinsecamente alla stabilità e sostenibilità a lungo termine della missione e del cambiamento sociale promosso,

		riflettendo la natura strutturale delle sfide sociali.
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5. Conclusioni

Il presente studio ha analizzato comparativamente la trasposizione e l'applicazione del paradigma dell'ecosistema, originariamente sviluppato nel contesto del *business*, al Settore Non Profit. Come ampiamente discusso, i modelli profit/non profit condividono alla base il valore di co-evoluzione ed interdipendenza, puntando al sostegno e all'incremento della salute ecosistemica.

Il paper, attraverso una tabella comparativa, presenta le divergenze fondamentali tra i due settori, focalizzandosi su finalità, attori, strumenti di misurazione e orizzonte temporale. Nonostante la solidità teorica del paradigma ecosistemico, l'estensione all'ENP evidenzia alcune criticità. Innanzitutto, per quanto riguarda gli strumenti di misurazione, emerge un significativo *gap* sull'armonizzazione: se per il settore profit si tende ad utilizzare il ROI aggregato, nel non profit si ricorre al SROI. Manca quindi un *framework* analitico che integri in modo sistemico ed efficace l'efficienza economica (mezzo) e l'impatto sociale (fine). In secondo luogo, dallo studio dei BE emerge la figura del *dominator*, il quale danneggia la salute ecosistemica e soffoca l'innovazione. La trasposizione di questo ruolo nell'ENP, ad esempio, in relazione a grandi *funder* o attori che limitano la diversità o l'innovazione delle nicchie, è un filone di ricerca ancora insufficientemente esplorato, che meriterebbe maggiore attenzione. Potrebbe quindi essere cruciale applicare in modo più strutturato i concetti quali la resilienza e l'adattività per sviluppare modelli che migliorino la capacità di risposta degli ENP a influenze esterne e per comprendere la riconfigurazione del ruolo degli attori in funzione delle esigenze collettive.

Infine, l'interdipendenza e la necessità di stabilità a lungo termine sottolineano la necessità di una risposta normativa strategica. A livello europeo la tassonomia ha dimostrato l'impatto dei quadri

normativi sulle dinamiche ecosistemiche. Le future normative dovrebbero quindi evolvere verso l'armonizzazione degli standard non solo per la sostenibilità ambientale, ma anche per la misurazione dell'impatto sociale sostenibile. Questo, per esempio, aiuterebbe i funder a stabilire criteri omogenei per l'erogazione dei grant.

In conclusione, l'adozione del paradigma ecosistemico non dovrebbe essere vista come una possibilità, ma piuttosto come un'esigenza strategica per la stabilità e sostenibilità a lungo termine dello sviluppo. La via da percorrere richiede un'azione concertata tra ricerca, operatori e *policy makers*, al fine di colmare i gap metodologici, massimizzare la co-creazione e creare un ambiente normativo abilitante.

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Integrated planning in healthcare: Evidence from PIAO indicators

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Abstract

Purpose: The study examines how integrated planning is implemented in healthcare organisations through the indicators reported in the Integrated Activity and Organisation Plan (PIAO), assessing whether the framework supports strategic coherence, performance management, and public value creation.

Design/methodology/approach: The analysis covers 4,247 indicators drawn from fifty-two PIAO documents issued by thirteen public healthcare organisations in the ATS Milano district, including nine ASSTs, three IRCCSs and the ATS Milano health authority. Indicators were extracted, classified, and analysed across four planning cycles (2022–2024, 2023–2025, 2024–2026, 2025–2027) by type, distribution, and alignment with PIAO sections. Quantitative patterns were integrated with a qualitative assessment of coherence between objectives, measurement logic, and document structure.

Findings: Results show high variability in the number and type of indicators across organisations and cycles. Measurement is dominated by volume and process indicators, while outcome indicators are

almost absent. Alignment between strategic objectives, performance objectives and human capital planning is limited. Document length grows substantially across the first cycles and remains high in 2025–2027, as annexes are progressively absorbed into the main text. Overall, the findings suggest that the main limitation of the PIAO does not lie in its formal design, but in the persistence of activity-based measurement architectures that weaken its capacity to support steering, accountability, and public value.

Research limitations/implications: The analysis focuses on a single territorial area and on what organisations formally report in PIAO documents. Further comparative and process-based studies are needed to assess how the PIAO is used in practice.

Practical implications: The findings highlight the need for clearer design principles, more selective indicator sets and stronger connections between strategic objectives, performance measurement, and human capital planning to support public value.

Originality/value: This is the first empirical study to systematically analyse PIAO indicators in healthcare. It documents how integrated planning is interpreted in practice and shows that the main obstacle to substantive integration is not the formal architecture of the reform, but the persistence of activity-based measurement logics. In doing so, the study clarifies the conditions required for the PIAO to function as a genuine integrated planning and public value framework.

Keywords: integrated planning; PIAO; performance measurement; public value; healthcare organisations; indicators.

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1. Introduction

Public services, particularly health and social care, are among the primary infrastructures through which governments generate well-being for their communities. They absorb substantial public resources, operate in contexts marked by demographic ageing, chronic fragility and widening inequalities, and represent the main interface between citizens and public institutions (Van Dooren et al., 2015). Yet public administrations often struggle to respond effectively to these complex needs because their planning and accountability systems remain fragmented. Over time, Italian public organisations have produced multiple plans with different logics, timelines and reporting requirements, generating redundancy, weak strategic coherence and documents that are difficult for citizens, community organisations and third-sector actors to interpret (Maione, 2010; Bryson, 2004; Amelio and Orlandini, 2020). This proliferation has weakened accountability chains and reinforced a compliance-driven planning culture focused more on fulfilling obligations than on generating public value (Nisio et al., 2013).

The Integrated Activity and Organisation Plan (Piano Integrato di Attività e Organizzazione (PIAO)), introduced by Decree Law 80 2021 and operational since 2022, represents the main national attempt to address these problems. It consolidates existing planning instruments into a single three-year document updated annually and integrates strategic planning, performance measurement, human resources management and risk prevention within a coherent architecture (Gagliardo and Saporito, 2021; Gagliardo and Cepiku, 2023). Integration is understood here as the vertical and horizontal coherence among objectives, resources, indicators, and responsibilities. In line with international reforms that promote integrated public management, the PIAO aims to reduce administrative burden, strengthen alignment between organisational goals and activities, and orient planning toward the creation of public value (Barbera et al., 2017).

Despite its design, evidence on how the PIAO is actually implemented remains limited. Early analyses suggest a tension between the ambition of simplification and the risk that the PIAO becomes an additional bureaucratic layer with limited influence on decision-making (Gagliardo and Cepiku, 2023). This reflects a broader pattern observed in earlier performance reforms, where innovations often resulted in ritualistic compliance rather than substantive change (Bigoni and Gagliardo, 2013; Mauro et al., 2021). This raises a central question for public management research. Can integrated frameworks like the PIAO move organisations from compliance toward outcome-oriented governance (Anselmi, 2012; Lorusso, 2021), or do they merely repackage existing routines without altering how priorities are set and measured?

Research on New Public Management shows that reforms focused on efficiency and outputs have often failed to embed a genuine results orientation (Hood, 1991, 1995; Aucoin, 1990; Russell et al., 1999). Public value scholarship reinforces this critique by emphasising the need to measure outcomes and societal impact rather than only administrative activities (Berman and Hijal-Moghrabi, 2022). Studies on performance regimes underline the importance of coherent measurement systems that connect strategic objectives, operational processes, and stakeholder expectations (Chenhall, 2006). At the same time, research on community-based governance highlights the relevance of indicators that capture the needs and expectations of social actors and third-sector organisations (Amelio and Orlandini, 2020; Bosa et al., 2020).

Indicators lie at the core of these debates because they shape what organisations prioritise and communicate. Poorly designed indicators reinforce administrative routines and distort representations of performance, while well-designed ones support accountability, learning and public value creation (Capalbo et al., 2023; Preite and De Matteis, 2019). Poorly designed indicators not only distort internal accountability but also impair the ability of third-sector organisations and voluntary actors to engage meaningfully in service co-delivery and community governance (Amelio and Orlandini, 2020). When planning documents are dominated by activity-based measures, they become opaque to

community stakeholders and reduce the scope for collaborative decision-making, limiting the contribution of voluntary organisations and social enterprises to public value creation (Biancone et al., 2023). Conversely, outcome-oriented indicators enable dialogue among public organisations, citizens, and community actors, including volunteers and social initiatives (Bosa et al., 2020; Cavallo, 2020). Innovative technologies can further enhance measurement quality and transparency, particularly in ESG reporting and value-oriented planning (Secinaro et al., 2023).

Healthcare organisations offer a particularly relevant setting for examining these issues. ASSTs and IRCCSs manage complex systems, deliver services with direct community impact, and collaborate intensively with third-sector and voluntary organisations that depend on clear, outcome-oriented planning documents to understand organisational priorities and engage in collaborative service delivery (Amelio and Orlandini, 2020; Costanzo et al., 2025). They also employ more mature planning and control systems than many other public sectors, including advanced performance metrics and structured reporting tools (Lega and Vendramini, 2008; Paolini and Soverchia, 2013). For these reasons, their PIAO documents provide an ideal empirical context to analyse how integrated planning reforms are interpreted and operationalised. Yet no systematic study has examined how healthcare organisations translate the normative expectations of the PIAO into measurable performance and public value (Lecci et al., 2024).

This study addresses this gap by analysing how healthcare organisations construct, select and use performance indicators within the PIAO. The research question is as follows: to what extent do the indicators included in ASSTs' and IRCCSs' PIAO documents reflect the goals of integration and public value? To answer this question, the study examines 52 PIAO documents produced by thirteen healthcare organisations over four planning cycles, generating a unique dataset of 4,247 indicators. More specifically, the study investigates whether the PIAO has fostered a substantive reconfiguration of measurement practices or has instead reproduced pre-existing activity-based logics within a formally integrated document.

The paper offers four contributions. First, it provides the first empirical assessment of integrated planning practices in Italian healthcare, contributing to international debates on integrated frameworks and performance regimes. Second, it shows that the main obstacle to substantive integration does not lie in the formal architecture of the PIAO, but in the persistence of activity-based measurement logics that disconnect objectives, indicators, and organisational capabilities. Third, it offers policy-relevant insights for national and regional policymakers, including the need for clearer templates, minimum indicator standards, and methodological guidance. Finally, it supports dialogue between healthcare organisations and community-based actors who depend on accessible and outcome-oriented PIAO documents to engage in collaborative service delivery and co-production of public value (Amelio and Orlandini, 2020; Costanzo et al., 2025; Biancone et al., 2023).

2. Background

The evolution of public management offers a useful foundation for understanding why integrated planning frameworks have become central to contemporary administrative reforms. The traditional model of bureaucratic administration, rooted in Weberian principles of legality, hierarchy and rule compliance, prioritised formal procedures over results and conceived control primarily as conformity to rules rather than as a mechanism for steering outcomes (Maione, 2010). While this model ensured stability and predictability, it offered limited capacity to respond to complex social needs or to demonstrate the value generated for communities. Planning systems tended to be inward looking and centred on regulatory compliance, a pattern that has been repeatedly observed in the Italian context (Anselmi, 2012).

Reforms inspired by New Public Management sought to address these limitations by introducing managerial tools, performance measurement, and accountability mechanisms closer to private sector practices (Hood, 1991, 1995; Aucoin, 1990). In principle, these reforms aimed to shift attention from processes to results. However, international, and comparative research has shown that such reforms

frequently produced additional layers of performance instruments without transforming underlying routines (Russell et al., 1999; Sarker, 2006). The Italian experience confirms this ambivalence: performance plans, indicators and control systems were formally adopted, yet their use often remained fragmented, compliance driven and weakly connected to strategic decision making (Bigoni and Gagliardo, 2013; Nisio et al., 2013). This compliance-driven orientation has consequences beyond administrative efficiency: when planning documents fail to communicate meaningful outcomes, they also exclude community-based actors from substantive participation in governance (Amelio and Orlandini, 2020).

In healthcare, studies show that even sophisticated budgeting and performance systems may coexist with limited strategic orientation and strong path dependence in measurement practices (Lega and Vendramini, 2008; Mauro et al., 2021).

Public value scholarship emerged partly in response to these limitations, reframing the purpose of public organisations around the generation of societal benefits beyond efficiency alone (Barbera et al., 2017). From this perspective, effectiveness should be assessed through improvements in citizens' well-being, equity, community resilience, and long-term outcomes, rather than output volumes or cost savings (Lorusso, 2021). Achieving this requires performance systems capable of capturing results that matter to communities. Yet research consistently shows that public organisations often measure what is easiest to count rather than what is strategically relevant. Activity-based indicators remain dominant across sectors because defining and operationalising outcomes and impacts is technically and organisationally challenging (Van Dooren et al., 2015). As a result, planning documents frequently describe intentions and processes while leaving substantive evaluation of effects unresolved. In this study, public value in healthcare is operationalised through three dimensions: outcome orientation, stakeholder responsiveness, and strategic coherence. Outcome orientation refers to the use of indicators that capture changes in citizens' health conditions, service accessibility, waiting times, and equity of treatment, rather than mere activity volumes. Stakeholder responsiveness

refers to the extent to which planning documents reflect the needs and expectations of patients, community organisations, and third-sector providers, thereby enabling meaningful participation in governance. Strategic coherence refers to the degree to which performance indicators are explicitly linked to organisational objectives and human capital decisions, rather than reported as isolated administrative measures. Taken together, these dimensions provide the analytical lens through which the study assesses whether PIAO indicators move organisations toward genuine public value creation or remain anchored to compliance-driven reporting.

Against this backdrop, the PIAO was introduced as an attempt to reconfigure planning and control within a single integrated framework. The PIAO merges previously separate plans into one document structured around four pillars: public value and organisational performance, organisational design and human resources, corruption risk and transparency, and transversal priorities such as digitalisation and innovation. The rationale is to create coherence between strategic goals, operational capacity, workforce planning, and risk management while reducing administrative burden by eliminating fragmentation (Gagliardo and Saporito, 2021). Early analyses highlight both the potential and fragility of the reform. Recent contributions have begun to examine PIAO documents in specific institutional contexts, such as universities (De Nicola and Fratini, 2024), highlighting recurring tensions between formal compliance and substantive integration. No systematic study has yet addressed healthcare organisations, where the interface with third-sector and community-based actors is particularly intense. This makes healthcare a particularly revealing setting in which to observe whether integration is translated into measurement practices or remains largely rhetorical.

On the one hand, the PIAO is recognised as an opportunity to connect public value, performance, and organisation. On the other, its early implementation has been highly uneven and frequently anchored to pre-existing routines (Gagliardo and Cepiku, 2023). Evidence from central administrations and universities suggests that learning processes are emerging but that the risk of reproducing “old plans in a new container” remains substantial (Gagliardo et al., 2024; Paolini and Soverchia, 2013).

Performance indicators of PIAO represent the critical link between strategic intentions and accountability. The distinction between input, process, output, and outcome indicators is well established in the public sector literature (Van Dooren et al., 2015; Berman and Hijal-Moghrabi, 2022). However, empirical analyses of Italian public organisations reveal a persistent reliance on volume and process-based indicators, with limited use of outcome measures (Nisio et al., 2013; Gobbo et al., 2016). Many indicators lack targets, denominators or clear definitions and are often replicated across planning periods without revision, weakening both strategic steering and communicative functions (Capalbo et al., 2023). These limitations determine whether integrated planning can realistically guide decisions, support accountability and inform dialogue with stakeholders, including community actors and volunteers (Abbasi and Hollman, 2000; Best et al., 2019).

Healthcare provides a particularly relevant context for examining the PIAO. Local Health Unit (Aziende Socio Sanitarie Territoriali (ASST)) and Research Hospital (Istituti di Ricovero e Cura a Carattere Scientifico (IRCCS)) operate within complex organisational architectures, deliver essential services with immediate community impact, and interact extensively with third sector actors and community-based providers (Lega and Vendramini, 2008). Their activities have high political and social visibility, and they manage substantial financial and human resources in settings marked by chronic fragility and demographic pressure (Barbera et al., 2017). These organisations already rely on advanced budgeting systems, clinical performance metrics, and structured reporting tools, creating favourable conditions for evaluating whether the PIAO enables more coherent links between outcomes, organisational priorities, and human resources (Lecci et al., 2024; Capalbo et al., 2023). At the same time, the risk of redundancy remains significant: the PIAO may simply reassemble existing plans, becoming an additional layer rather than a catalyst for integration, particularly where internal control systems exhibit fragmentation and compliance driven behaviours (Preite and De Matteis, 2019).

This study builds on these conceptual premises to assess how integrated planning is enacted within healthcare organisations and whether the PIAO moves planning systems closer to public value generation or leaves longstanding problems largely unchanged. Four analytical dimensions guide the investigation: variability across organisations and planning cycles; the balance between volume, process, and outcome indicators; the internal coherence between strategic objectives and indicators; and the structure and readability of the documents, including page count and annex consolidation. Together, these dimensions provide a systematic basis for assessing whether the PIAO is functioning as an integrated planning framework or primarily as a formal compliance exercise.

3. Research methods

The study adopts a descriptive and comparative research design to examine how healthcare organisations construct their integrated planning documents. A document-based approach is appropriate because the PIAO is the formal and publicly accessible expression of organisational priorities, strategic intentions, and measurement choices. Unlike interviews or surveys, which capture perceptions, the analysis of official documents allows direct observation of what organisations commit to in terms of objectives, indicators, and accountability arrangements.

The empirical setting includes the full population of public healthcare organisations in the ATS Milano district that are legally required to produce a PIAO: nine ASST, three public IRCCS and ATS Milano itself, for a total of thirteen organisations. The dataset consists of fifty-two PIAO documents produced across four planning cycles (2022–2024, 2023–2025, 2024–2026 and 2025–2027). All documents were retrieved from the transparency section of each organisation’s website, ensuring that only officially approved versions were analysed.

A total of 4,247 indicators were identified and manually coded. For each indicator, the following attributes were recorded: organisation, PIAO section, planning cycle, full indicator text, presence of a numerical target and classification by indicator type. Manual coding was necessary because the

documents vary considerably in structure, formatting and lexical consistency, and automated extraction would not ensure comparability.

The coding process involved two researchers. One researcher conducted the complete coding of all 4,247 indicators, while a second researcher independently coded a structured subset of approximately 20% of the total, drawn systematically from at least three organisations and all four planning cycles to ensure representativeness across contexts and time. Intercoder agreement was assessed by comparing classifications indicator by indicator within this subset. Initial agreement exceeded 85%, and all discrepancies were discussed jointly until consensus was reached. Each disagreement prompted a review of the classification rules, which were refined iteratively and documented before being applied to the remaining dataset. This procedure strengthened internal consistency and reduced the risk of systematic bias, although the absence of full double-coding remains a limitation acknowledged in the conclusions.

Indicators were classified into three categories using explicit, replicable rules. Volume indicators capture quantities of activities (for example, number of services or processes completed). Process indicators capture the progress or quality of organisational activities (for example, compliance rates or timeliness). Outcome indicators reflect changes in conditions relevant to citizens and communities. The analysis proceeded in three steps. First, descriptive statistics mapped the frequency and distribution of indicators across organisations, cycles, and indicator types. Second, a qualitative assessment evaluated the technical formulation of indicators, recurring issues such as duplication or lack of targets and the degree of alignment between indicators and strategic objectives. Third, a longitudinal comparison examined how indicator sets evolved across cycles, identifying whether organisations revised, stabilised, or expanded their measurement systems over time.

The approach strengthens the validity of the findings because the dataset covers the entire population of organisations subject to the PIAO requirement within the same territorial system. Nonetheless, two limitations remain.

First, the analysis focuses on a single territorial context. Although the dataset covers the entire population of healthcare organisations within the ATS Milano district, generalisation to other Italian regions or international settings requires caution. At the same time, ATS Milano represents one of the largest and most complex healthcare systems in Italy, including a diverse mix of ASSTs and IRCCSs operating under the same regulatory framework as organisations nationwide. The patterns observed here are therefore likely to reflect broader tendencies in PIAO implementation rather than purely local conditions. If similar weaknesses emerge in one of the largest and most complex healthcare systems in Italy, they are unlikely to be isolated phenomena, although future comparative studies should test this proposition explicitly.

Second, only partial double-coding was possible, which constrains the assessment of intercoder reliability. Despite these limitations, the methodological design provides a robust basis for analysing how integrated planning frameworks are operationalised in healthcare organisations.

4. Findings

The findings are organised around four analytical dimensions: variability across organisations and planning cycles, the balance between indicator types, internal coherence between objectives and measurement, and document structure. Across all dimensions, a consistent pattern emerges: PIAO implementation in healthcare organisations remains dominated by volume and process indicators, strategic coherence is limited, and outcome orientation is virtually absent. The sections below document this pattern in detail, showing how it manifests across the different components of the PIAO.

Table 1 reveals substantial heterogeneity in the number of indicators reported by healthcare organisations across the four planning cycles. Variability is already evident in the first triennium and remains high over time, despite a temporary reduction in both the mean and the standard deviation in 2023–2025 and 2024–2026. The pattern reverses in 2025–2027, when both the average number of indicators and dispersion increase again, driven by some organisations markedly expanding their

indicator sets. Overall, the evidence points to an unstable and weakly standardised approach to indicator selection, with limited convergence toward a shared measurement architecture.

Table 1. Number of indicators, mean, median and standard deviation by planning cycle and organization

Organisation	2022-2024	2023-2025	2024-2026	2025-2027	Total
ASST Cto Gaetano Pini	68	117	98	60	343
ASST Fatebenefratelli	106	72	69	90	337
ASST Lodi	136	108	95	64	403
ASST Melegnano e Martesana	20	37	31	137	225
ASST Milano Nord	63	125	116	128	432
ASST Niguarda	120	72	75	56	323
ASST Ovest Milanese	58	124	84	187	453
ASST Rhodense	89	25	25	25	164
ASST San Paolo e San Carlo	75	70	83	107	335
ATS Milano	114	94	83	92	383
IRCCS Carlo Besta	77	76	33	33	219
IRCCS Istituto Nazionale dei Tumori	157	68	77	54	356
IRCCS Policlinico Ca' Granda	68	83	79	44	274
Total	1151	1071	948	1077	4247
Mean	88,54	82,38	72,92	82,85	326,69
Median	77,00	76,00	79,00	64,00	296,00
Standard deviation	36,88	30,97	27,41	46,82	85,89

Table 2 reveals substantial variation in indicator distribution across PIAO's three core sections. The "Public value and performance" section records the highest mean (144.23) and largest standard deviation (78.29), reflecting divergent approaches to strategic and performance measurement. Some organisations deploy extensive indicator sets, while others use minimal sets, compromising comparability and strategic priority representation.

The "Organisation and human capital" section shows a lower mean (133.08) and variability (SD 68.24), yet heterogeneity persists. Most rely on stable, descriptive indicators with little cycle-to-cycle change, indicating limited strategic measurement application.

The "Anagraphic section" has the lowest mean (58.36) but relatively high standard deviation (37.45), confirming inconsistent use of this non-programmatic section. Some organisations fill it extensively, others minimally.

Collectively, these patterns indicate unbalanced measurement architectures lacking coherent design. Organisations vary in volume and emphasis across strategic, operational, and structural areas, diminishing internal coherence and the PIAO's integrative role.

Table 2. Number of indicators, mean, median and standard deviation by section and organisation

Organisation	Anagraphic sheet	Public value and performance	Organisation and human capital	Total
ASST Cto Gaetano Pini	106	90	147	343
ASST Fatebenefratelli	67	212	58	337
ASST Lodi	0	130	273	403
ASST Melegnano e Martesana	21	138	66	225
ASST Milano Nord	138	199	95	432
ASST Niguarda	23	146	154	323
ASST Ovest Milanese	30	335	88	453
ASST Rhodense	28	36	100	164
ASST San Paolo e San Carlo	70	100	165	335
ATS Milano	31	96	256	383
IRCCS Carlo Besta	0	64	155	219
IRCCS Istituto Nazionale dei Tumori	67	204	85	356
IRCCS Policlinico Ca' Granda	61	125	88	274
Total	642	1875	1730	4247
Mean	58,36	144,23	133,08	326,69
Median	61,00	130,00	100,00	337,00
Standard deviation	37,45	78,29	68,24	85,89

Figure 1 illustrates highly uneven indicator distribution across PIAO sections among the thirteen healthcare organisations, confirming divergent interpretations of the integrated planning framework.

The "Anagraphic sheet" consistently features the fewest indicators, though exceptions appear: ASST Fatebenefratelli and ASST Milano Nord exceed "Organisation and human capital" counts, while ASST CTO Gaetano Pini surpasses "Public value and performance." Conversely, IRCCS Carlo Besta and ASST Lodi report zero anagraphic indicators despite substantial "Organisation and human capital" indicator sets.

The "Public value and performance" section exhibits widest variation. ASST Ovest Milanese leads, followed by ASST Milano Nord and ASST Fatebenefratelli, while others report far fewer, signalling inconsistent strategic measurement engagement.

ASSTs display pronounced heterogeneity across sections; IRCCSs concentrate on public value, except IRCCS Carlo Besta prioritizing human capital.

Figure 1. Number of indicators per PIAO section for each healthcare organisation

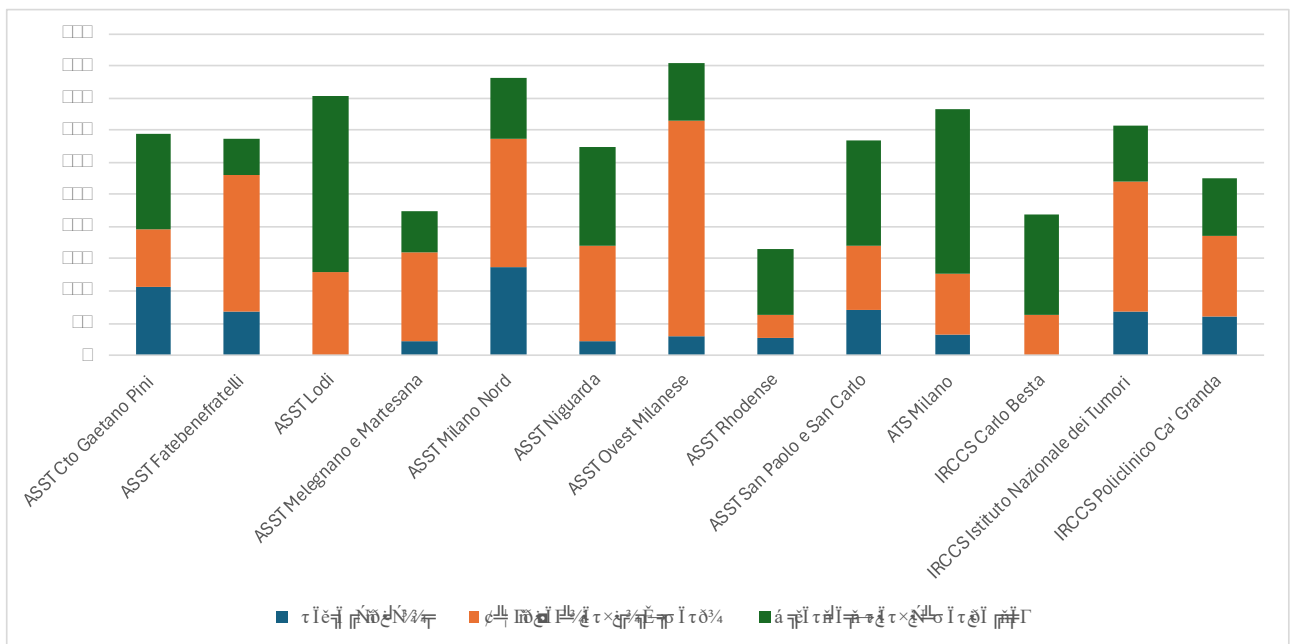


Figure 2 depicts indicator evolution across PIAO's three core sections over four planning cycles, revealing two distinct dynamics.

The "Anagraphic sheet" maintains consistently low volumes throughout, with minimal fluctuations, underscoring its peripheral role in measurement architecture and lack of systematic expansion or reframing for integrated planning.

The "Public value and performance" and "Organisation and human capital" sections feature larger indicator volumes, but trajectories diverge. "Organisation and human capital" steadily contracts, reflecting reduced agile work indicators and stabilisation of descriptive workforce measures, suggesting a shift from experimentation to limited, standardised application.

Conversely, "Public value and performance" declines initially but rises again in 2025–2027, mainly due to the replication or expansion of indicators in some ASSTs. This suggests adjustment over time, but not a coherent redesign of the measurement architecture.

Figure 2. Distribution of indicators by PIAO section across planning cycles

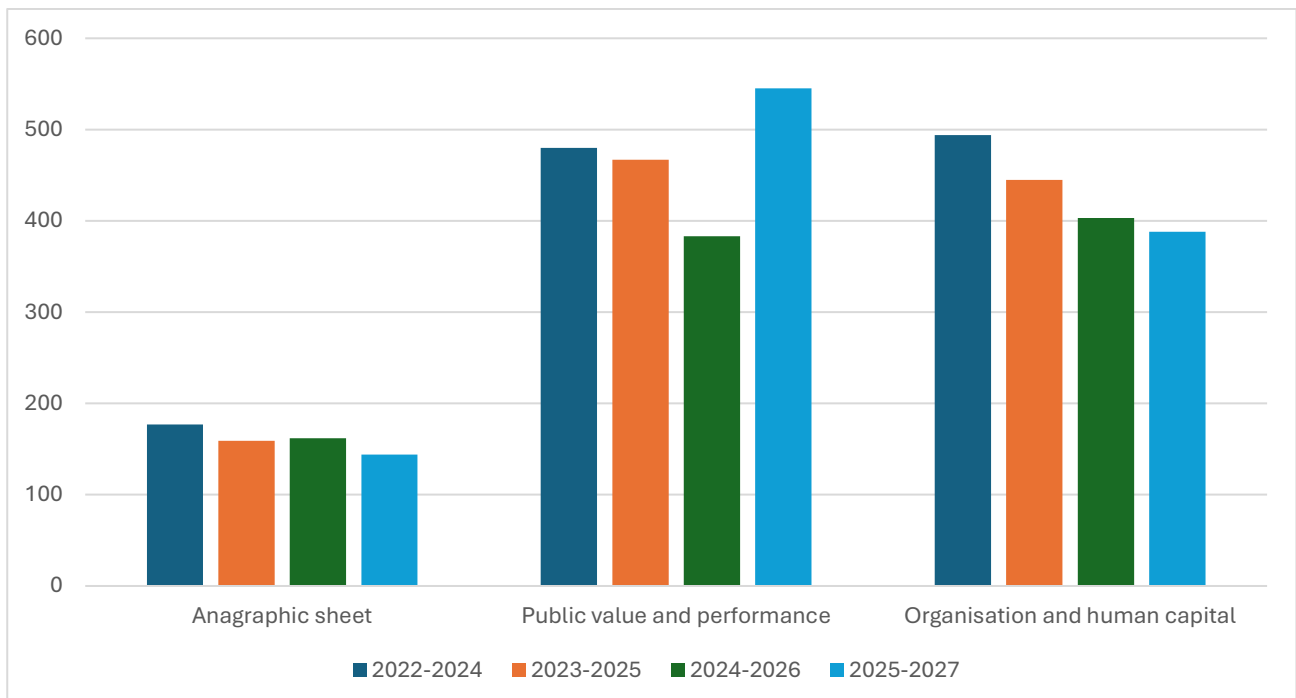


Figure 3 illustrates that the Anagraphic sheet is overwhelmingly dominated by volume indicators throughout all four planning cycles. The proportion of process and outcome indicators remains

negligible and unchanged over time, confirming that organisations primarily use this section to report static quantitative descriptors such as service counts and structural resources.

This persistent pattern indicates that the Anagraphic sheet is treated as an administrative registry rather than an integral part of the planning framework, with no meaningful link to strategic objectives or performance dynamics.

Figure 3. Distribution of indicator types in the Anagraphic sheet across planning cycles

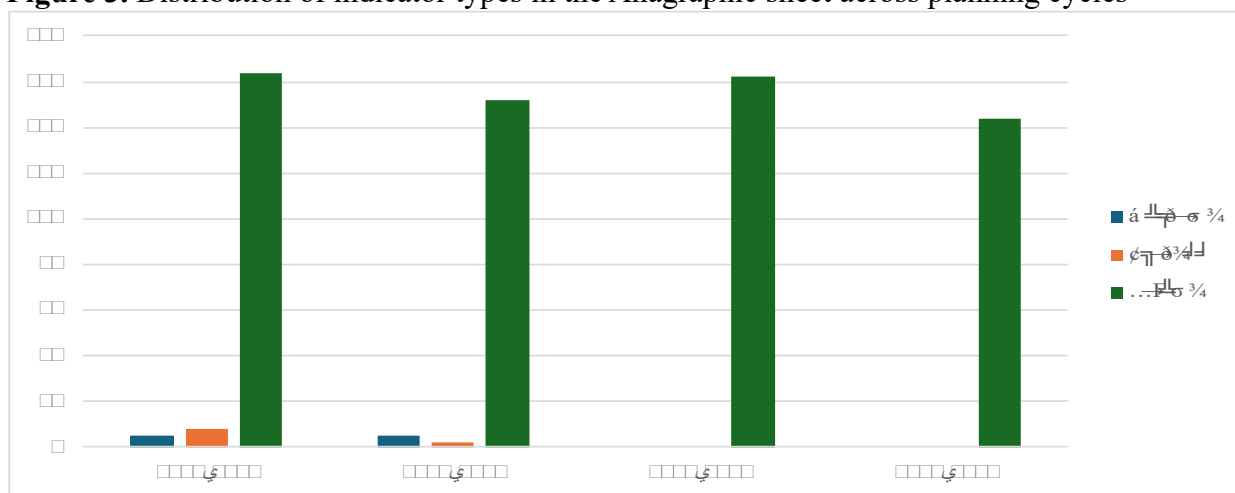


Table 3 shows that the Anagraphic sheet is dominated by highly standardised, quantitative measures. The ten most frequent indicators account for more than sixty percent of all indicators in this section, and they refer almost exclusively to structural volumes such as number of services delivered, beds, admissions, accesses, and DRG counts. This concentration highlights a measurement logic that is descriptive rather than strategic.

The prevalence of volume indicators indicates that organisations tend to use this section as a static snapshot of their productive capacity. While these data can be informative, they add limited managerial value in the PIAO context because they are not linked to utilisation levels, efficiency metrics, or strategic objectives. As a result, they remain descriptive rather than diagnostic.

The stability of these indicators across the four planning cycles also suggests a path-dependent approach: organisations replicate familiar administrative measures rather than revising or streamlining the section in line with the principles of simplification and integration.

Table 3. Most frequent indicators in the Anagraphic sheet

Anagraphic sheet	Number of indicators	Percentage impact
Number of services delivered	68	10,59
Number of beds	66	10,28
Number of admissions	62	9,66
Number of employees	53	8,26
Number of accesses	46	7,17
Financial performance indicators	28	4,36
DGR counts	27	4,21
Number of facilities	21	3,27
Number of transplants	18	2,80
Number of occupant days	14	2,18
Total	403	62,77

Figure 4 shows a clear and persistent imbalance in indicator construction within the Public Value subsection across all planning cycles. Process indicators dominate overwhelmingly, volume

indicators appear only in the first two cycles and nearly disappear thereafter, and outcome indicators are completely absent in every triennium.

The temporal pattern reinforces this configuration. In 2022–2024 and 2023–2025, organisations rely heavily on volume indicators, signalling a descriptive and activity-based interpretation of public value. From 2024–2026 onwards, the shift toward process indicators becomes more pronounced, but these continue to focus on internal procedures, formal compliance, and execution of organisational actions rather than results or effects associated with strategic objectives.

The complete absence of outcome indicators represents the most critical finding. This subsection should anchor the PIAO's strategic dimension, yet organisations do not measure changes experienced by citizens, communities, or service quality. Consequently, they cannot assess whether strategic objectives are achieved or corrective actions are needed, severely limiting the PIAO's role as a results-oriented planning instrument. Assessed against the three dimensions outlined in the background, the indicators in this section fall short on all counts: outcome orientation is absent, stakeholder responsiveness is not reflected in any measurable form, and strategic coherence between listed objectives and selected indicators remains weak.

Figure 4. Distribution of indicators by type across the four planning cycles in the Public Value subsection

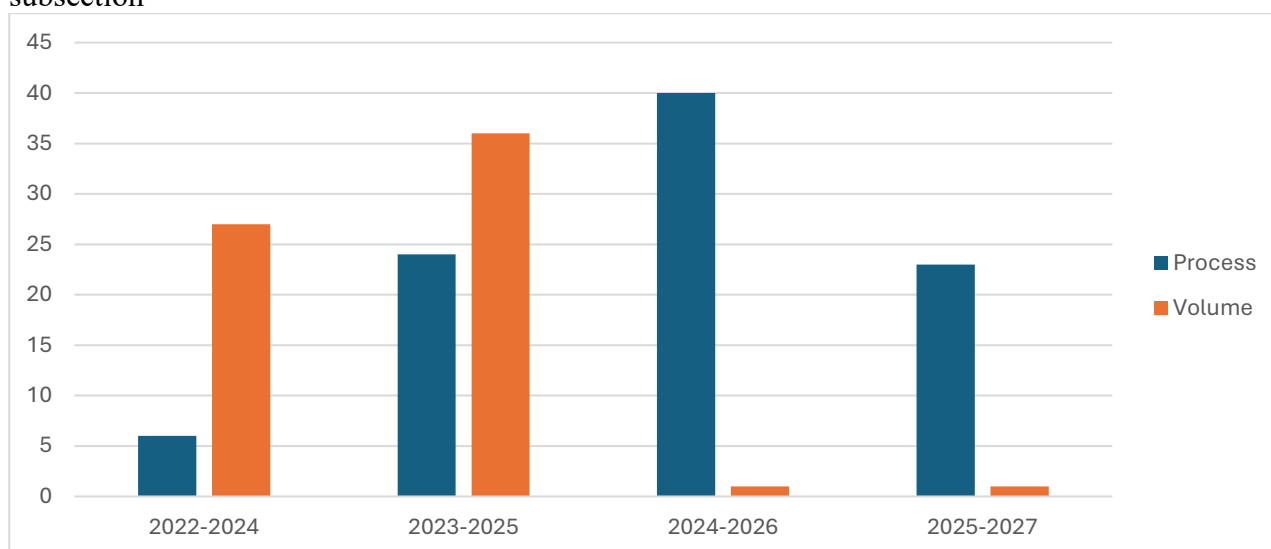


Figure 5 shows that the Performance subsection remains consistently dominated by process indicators across all four planning cycles. Their volume substantially exceeds other categories and fluctuates markedly over time. After reduction between 2022–2024 and 2024–2026, process indicators rise sharply in 2025–2027. This instability suggests organisations expand or contract operational measures through procedural adjustments rather than coherent strategic redesign.

Volume indicators form a small but stable component. Their persistence shows that even in a performance assessment area, measurement partly focuses on activity levels rather than progress or quality. This reflects enduring descriptive reporting practices not yet displaced by integrated planning. Outcome indicators are almost absent across the four planning cycles. This is the subsection’s main limitation, because it prevents assessment of whether actions yield meaningful improvements for users or communities. Overall, the subsection functions mainly as a procedural tracking tool, focused on internal compliance and task completion rather than on the assessment of results.

Figure 5. Distribution of indicator types across the four planning cycles in the Performance subsection

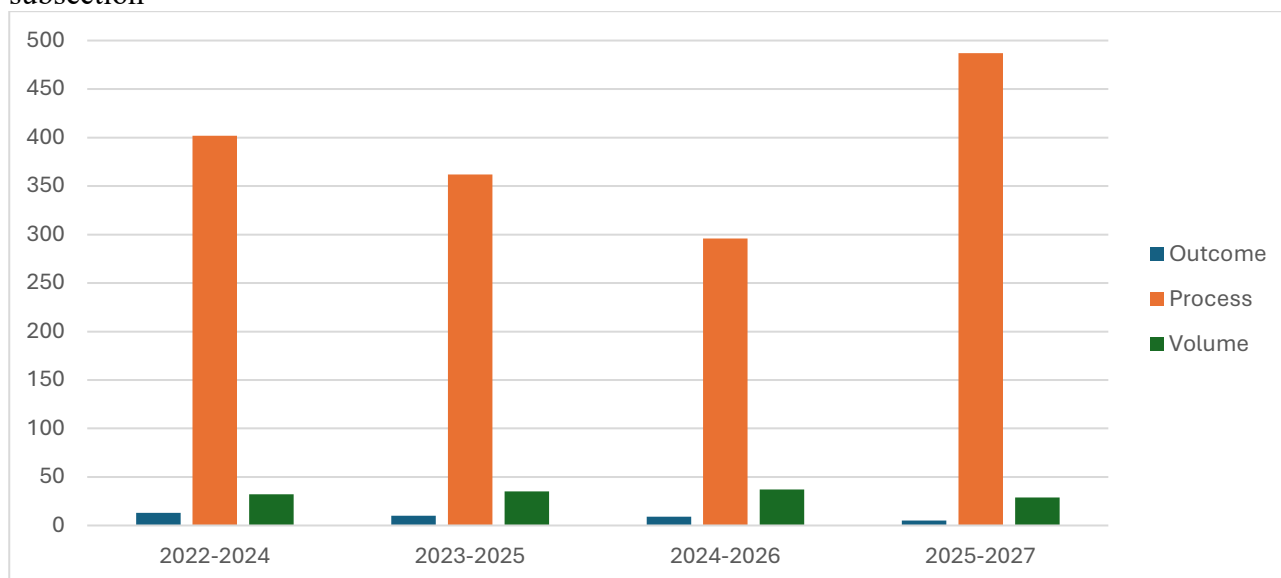


Table 4 shows that the most frequent indicators in the Public Value and Performance section focus overwhelmingly on internal procedures rather than results. The three most common concern

compliance with targets, compliance with timelines, and monitoring of action plans. Together, these account for more than one quarter of all indicators in the section. Their prominence confirms that organisations prioritise documenting task execution over assessing strategic objective achievement. The remaining indicators reinforce this pattern. Many relate to activities such as completing improvement actions, advancing digitalisation initiatives, or complying with transparency requirements. Although these align with national priorities, the indicators remain descriptive and rarely convey progress or effects. They avoid ratios or linkages between numerators and denominators that would enable proper evaluation.

Training indicators appear marginally, mainly as counts of courses or participants. This illustrates the measurement system's limited strategic orientation, documenting activity levels without evaluating capability development or public value contribution. Table 4 confirms that the Public Value and Performance section does not function as a results-oriented framework: the emphasis on internal processes, administrative compliance, and action tracking limits the PIAO's capacity to demonstrate organisational impact on citizens and communities.

Table 4. Most frequent indicators in the Public value and Performance section

Public value and performance	Number of indicators	Percentage impact
Compliance with targets	90	4,80
Cost and sustainability monitoring	56	2,99
Compliance with timelines	54	2,88
Monitoring of waiting times	43	2,29
Completing improvement actions	38	2,03
Controls	30	1,60
Advancing digitalisation initiatives	29	1,55
Compliance with transparency requirements	20	1,07
Training indicators	18	0,96
Screening activity indicators	16	0,85
Total	394	21,01

Figure 6 shows a pattern that differs from the rest of the PIAO. All three types of indicators remain present across planning cycles, and outcome indicators display a noticeably higher weight than in any

other section. In the 2022–2024 and 2023–2025 triennia, outcome indicators represent a substantial share of the total. This reflects the nature of agile work, which requires organisations to monitor not only activities and compliance but also the effects of new working arrangements on efficiency, service quality, and employee well-being.

Process indicators dominate the first two triennia, as organisations focus on defining procedures, eligibility rules, and internal monitoring mechanisms. Their reduction in 2025–2027 suggests either consolidation of these processes or a diminished strategic emphasis on agile work. Volume indicators decline progressively across cycles. This is consistent with the institutionalisation of agile work practices. Initial cycles require measurement of participation, access to tools and other quantitative aspects, which become less relevant once the system stabilises.

Despite the stronger presence of outcome measures compared to other areas, the sharp decline in all indicator types in 2025–2027 signals reduced organisational attention to agile work. This contraction limits the ability to evaluate how remote and flexible work arrangements influence organisational performance or contribute to public value.

Figure 6. Distribution of indicator types across the four planning cycles in the agile work subsection

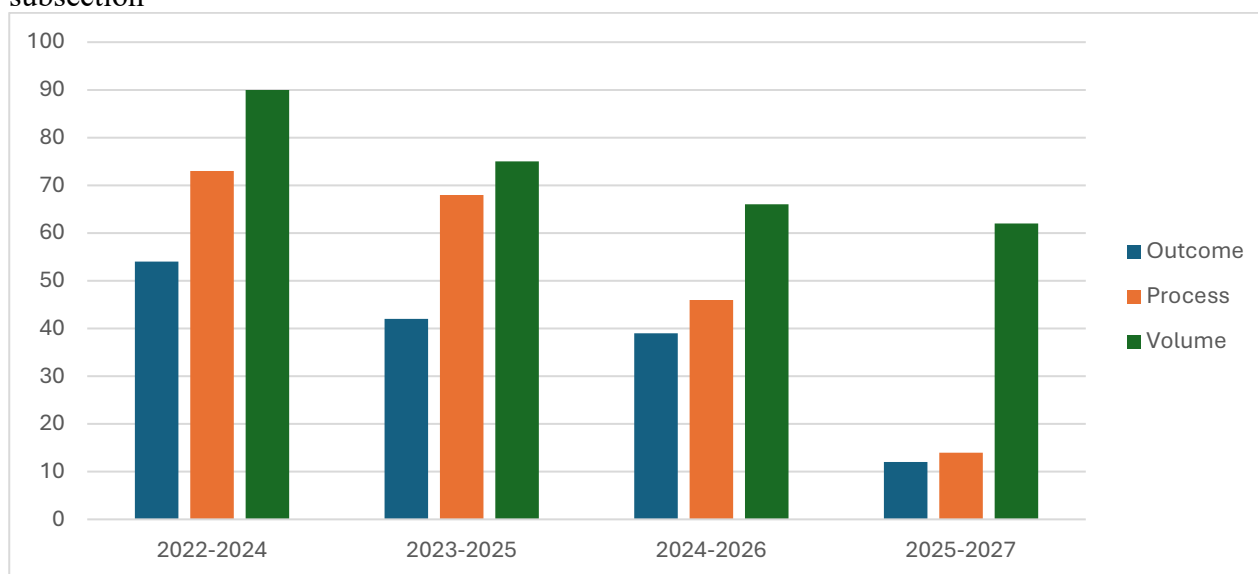


Figure 7 shows that the training subsection remains dominated by volume indicators across all planning cycles. These indicators refer to the number of courses delivered, participants involved, and total hours provided. Their prevalence confirms that organisations treat training primarily as an administrative activity to report rather than a strategic lever for capability development or performance improvement.

Process indicators appear only marginally and decline sharply after the 2022–2024 cycle. This suggests that procedural aspects of training planning and delivery stabilise early or receive no systematic monitoring later. Outcome indicators remain almost absent throughout, with no measures capturing effects on competencies, organisational processes, or service quality. This indicates weak connection to performance objectives and limited support for strategic steering.

The increase in volume indicators in 2025–2027 signals renewed emphasis on mapping activities rather than assessing whether training contributes to organisational capabilities or performance improvement.

Figure 7. Distribution of training indicators by type across period

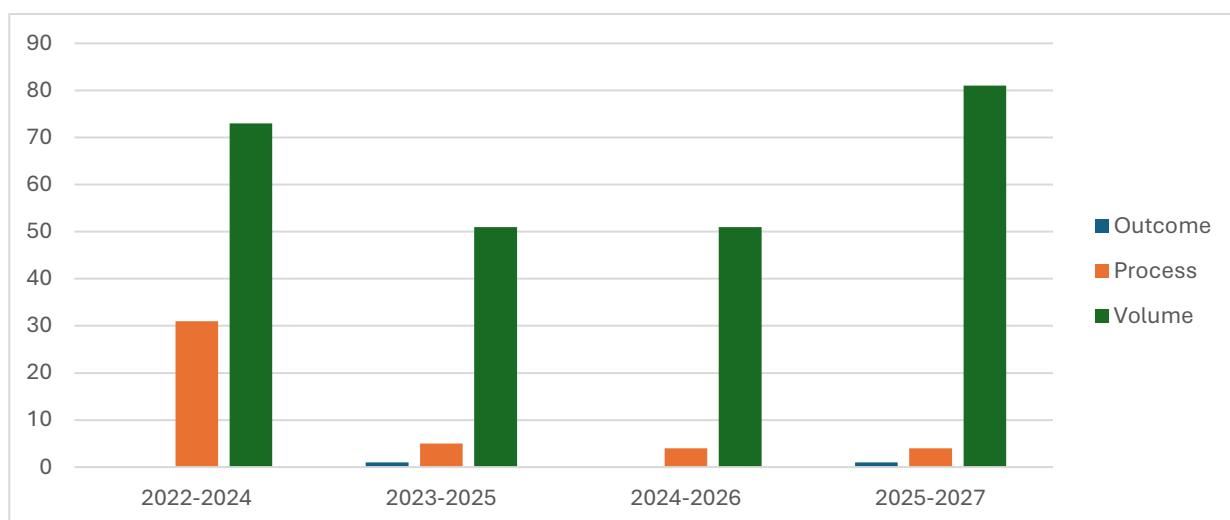


Table 5 highlights that measurement in the "Organisation and Human Capital" section relies predominantly on descriptive, activity-based indicators. The most frequent concerns training, specifically the number of courses delivered and participants involved, representing over 13% of all indicators. This confirms organisations view training as quantitative reporting rather than strategic capability enhancement.

The next common set addresses equipment and digital tools for staff, particularly for remote and agile work. These provide infrastructure insights but remain static, failing to evaluate contributions to processes or productivity.

Other frequent indicators cover agile work course editions and participants, staff distribution by department or level, and gender composition. These describe workforce structure without assessing alignment to strategic priorities or performance outcomes.

Smart working frequency, new hires, and terminations round out the most frequent indicator. Though potentially useful for dynamics and flexibility, their formulation lacks connection to performance or public value. Table 5 shows heavy reliance on volume measures for structural and training aspects. The near absence of outcome indicators reveals the section's disconnection from broader performance management, hindering results-oriented workforce development.

Table 5. Most frequent indicators in "Organisation and Human Capital"

Organisation and human capital	Number of indicators	Percentage impact
Number of courses delivered and participants involved	230	13,29
Organic allocation and staff requirements	206	11,91
Equipment and digital tools for agile work	114	6,59
Number of agile work course editions and participants	100	5,78
Staff distribution by department and level	96	5,55
Staff distribution by permanent and fixed-term	77	4,45
Staff composition by gender	76	4,39
Frequency of use of smart working	73	4,22
Number of recruitments or terminations	72	4,16
Staff composition by age	48	2,77
Total	1092	63,12

Table 6 reveals significant variation in PIAO document lengths across organisations and planning cycles, despite a common regulatory framework. In the 2022–2024 cycle, page counts range from under 30 to over 160 pages. This heterogeneity persists and intensifies in some cases; for example, ATS Milano grows from 135 pages in the first cycle to 218 in 2023–2025, stabilizing around 170–190 pages thereafter. Similar growth and partial consolidation patterns are observed in several ASSTs. Median page numbers increase overall across cycles, with fluctuations. This pattern reflects a general tendency towards longer documents at system level. Concurrently, high standard deviations peak in 2024–2026, signalling uneven expansion with some organisations significantly increasing document size while others keep more concise formats.

These trends indicate a shift away from the reform goal of concise, selective documents. Instead, organisations often migrate annex material into main texts, increasing length without improving strategic clarity or integration. The broad length variability underscores absence of a shared interpretive model for PIAO implementation. Table 6 highlights increasing complexity and reduced selectivity, hindering comparability, and limiting PIAO’s effectiveness as an accessible, strategically oriented planning tool.

Table 6. Number of PIAO pages by organisation and triennium

Organisation	2022-2024	2023-2025	2024-2026	2025-2027	Total
ATS Milano	135	218	168	196	717
ASST Niguarda	41	188	219	210	658
ASST San Paolo e San Carlo	109	115	120	155	499
ASST Fatebenefratelli	43	138	120	129	430
ASST Cto Gaetano Pini	110	135	136	77	458
ASST Ovest Milanese	52	70	61	63	246
ASST Rhodense	64	137	137	136	474
ASST Milano Nord	27	137	84	162	410
ASST Melegnano e Martesana	97	115	189	141	542
ASST Lodi	91	74	71	88	324
IRCCS Policlinico Ca' Granda	168	140	250	141	699
IRCCS Carlo Besta	74	105	97	94	370
IRCCS Istituto Nazionale dei Tumori	54	53	119	156	382

Total	1065	1625	1771	1748	6209
Mean	81,92	125,00	136,23	134,46	477,62
Median	74,00	135,00	120,00	141,00	470,00
Standard deviation	41,15	45,47	56,71	44,21	187,55

Taken together, the findings reveal a measurement architecture that is structurally misaligned with the goals of integrated planning. Three cross-cutting weaknesses stand out. First, outcome indicators are absent or negligible across all PIAO sections, with the partial exception of the agile work subsection in the early cycles. Second, the dominant measurement logic is activity-based: organisations systematically count what they do rather than assess what they achieve. Third, internal coherence is weak at every level: between strategic objectives and performance indicators, between human capital planning and organisational results, and between the formal ambition of integration and the actual structure of the documents. These weaknesses are not isolated or organisation-specific. They reflect a systemic interpretation of the PIAO as a compliance instrument rather than a strategic planning tool, consistent with broader patterns observed in Italian public management reform (Bigoni and Gagliardo, 2013; Mauro et al., 2021). Assessed through the lens of public value, these patterns reveal a systematic failure across all three dimensions identified in this study. Outcome orientation is absent, stakeholder responsiveness is not translated into measurable indicators, and strategic coherence between objectives, measurement, and organisational capabilities remains weak.

5. Discussion and conclusions

The analysis shows that the PIAO is still far from operating as a mature instrument of integrated planning and public value management. Persistent variability in the number and type of indicators, the dominance of descriptive measures, and the limited use of outcome metrics reflect an early stage of implementation. More importantly, the findings suggest that the main limitation of the PIAO does not lie in its formal design, but in the persistence of activity-based measurement architectures. While the reform formally promotes integration, strategic alignment, and public value, its implementation remains anchored to indicators that document organisational activity rather than assess its effects. The

result is a compliance-oriented adoption in which the PIAO is interpreted primarily as an administrative obligation.

A central limitation concerns the underlying logic of measurement. Across all sections, indicators remain descriptive and seldom assess progress towards strategic objectives. Outcome measures are almost entirely absent, except for a temporary presence in the agile work subsection, where some organisations initially experimented with impact-oriented metrics before abandoning them in the most recent cycle. Targets are frequently missing or incomplete, preventing organisations from evaluating changes in service quality, citizen experience, or organisational performance. This finding aligns with evidence showing that budget goal clarity plays a mediating role in the relationship between planning practices and actual performance outcomes in healthcare organisations (Rizzo, 2025). More broadly, it contributes to the literature on performance regimes by showing that integration reforms may fail not because organisations lack formal planning instruments, but because the underlying logic of measurement remains centred on activities, compliance, and procedural completion.

This pattern confirms that none of the three dimensions of public value identified in this study, namely outcome orientation, stakeholder responsiveness, and strategic coherence, is systematically reflected in current PIAO measurement practices. The result is a planning architecture that formally references public value without operationalising it. The documents therefore record activities rather than supporting decision making, learning or accountability.

Integration also remains weak. Although the PIAO formally brings together strategic objectives, performance measurement and human capital planning, internal coherence is limited. Human capital plans rarely connect staffing decisions to expected results. Training is measured almost exclusively through volumes, with a renewed expansion of activity-based indicators in the 2025–2027 cycle. The public value and performance sections seldom include indicators capable of assessing impacts, and only a small subset of organisations report metrics explicitly linked to public value. The frequent practice of repeating identical indicators across the three years of each triennium further signals the

absence of a shared design logic. Overall, consolidation produces aggregation rather than integration, hindering the development of a coherent planning architecture.

Document complexity further undermines the usefulness of the PIAO. The progressive increase in page length, together with the incorporation of annexes into the main document, dilutes strategic focus and makes navigation difficult. Median page numbers rise across cycles, confirming that expansion is a system level tendency rather than an isolated phenomenon. As a result, managerial actors face higher costs in using the PIAO as a steering tool, while external stakeholders encounter greater difficulty in interpreting organisational priorities. This weakens the potential of the PIAO to support transparency and public accountability.

Taken together, these findings indicate that the PIAO remains an immature framework whose potential is largely unrealised. Unlocking this potential requires stabilising the measurement architecture, strengthening the link between objectives and indicators and adopting a more selective and outcome-oriented approach. Policymakers can facilitate this shift by introducing minimum sets of core indicators, standardised templates, and clear rules for constructing measurable indicators. These elements would reduce unnecessary discretion, improve comparability, and provide a more stable basis for organisational learning.

Involving community and third-sector actors, including voluntary organisations, social enterprises, and citizen groups, in defining relevant outcomes would not only reorient planning towards impacts that matter for local well-being, but would also strengthen the accountability function of the PIAO as a public-facing document accessible to the broader ecosystem of community-based providers (Amelio and Orlandini, 2020; De Nicola and Fratini, 2024; Costanzo et al., 2025).

This study has two main limitations.

It focuses on a single territorial context. However, ATS Milano is among the most structurally complex healthcare districts in Italy and operates under the same national regulatory framework as all other public healthcare organisations subject to the PIAO requirement. This suggests that the

measurement patterns documented here, particularly the dominance of activity-based indicators and the absence of outcome measures, are likely to reflect systemic features of early PIAO implementation rather than context-specific anomalies. Comparative studies extending the analysis to other regions would allow this hypothesis to be tested and would strengthen the transferability of the findings.

It also analyses planning documents without examining how the PIAO is used in managerial practice, how objectives are negotiated or how the measurement system influences decision making. Future research should extend the analysis to other regions, explore the routines through which indicator sets are constructed and investigate how digital tools may support more coherent and outcome-oriented planning. Longitudinal studies could also clarify the conditions under which organisations shift from compliance oriented to strategic uses of integrated planning.

Despite its current constraints, the PIAO retains significant potential. However, realising this potential requires more than incremental adjustments. It requires a shift from activity-based reporting to outcome-oriented measurement architectures capable of linking objectives, indicators, and organisational capabilities. Without this shift, integrated planning risks remaining a formal exercise rather than a mechanism for steering, accountability, and public value creation in the Italian healthcare system.

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Renewable Energy Communities and Third Sector: Tools for Building Solidarity and Sustainable Communities. A Systematic Review.

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Scope

Most studies on renewable energy communities (RECs) focus on their relationships with local authorities. This article, however, offers a systematic review of the interaction between renewable energy communities (RECs) and third sector organizations (TSOs), focusing on faith-based organizations. The aim is to demonstrate how this interaction produces a suitable model for building supportive and participatory communities that promote social justice. The interaction examines the ethical, technical, and economic-legal aspects for faith-based and third sector organizations.

Design/methodology/approach

Based on a systematic literature review, the article demonstrates that little attention has been paid to the development of RECs involving religious organizations. To evaluate this interaction, an Italian case study is presented: the Vallette Energy Community (Piedmont). The benefits and advantages of RECs in the production and consumption system are discussed.

Results

The findings demonstrate that efficient energy sharing among community members promotes social justice, reduces energy poverty, promotes and protects environmental, social, and economic needs, and fosters the creation of caring communities.

Research limitations/implications

The study is limited by its small sample size, as cases of REC involving religious and voluntary organizations are still few and far between, but are increasing.

Practical implications

The model under consideration has practical implications for society, as it helps combat energy poverty among the economically disadvantaged; furthermore, a portion of the economic benefits generated by the REC will be used to pay the bills of families in difficulty.

Originality/value

Especially after the publication in 2024 of the “CEI Vademecum” on RECs, the research offers food for thought to local administrations, encouraging them to develop networks of renewable and solidarity-based energy communities, which can bring value from highly critical contexts, triggering profound changes with a view to greater environmental and social justice.

Keywords: Solidarity communities, Environment, Sustainability, Third sector, Renewable energy communities, Social value creation.

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1. Introduction

In recent years, new tools for shared governance (Angrisano et al., 2025) have emerged in the management and care of common goods and services of general interest that promote solidarity-based communities. A useful tool for this purpose, yet one that has so far been little considered, is that of Religious Energy Communities, established within the Third Sector. RECs are effective energy community tools that represent added value in our country (Aura C., 2022; Cilio et al., 2023; Martiniello, 2025); often celebrated internationally and surrounded by a mystical aura of “green” sustainability (Trassinelli, 2025). This article, adopting a critical perspective, examines, from various perspectives, the design and establishment of an energy community using the legal forms made available by the Third Sector, identifying the optimal conditions that religious-based RECs must meet.

The study of this model is supported by energy justice theory and social justice theory, both of which are considered appropriate and relevant for understanding the phenomenon through a fully holistic view; the implications deriving from transition justice have become a growing focus of research (Swilling et al., 2016; Gürtler and Herberg, 2023; Brisbois and Cantoni, 2025). Energy justice arises as a solution to the phenomenon of inequalities within the energy sector (Ren et al., 2025), ensuring energy equity, that is, the possibility for every individual to have access to energy (McCauley et al., 2019; Jenkins et al., 2021).

In particular, the theory of energy justice, which initially developed in the West since the early 2000s, is currently the subject of debate in academic and political circles. Many scholars have addressed it in the literature (Guruswamy, 2024; Heffron et al., 2013; Sovacool 2017, Dworkin, Heffron and McCauley, 2018; McCauley and Heffron, 2021), considering RECs as key entities for solving social, economic and environmental problems.

By following the contents of these theories, renewable energy communities will become useful models for creating supportive communities, promoting the energy transition and achieving positive results in terms of sustainable, inclusive and social development at the local level (Gotti & Greco, 2025).

Shared governance between renewable Energy Communities (RECs) and Third Sector Organizations (TSOs) enables synergistic collaboration for the production and sharing of energy from renewable sources, promoting inclusion and sustainability and supporting the energy transition. In the recent study by Rielli and Campos (2025), the results of the association between the REC and TSO models are perceived as a set of actions aimed at supporting, encouraging, and promoting social justice in the rapid expansion of solar energy.

Producing energy from renewable sources is the founding principle of the energy transition, which helps create shared value for society as a whole (Balegamire & Gautier, 2025), contributing to the social and economic development of local communities and to the quality of life of the population in terms of services offered, improved energy efficiency and therefore reduction of waste and resources (Aura, 2025). RECs represent an excellent example of collective participation among multiple individuals who cooperate with each other and combine resources, skills and aspirations for renewable energy initiatives that create value (Rossetto et al., 2022); the distribution of this value should reflect both community objectives, such as social inclusion, and a preference for redistributive justice (Hanke & Lowitzsch, 2020).

In recent years, interest in the sociopolitical dimensions of the energy transition has grown in the social sciences (Carrosio, 2024); particular attention is paid to the study of the inclusive and sustainable model of renewable energy communities, tools for promoting civic generosity that facilitate public life (Llewellyn et al., 2026). In the coming years, they will foster citizen associations, a spirit of sharing and aggregation (De Maio, 2025). Energy communities can be created by public and private entities, citizens, and third sector organizations, including religious organizations (Terrana, 2025); the primary purpose of RECs is to bring significant benefits to the national territory.

They play a key role in the decarbonization process as they simultaneously guarantee economic, environmental, and social benefits (Casalicchio et al., 2022), promoting national energy independence (Aura C., 2022). Introduced in Italy with the Milleproroghe Decree 162/2019, renewable energy communities are considered useful tools for the development of supportive communities (Vischi, 2024; Vesentini et al., 2024; De Maio, 2025), which foster better environmental, social, and economic conditions in the affected area. In a civil economy founded on the principles of reciprocity and solidarity, they represent valid tools capable of protecting the environment and building virtuous communities (Bonomi, 2025). Energy communities represent an innovative and inclusive response to the phenomenon of energy poverty (Taromboli, 2025) that promotes sociality, increasing the sense of community; as a tool to produce energy from renewable sources, renewable energy sources (RECs) represent an important driver of local development. They contribute to reducing energy poverty among the most vulnerable (Giannobile et al., 2024) and promote democratic access to renewable resources (Bosone et al., 2025). This article examines the crucial role that third sector organizations, particularly religious ones, play in promoting and developing solidarity-based energy models. A literature review is provided on renewable energy communities (RECs) and religious organizations as community members. Following the third sector reform, ecclesiastical entities have become part of TSOs themselves; although most studies have investigated the relationship between RECs and local authorities, the REC and TSO model has been little studied in the literature. This research fills this gap, and through a systematic literature review, we can also understand the current state of research on the creation of renewable energy communities, in which parishes can act as community aggregators, also involving other churches, religious institutions, and believers. Subsequently, the benefits of this model, born from the initiatives of TSOs, are described. RECs and ecclesiastical entities become a strategic lever for the creation and development of supportive communities, which create value in the local area and place citizens at the center as prosumers, rather than simple consumers, thus reducing inequalities and including the most vulnerable in the energy sector (Di Battista et al., 2024). Following a literature review, to better

understand the phenomenon, we analyze the practical case of an Italian Energy Community (REC) whose founding member is a religious organization. Third Sector Organizations, due to their multifaceted organizational nature, are ideal for the establishment of RECs; they represent a new type of entity introduced by the Third Sector Reform and described in the Third Sector Code. Apparently, RECs and TSOs may seem like two distinct concepts, but they are actually closely related: the former are groups of individuals who share renewable energy, while the latter are non-profit organizations with social purposes. Specifically, an energy community can establish itself and operate as a Third Sector Organization (TSO), aiming to benefit from fiscal, legal, and management advantages while strengthening and leveraging the principles of social inclusion, sustainability, and stakeholder aggregation. Specifically, RECs are considered a valuable collaborative governance tool, enabling TSOs to develop a resilient model capable of managing the impact of future risks and crises, both energy-related and geopolitical. Article 5 of Legislative Decree 57/2023 of the Third Sector Code establishes that TSOs' general interest activities also include service activities aimed at producing, storing, and sharing energy from renewable sources for self-consumption. Thanks to this innovation, third sector organizations become a valuable tool for establishing renewable energy communities that foster the creation of supportive communities, ready to play an active role in the energy transition, with the primary objective of combating energy poverty and shaping a transition based on energy justice (Hanke et al., 2021). Energy poverty is one of the 17 goals included in the Sustainable Development Goals of the 2030 Agenda (Husein et al., 2025), conceived as a strategy to ensure sustainable economic and social development in the coming years. Specifically, it refers to Goal 7, which aims to ensure access to affordable, reliable, sustainable, and modern energy services for economically disadvantaged households. This study focuses on the benefits of establishing a REC in terms of achieving European objectives for combating climate change and reducing the "energy poverty" of people experiencing poverty and vulnerability, thus helping to promote social cohesion in local communities. They represent a strategic tool for promoting the European Union's climate and energy agenda (Ceglia et al., 2022; Belmar et al., 2023; Barbano & Napoli, 2024); they play a

fundamental role in catalyzing the energy transition in urban areas, while also substantially contributing to the achievement of the SDGs outlined in the 2030 Agenda (Volpe et al., 2024). Using a REC model in the legal form of a TSO is advantageous, provided that profit distribution to members is not one of its founding objectives. The explicit reference in the CTS (and in the decree on social enterprise) to the typical activity of RECs further incentivizes their establishment. In fact, the Social Enterprise is a specific component of the Third Sector, a category of ETS that combines an entrepreneurial approach with a social mission, broadening the scope of social action. To make the corporate form compatible with the regulations on renewable energy sources, the company can be classified as a social enterprise, pursuant to Article 3 of Legislative Decree No. 112/2017, which imposes the requirement not to distribute profits, allocating them to institutional activities or capital growth, prohibiting any distribution, even indirect, to members and directors (Unioncamere 2025). However, a social enterprise is not an autonomous legal form; it is a qualification that complements the models already provided for by the Italian legal system, which carry out a primary activity of general interest, is non-profit, has civic, solidarity, and socially beneficial purposes, does not distribute profits, and must be established by public deed. In Italy, several regulatory interventions have recently been launched that define the implementation of renewable energy communities; they are emerging in the energy sector as a response to various challenges. Some Italian dioceses have already launched energy community projects, often in collaboration with energy cooperatives and companies in the sector. Examples include the Diocese of Bologna, which has promoted a REC with the support of Legambiente and other partners; several parishes in Lombardy and Veneto, which are installing photovoltaic systems to power not only churches, but also schools and social facilities in the area; and finally, Diocese of Castellaneta (TA). To support this model, the CEI (Italian Episcopal Conference), with the support of the Ministry of the Environment and Energy Security in Italy and the Energy Services Manager, has developed a “Manual” for the identification of renewable energy sources (REC). This Manual is based on one premise: attention to creation and the concept of integral ecology. The 70-page document is an excellent guide for dioceses, parishes, and religious

organizations. It contains guidelines to simplify access to the opportunities offered by renewable energy sources, encouraging more sustainable management of energy resources, with a focus on solidarity and social inclusion.

2. Literature review

In recent months, there has been much discussion about the ecological and energy transitions (Aura, 2022; Luchena et al., 2024; Poliseno, 2025), topics of great interest and debated with considerable involvement at the political, academic, and corporate levels. One of the pillars for promoting energy transition is strengthening energy democratization, where active citizen participation is essential to translate the population's real needs and make the process more equitable and inclusive (Stephens, 2019). To promote the energy transition, it is necessary to implement energy models and systems that promote and balance economic growth, environmental sustainability, and energy consumption (Yatzkan et al., 2025; Brisbois and Cantoni, 2025). Research and studies are oriented towards the development of climate strategies and eco-efficient systems such as renewable energy communities that fulfill this task; As drivers of sustainable transformation at the local level and of social cohesion, they are useful tools for energy production, contributing to the environmental and energy dimensions of the ecological transition (Aura C., 2025). It would be interesting to develop REC models across the country that can foster the energy transition by creating supportive communities. There is a growing literature on renewable energy communities in social and community-based enterprises (Bernardoni et al., 2022), as are studies on new forms of prosumerism between ecological modernization and degrowth, typical of RECs (Magnani & Scotti, 2024); one strand of literature describes RECs as an extraordinary instrument of structural and social well-being for families and businesses (Eroe, 2023). They also represent a valid instrument of the circular economy (Sessa, 2024). Of interest is the analysis of the Italian national and regional regulatory framework (De Vidovich, 2021), the relationship between energy communities, and the division of powers between the State

and the Regions (Provvvisiero, 2023), aimed at identifying the most suitable legal form for their establishment (Pallotta et al., 2023). Although in the European vision, the common objective, rather than generating financial profits, is to provide environmental, economic, or social benefits to REC members by encouraging autonomy, open participation, and local control, the paths undertaken by Member States vary. Each Member State, enjoying discretion, has created different models; for example, the Italian model focuses on incentives, while the French one is based on the creation of a local market (Lai et al., 2025).

Much of the research deals with the study of the main barriers that hinder the creation of energy communities (Moretti & Stamponi, 2023; Barbano and Napoli, 2024; Grignani & Hoops, 2025), while the study by Brisbois & Cantoni, (2025) states that most governments focus on on decarbonization strategies and thus on how to replace fossil fuels with renewable energy, neglecting to implement initiatives aimed at changing the social and economic conditions that citizens care about; these initiatives require more transformative strategies that enable equal participation and representation that reinforces the principles of a just transition. To be effective, the transition to zero-emission models must ensure equity to avoid exacerbating social injustices (Taiwo and Tozer, 2025). Energy equity is one of the priorities contained in SDG 7, which aims to recognize and guarantee people affordable, reliable, sustainable, and modern energy by 2030 (Walsh et al., 2022).

By connecting the concepts of justice, sustainability and transition, the world's ecological, economic and social challenges can be better addressed (Avelino et al., 2024). The RECs represent a valuable tool for integrating social issues, sustainable development and clean energy transition (Pizzuti, 2025). To complement the study of RECs, theories of energy justice and social justice are used in the literature as an analytical framework that further guides the investigation and serves as the main interpretative key to analyzing the observed dynamics and information collected on the phenomenon. Some literature considers energy communities as valid instruments of energy justice (Sciullo, 2025), which ensure the transition to renewable energy sources and the implementation of energy-efficient technologies, which bring equitable benefits to its members (Dudka & Magnani, 2024). Energy

justice is an integral part of the energy transition as forms of justice and human rights are currently being implemented in the energy transition (Heffron, 2022). Studies on energy justice by Sovacool (2016) They address the dimensions of equity in energy decisions and practices. They analyze the conflicts, social inequalities, and environmental damages resulting from energy production and distribution, proposing theoretical lenses for assessing equity, affordability, and sustainability. Equity can be found primarily in the distribution of benefits and burdens arising from energy production and consumption (Sovacool & Dworkin, 2015; Sovacool et al., 2019). Equity-conscious local governments face considerable pressure to achieve justice in transitions. However, they face myriad demands for justice while striving to ensure democratic representation and responsive governance (Gürtler & Herberg, 2023). Important is the study by Fraser and Honneth (2003) who, in the relational perspective of distributive justice, perceive maldistribution as an economic injustice that overlaps with the processes of cultural discrimination and status inequalities (Fraser & Honneth, Citation 2003, pp. 86–87).

The social justice approach instead focuses on sustainability in the energy context (Ilardo & Salinari, 2025), considered as equitable access to sustainable energy that becomes the cornerstone of economic and social well-being. The EU Electricity Directive 2019/944 establishes that “Energy services are essential to safeguard the well-being of Union citizens” and therefore must be easily accessible to all to ensure well-being; to this end, Member States should take action to provide active support to EU citizens experiencing energy poverty (Biresselioglu et al., 2021). The directive also eliminated administrative, technical, and financial barriers that limited the establishment of collective energy initiatives (Berka & Dreyfus, 2021).

There are studies on the experiences and prospects of RECs (Milanesi, 2025) and on the identification of tax regulations applicable to renewable energy communities (Allena et al., 2024). Furthermore, the literature focuses not only on environmental sustainability, but also on economic and social sustainability, and in particular on socio-food sustainability (Lattanzi & Isidori, 2024). Few have taken the time to analyze the relationship between RECs and the religious organizations that

participate in them. This study fills this gap in the literature. Since the flexibility of the electricity system is essential for the future energy management of each territory, RECs become a valid solution that will ensure the balance of the electricity system, reducing costs and optimizing consumption. Flexibility is described as the degree to which an electricity system can adapt to energy demand or supply availability, which is often scarce (Menniti et al., 2022). Unfortunately, in many local contexts, energy costs have exacerbated the problem of energy poverty, necessitating a paradigm shift in energy production and consumption, developing forms of energy production and consumption based on renewable sources and self-generation. Access to energy as a fundamental human right must be protected by targeted government actions and interventions (Shyu, 2021). Particularly in cities where economic poverty and low-income families are present, renewable energy sources (RECs) structured by third-sector organizations, including faith-based ones, make it possible to achieve carbon neutrality and mitigate barriers to energy supply for low-income groups. Collaboration with third-sector entities also increases the capacity of renewable energy sources to expand and multiply (Koltunov & Bisello, 2021), reducing the need for energy democracy and addressing energy poverty (Envall et al., 2023). Energy poverty conditions require energy-sharing models, typical of renewable energy sources (Martiniello et al., 2025), which are useful for promoting the energy transition. The primary purpose of renewable energy communities is undoubtedly to meet the environmental, economic, and social needs of their members, which take precedence over financial profits (Cielo A. et al., 2021; De Vidovich et al., 2021). They are of fundamental importance and play a key role in the energy transition, which requires a shift from fossil fuels to renewable energy, a key point in the fight against climate change (Aura & Scalera, 2024). They also represent a paradigm shift in energy and environmental performance, as emissions levels have become crucial and have reached unsustainable levels for future generations. They are also described as valid public architectures and socio-ecological infrastructures that create value for the territory (Palmieri & Pazzagli, 2025), combine decarbonisation and climate resilience objectives to achieve the climate targets set by the EU (Guagliandolo & Segreto, 2025), with requests related to the provision of new public spaces and

(Leone et al., 2023).

3. REC, TSO and religious organizations: a model for social inclusion

In the past, territorial development processes based on the social and solidarity economy, and in the paths undertaken by various categories and communities of interest, have often seen a high concentration of decision-making power, whereas it would have been necessary to open the strategic decision-making process to multiple stakeholders, as well as recognize the complexity of social challenges and their inherent needs (Sacchetti, 2018; Brisbois and Cantoni, 2025). It was necessary to create a system that identified community needs, actively involving local social actors, encouraging the active participation of citizens, local authorities, and businesses, fostering a culture of sustainability and the common good, and acting as ideal vehicles for promoting the energy transition with a strong social and territorial focus. In response to this problem, today, in line with the principles of communitarianism and the social and solidarity economy (ESS), the complex interactions between RECs and TSOs promote community well-being and provide a range of goods and services that combat energy poverty, fostering solidarity, social inclusion, active stakeholder participation, and environmental protection. The establishment of a renewable energy community, based on the legal forms envisaged by the Third Sector, It has the ambition of becoming, at a local level, a potential point of reference not only for social but also for energy resilience (Petteruti, 2023).

Renewable electricity can also be produced and consumed by members of the third sector (Slee & Hopkins, 2024). Among the initiatives promoted by third sector organizations to establish renewable energy communities, diocesan initiatives, supported by the CEI (Italian Episcopal Conference) and the GSE (Energy Services Manager), stand out. These initiatives combine innovation and solidarity, drawing inspiration from the principles of integral ecology contained in the encyclical *Laudato Si'*. This religiously inspired model aims to stimulate and implement concrete initiatives in the area of environmental sustainability, with clear social benefits for local community members, promoting the

inclusion of families experiencing social vulnerability and economic hardship. It is not a suitable tool for all specific situations where a response to energy poverty is needed; it must be integrated with other measures aimed at improving the conditions of vulnerable individuals, communities, and families, offering support for energy efficiency. This type of REC represents tangible assistance in the fight against energy poverty by promoting active stakeholder participation and social inclusion: a comprehensive approach that helps restore human dignity while preserving nature. The interaction between renewable energy communities (RECs) and third sector organizations, with a particular focus on faith-based organizations, serves to create a potential multistakeholder model that seamlessly integrates energy justice, social inclusion, and solidarity-based governance. Article 31, paragraph 1, of Legislative Decree no. 199 of 2021, subsequently amended by Legislative Decree no. 13 of 2023, established that the exercise of control powers over a REC may also be exercised by religious entities. Based on this definition, renewable energy communities become key to the creation and testing of new contractual models that encourage collaboration, aggregation, and sharing between public and private entities in the energy production and consumption sector.

A bottom-up approach is used to promote the ecological and energy transition, strengthening community bonds through shared decisions aimed at promoting the common good. Based on this approach, a REC becomes a “Social Matryoshka” (Bosone et al., 2025), an inclusive governance model that, like a container (the mother), brings together many different actors (the children), who participate in the common project by interacting with each other and indirectly obtaining social benefits that go beyond those provided for by law. Each energy community is composed of various actors, who use different types of smart enabling technologies; the entire process and the cooperation between the actors are organized and defined by the specific business model (Neska & Kowalska-Pyzalska, 2022). The social and solidarity-based nature represents the prevailing element (Cerreta et al., 2024). Specifically, this section discusses the ethical, technical, and economic-legal elements for religious organizations wishing to establish themselves as renewable energy communities, drawing on a bottom-up alliance model to combat energy poverty and promote supportive communities

(Molinari, 2022). The solution that allows religious institutions and groups to access this new legal framework initiates a form of cooperation between entities that produce, consume, and share energy from renewable sources, thereby reducing energy costs (Calia et al., 2024), increasing efficiency, and contributing to environmental protection. In this way, the religious and civil orders come together to establish a renewable energy community, creating clear economic, social, and environmental benefits in the area in which it operates. The REC is established as an autonomous legal entity with its own bylaws; its members participate openly and voluntarily and have the right to withdraw from the association at any time.

Religious organizations (RSOs) that are committed to establishing a REC have several ways to do so:

- a) As *energy producers* , they must own buildings with roofs or land for the installation of photovoltaic systems or other renewable energy equipment.
- b) as *consumers* , when thanks to the use of renewable energy produced in the community, they obtain a series of benefits by reducing the costs of their bills.
- c) Religious institutions (churches, dioceses, monasteries, parishes) can act as *community aggregators* , involving other believers and religious institutions in the energy sharing project.

Its constitution brings a series of benefits as illustrated in table 1:

Table 1: Benefits of a REC structured by religious organizations.

<i>Economic benefits</i>	<ul style="list-style-type: none"> • Incentives and fare refunds. • Access to public and private funds specifically earmarked for energy communities, such as those provided for by the PNRR. • State and regional incentives. • Funds dedicated to third sector organizations. • Tax breaks and incentives provided for the sector .
<i>Capital benefits</i>	<ul style="list-style-type: none"> • Promotion of cultural initiatives. • Restoration and management of historic buildings. • Adoption of innovative heritage management models based on sustainability and active community participation.
<i>Ethical and social benefits</i>	<ul style="list-style-type: none"> • Social cohesion. • Social innovation. • Energy autonomy.

	<ul style="list-style-type: none"> • Solidarity and inclusion. • Transparency and active participation. • Enhancement and sustainable development of the local area. • Approach and education for more sustainable behaviors. • Approach based on integral ecology.
<i>Environmental benefits</i>	<ul style="list-style-type: none"> • Greater environmental responsibility. • Reduction of CO2 emissions. • Reduce dependence on fossil fuels. • Integrated and circular waste management.
<i>Technical advantages</i>	<ul style="list-style-type: none"> • Greater stability of the electrical grid. • Technological innovation. • Flexibility and control. • Resilience. • Reduction of transmission and distribution costs. • Increase self-consumption of energy from renewable sources .

Source: Own calculation.

The ***economic benefits*** shared among its members are represented by:

- a) *incentives and tariff reimbursements* provided by Italian legislation for energy fed into the grid by renewable energy production plants serving the community and simultaneously (at the same time) withdrawn by its members or partners within the same primary reference cabin (Porcelluzzi, 2024);
- b) *Access to public and private funds* specifically earmarked for energy communities, such as those provided by the PNRR (National Recovery and Resilience Plan), which are useful for implementing the technical framework. For example, the PNRR allocates non-repayable grants of up to 40% for the construction of photovoltaic systems;
- c) *state and regional incentives* , for their development the Energy Services Manager specifically recognizes an incentive tariff for renewable energy fed into the grid, in addition to rewarding shared energy;
- d) *funds* dedicated to Third Sector Organizations;

- e) *tax breaks and benefits* The provisions for the sector aim to promote energy sustainability and reduce costs for citizens. These include a 50% tax deduction for the construction costs of photovoltaic systems.

The incentives described promote local development because they can be used for urban redevelopment projects, the enhancement of local services, or other community-based initiatives. Dioceses, parishes, and municipalities are at the heart of these projects, which aim to produce and distribute energy in the affected communities. They protect the environment and create value for the region because they are based on collective self-consumption (Balegamire & Gautier, 2025), responding to social needs for equity and sharing while integrating economic objectives.

In addition to the economic benefits, they generate *capital benefits* such as:

- a) *promotion of cultural initiatives, restoration and management of historic buildings* promote the use of clean energy;
- b) *adoption of innovative heritage management models, based on sustainability and active community participation* , since the link between renewable energy and cultural heritage promotes environmental and cultural sustainability, creating a virtuous circle;

ethical and social benefits are expected such as:

- a) *social cohesion* , because mutual trust and social bonds are created among its members;
- b) *social innovation*, aimed at alleviating energy poverty. This characteristic gives energy communities the qualification of “solidarity communities” (Miccichè, 2023; De Maio, 2024);
- c) *energy autonomy* , as it reduces dependence on external energy suppliers, and consequently increases the independence and energy security of the territory;
- d) *solidarity and inclusion* , established by the participation of every individual within the community, regardless of their economic conditions, and this promotes social inclusion and conditions of equal treatment within it;

- e) *transparency and active participation* of members ensure that members are fully aware of the transparent management of energy, generating greater responsibility and involvement;
- f) *valorization and sustainable development of the territory* , traceable in the new economic opportunities offered to the territory hosting the REC, thanks to the potential development of industrial networks and supply chains that manage renewable energy;
- g) *approach and educate residents in more sustainable behaviors* in the area where the REC is located. Community members share a more aware and attentive attitude to energy and environmental issues;
- h) *an approach based on integral ecology* that includes human, environmental and social dimensions.

In addition to the ethical and economic advantages, RECs produce **environmental benefits** , which can be found in:

- a) *greater environmental responsibility* , as the use of renewable sources for energy production helps reduce the carbon footprint and mitigate climate risks;
- b) *reduction of greenhouse gas emissions and air pollutants*, thanks to the use of renewable sources;
- c) *reduce dependence on fossil fuels* through the use of renewable energy;
- d) *integrated and circular waste management*, as waste is transformed into reusable energy resources. Reuse and recovery of excess heat have already been analyzed in studies on waste management according to the new circular economy paradigm (Aura, 2025).

technical advantages such as:

- a) *greater stability of the electricity grid*, i.e. having a more reliable local electricity grid thanks to the consumption of energy produced from renewable sources;

- b) *technological innovation* in integrated techniques such as photovoltaics, smart meters, storage, the Internet of Things (IoT), artificial intelligence (AI), big data and blockchain systems enable the local production and sharing of renewable energy, making the system more efficient and sustainable;
- c) *flexibility and control*: The ability to share energy produced from renewable sources among members helps balance energy supply and demand, making the grid more resilient. It reduces the need to transport energy over long distances, reducing grid losses;
- d) *greater resilience*: the ability to produce energy autonomously, without depending on the national electricity grid, reduces sudden “blackout” events that cause interruptions in energy supply, making the system more secure;
- e) *reducing transmission and distribution costs* is a closely related feature; it indicates that local generation and sharing avoids the costs and losses associated with long-distance energy transmission and distribution;
- f) *balancing energy supply and demand*: Energy management and control systems make it possible to store energy and balance excess by using it during periods of low demand, stabilizing the grid during peak periods;
- g) *increase self-consumption of energy from renewable sources*: reduce dependence on the national electricity grid.

These innovative energy generation and consumption models could play a significant role in the future in accelerating the energy transition process and reducing energy poverty (Ausiello & Sommese, 2023). Dioceses and parishes become catalysts for this new model based on environmental sustainability, solidarity, and innovation. They can be both founding members of the model and social communicators, aiming to raise citizens’ awareness of environmental issues in the affected areas. Diocesan energy communities become potential strategies that bring concrete value to the entire social community, creating promising opportunities for the ecological transition, capable of

combining environmental sustainability, technological innovation, and social cohesion. They can be developed using a “top-down” or “bottom-up” approach. Indeed, there is talk of a dualism between top-down and bottom-up models (De Vidovich et al., 2023). The “top-down” model, often promoted by public bodies or large companies, starts from a broader and more planned vision, while the bottom-up model, born from citizens’ initiative, develops from the bottom up, from local needs and direct participation.

4. Methodology

The methodology developed helps us understand how and to what extent the literature has studied RECs hosting religious organizations. The objective is to define the impacts of RECs (hosting religious organizations) on the development of supportive communities and on social and energy justice. The research methodology is structured on two levels. The first level was based on an analysis of relevant literature; particular attention was given to scientific contributions that have explored diocesan RECs in communities and their impact on social inclusion and solidarity. The second level of investigation aimed to delve deeper into the object of study by analyzing the benefits and advantages shared within the diocesan REC of Treviso. This model represents an example of a Catholic energy community, where the aggregator is the religious entity, i.e. the diocese, and within it the maximum sharing of initiatives at the local level takes place. The documents used for the case study were collected from social media channels, the website and the internet. Regarding the topic of REC, following the logic of the diocesan model, governed by the CEI manual, with a view to creating value for the territory, it was decided to conduct a systematic literature review. After a reflection on the concept of REC and religious organizations, the work focuses on a literature review using the Prisma methodology. The potential policies and tools adopted by diocesan RECs are analyzed. The systematic literature review, however, has produced little theoretical evidence on this topic: few studies exist. Aware that the narrative review has the advantage of providing general knowledge on the research topic analyzed, we preferred to adopt a systematic literature review, inspired by the

guidelines provided by Tranfield et al. (2003) and Thorpe et al. (2005), in order to carry out a review based on all the papers published in the last 5 years, i.e. from 2021 to the first half of 2025. We decided to analyze this time interval 2021-2025 for two reasons:

- Third Sector renewable energy communities are governed by Legislative Decree 199/2021 and the Third Sector Code (Legislative Decree 117/2017). This allows RECs to access tax benefits and incentives reserved for Third Sector Organizations, strengthening their social and community dimension;
- the institutional presentation of the “CEI Vademecum” for renewable energy communities, prepared by the Technical Table on renewable energy communities of the Italian Episcopal Conference in May 2024. The “CEI Vademecum”, in addition to providing some general information and suggesting useful tools and methodologies for local Churches and religious organizations, proposes a *road map* for the establishment of a CEI.

Specifically, the systematic literature review was built on the following research questions:

- RQ1: How many studies have analyzed the topic of “renewable energy communities” in the definition of “third sector” in the last 5 years?
- RQ2: How many studies have analyzed the topic “renewable energy communities” in the definition of “third sector” by adding the keyword “Italy” in the last 5 years?
- RQ3 How many studies have analyzed the topic “renewable energy communities” in the definition of “third sector” by adding the keywords “Italy” and “religious organizations” in the last 5 years?
- RQ4: Which topics have been explored in depth and which require further exploration?

The research analyzed a final dataset of 38 peer-reviewed articles from the Web of Science (WOS), Scopus, and Science Direct databases, considered the most reliable platforms for peer-reviewed

scientific and technical literature. Access to the search platforms ensured full-text access to scientific publications, including only peer-reviewed publications, allowing for a detailed citation analysis. Different Boolean search strings were used, covering the entire time period from 2021 to 2025 for the reasons explained above. The search string consisted of the following keywords: “renewable energy communities” and “third sector” and “Italy” and “religious organizations” in the Science Direct and WOS databases of scientific articles and publications.

Search phase on WOS, Scopus and Science Direct using keywords.

Phase 1

The first part of the analysis involved a review of the articles searched in the WOS database using the keywords (TOPIC KEY (“renewable energy community”) or (TOPIC KEY (“REC”)) and (TOPIC KEY (“third sector”)) covering the entire period from 2021 – 2025 and first months of 2026, in the research area:

- a) Green Sustainable Science Technology, b) Environmental Sciences, c) Environmental Studies, d) Political Science, e) Management, f) Business Economics, g) Public Environmental Occupational Health, h) Social Issues, i) Public Administration.

The search was refined for the following SDGs:

- 01) No Poverty, 07) Affordable And Clean Energy, 10) Reduced Inequality, 11) Sustainable Cities And Communities, 12) Responsible Consumption And Production, 13) Climate Action.

147 documents were extracted.

The same procedure was performed in the SCOPUS database using the following string (TITLE-ABS-KEY (“renewable energy community”) OR TITLE-ABS-KEY (“REC”) AND TITLE-ABS-KEY (“third sector”)) AND PUBYEAR > 2020 AND PUBYEAR < 2025 AND (LIMIT-TO (SUBJAREA, “ENER”) OR LIMIT-TO (SUBJAREA, “MEMBERS”) OR LIMIT-TO (SUBJAREA,

“ENVI”) OR LIMIT-TO (SUBJAREA, “ENGI”) OR LIMIT-TO (SUBJAREA, “BUSI”)) filtering

for the following available subject areas:

- a) Social Sciences, b) Energy, c) Environmental Science, d) Engineering, e) Business, Management and Accounting, obtaining 4 papers.

The same search terms were applied to the following areas from the Science Direct database: Energy, Social Sciences, Business Management and Accounting, and 6 results were obtained.

Phase 2

In a subsequent search on WOS, the keyword “Italy” was added. The new string, therefore, is as follows: (TOPIC KEY (“renewable energy community”) or (TOPIC KEY (“REC”)) and (TOPIC KEY (“third sector”)) and (TOPIC KEY (“ITALY”)). The new search returned 39 results.

The same procedure was carried out in the SCOPUS database by inserting the new keyword “Italy” obtaining the new string: (TITLE-ABS-KEY (“renewable energy community”) OR TITLE-ABS-KEY (“REC”) AND TITLE-ABS-KEY (“Third sector”) AND TITLE-ABS-KEY (“Italy”)) AND PUBYEAR > 2020 AND PUBYEAR < 2025 AND (LIMIT-TO (SUBJAREA , “ENER”) OR LIMIT-TO (SUBJAREA, “SOCI”) OR LIMIT-TO (SUBJAREA , “ENVI”) OR LIMIT-TO (SUBJAREA, “ENGI”) OR LIMIT-TO (SUBJAREA, “BUSI”)) detecting 3 documents.

Eight results were extracted from Science Direct.

Phase 3

In the final phase of the search, the last keyword was entered: “Religious Organizations”. “The new search string on WOS becomes: (TOPIC KEY (“renewable energy communities”) or (TOPIC KEY (“REC”)) and (TOPIC KEY (“third sector organizations”)) and (TOPIC KEY (“ITALY”)) and (TOPIC KEY (“Religious Organizations”)). The search returned 39 documents.

In the Scopus database the new search string is:

(TITLE-ABS-KEY (“renewable energy community”) OR TITLE-ABS-KEY (“REC”) AND TITLE-ABS-KEY (“Third sector”) AND TITLE-ABS-KEY (“Italy”) AND TITLE-ABS-KEY (“religious organization”)) AND PUBYEAR > 2020 AND PUBYEAR < 2025 AND (LIMIT -TO (SUBJAREA, “ENER”) OR LIMIT-TO (SUBJAREA, “SOCI”) OR LIMIT-TO (SUBJAREA, “ENVI”) OR LIMIT-TO (SUBJAREA, “ENGI”) OR LIMIT-TO (SUBJAREA, “BUSI”)) which returned 0 results.

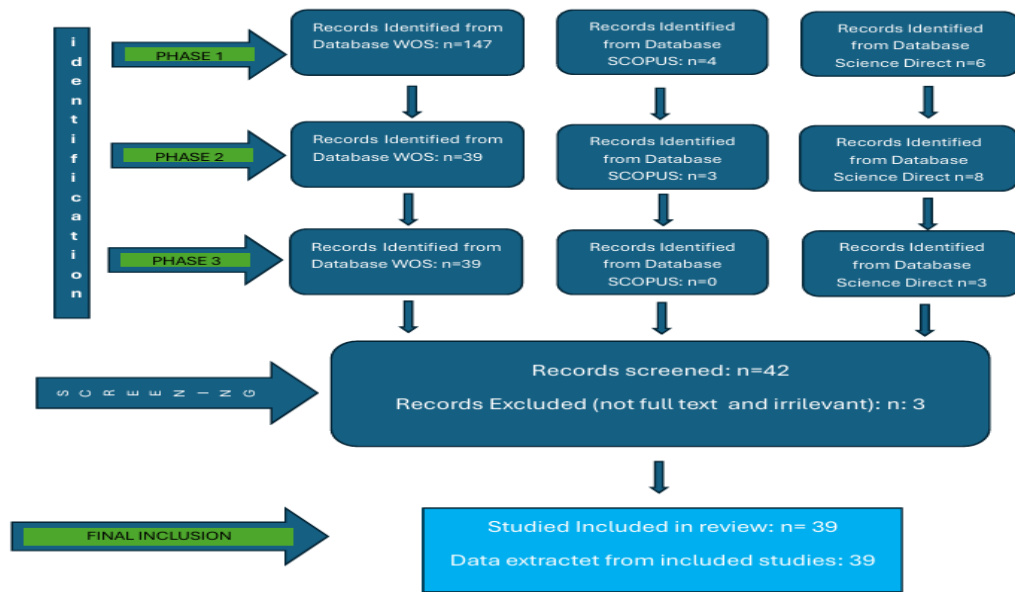
Three results were extracted from Science Direct.

Gradually, from the first to the third phase, new search terms were added to refine the analysis, focusing on articles that reference existing studies in the Italian context regarding REC, the third sector, and religious organizations. The trend appears to be decreasing; the number of studies present in literature decreases. Following the final phase, a systematic selection process was conducted to refine the dataset (Brescia et al., 2025).

The analysis then focused on the scientific works deemed most relevant to the researched relationship. Articles appearing twice and those not aligned with the topic of interest were eliminated, which were therefore negligible because they did not match the title, abstract content, or keywords. After filtering peer-reviewed journal articles from the three datasets, 42 documents were retrieved. Irrelevant documents and those without full text were subsequently eliminated, resulting in a total of 39 documents.

Figure 1 illustrates the final bibliometric research process and the data selection methods. To conduct an effective bibliometric analysis, the “Biblioshiny” program (Rella et al., 2023; Brescia et al., 2025) was used, an interactive web application based on Shiny (R language) that serves as a graphical user interface (GUI) for the R package “bibliometrix”.

Figure 1: Stages of bibliometric analysis.



Source: Own processing

Multiple interpretations of the role of energy communities have been identified; the analysis and interpretation of the research findings focused on the various implementation solutions for renewable energy communities, focusing on ecclesiastical renewable energy communities implemented with religious organizations. It was deemed appropriate to narrow the focus to those studies that focused on the benefits that can arise from the presence of religiously-based renewable energy communities. All of this is analyzed and studied from the perspective of shared creation of social, environmental, and economic value.

The second level of research in this article was conducted through case study analysis. A single case study (Yin, 2017) highlights the characteristics and nature of the specific case, providing a greater understanding of the phenomenon. The case study represents a research methodology that allows for the observation of the phenomenon through the analysis of the context in which it occurs, thus providing a very high level of understanding of the observed phenomenon and helping to bridge the gap between theory and practice (Chiucchi, 2014). The case study, with its tendency to reconcile theory and context (Welch et al., 2022), therefore proves to be an effective strategy. The sources used to collect the various elements define the methodological framework used for the case study analysis,

which will be illustrated later in the research. Table 2 illustrates the methodological framework relating to the information and type of data expected in both the first phase of the research and the second, when the case study will be illustrated.

Table 2. Methodological framework.

<i>Type of information</i>	<ul style="list-style-type: none"> - Data present in the databases cited. - Data available on the REC online site under study.
<i>Sources</i>	<ul style="list-style-type: none"> - Scientific publications on REC whose members are ecclesiastical organizations. - Online articles. - Public and institutional documents. - Official websites. - Social platforms.
<i>Aspects analyzed</i>	<ul style="list-style-type: none"> - REC Model - REC model structured by a religious organization

Source: Own elaboration.

5. Review results

The results of the review are reported in table 3. In the first search attempt on “WOS”, “Scopus” and “Science Direct”, the following terms were used: “renewable energy community” and “third sector” in the period between 2021, 2025 and the first month of 2026. 157 articles (147 + 4 + 6) were identified. The search was subsequently refined by inserting the topic “Italy”, obtaining (39 + 3 + 8) 50 articles in the last 5 years. and first month of 2026. Finally, the term “religious organizations” was entered, which returned (39+0+3) 42 results. From the 42 articles obtained from the last query, considered the most important, those not subject to peer review and lacking full text were eliminated. Among the remaining 39, they clearly show a lack of interest among scholars in analyzing the relationship between RECs and religious organizations.

Most of the articles that emerged during the first question (RQ1), and the second research question

(RQ2) show a greater interest among scholars in analyzing the relationship between RECs and TSOs.

Specifically, Ceglia et al., (2022) in a study explore REC as legal entities also formed by third sector entities; they are directly involved in the energy transition, with the aim of ensuring energy, environmental and social benefits, rather than economic profits, and fighting energy poverty through the obligation to involve all households, including vulnerable users.

Unfortunately, the lack of interest in further exploring the relationship explored in the third research question (RQ3) highlights the need for further research in this direction. This research fills this gap, offering suggestions and insights to the community, potential third sector organizations, and especially faith-based organizations.

Table 3: Decision flow for keywords.

<i>Decision flow on WOS</i>	
<i>Articles selected using the keywords “renewable energy communities” and “third sector”. Phase 1</i>	147
<i>Articles selected using the keywords “renewable energy communities”, “third sector”, and “Italy”. Phase 2</i>	39
<i>Articles selected using the keywords “renewable energy communities” and “third sector” and “Italy” and “religious organizations”. Phase 3</i>	39
<i>Decision-making flow on “Scopus”</i>	
<i>Articles selected using the keywords “renewable energy communities” and “third sector”. Phase 1</i>	4
<i>Articles selected using the keywords “renewable energy communities” and “third sector” and “Italy”. Phase 2</i>	3
<i>Articles selected using the keywords “renewable energy communities” and “third sector” and “Italy” and “religious organizations”. Phase 3</i>	0
<i>Decision flow on “Science Direct”</i>	
<i>Articles selected using the keywords “renewable energy communities” and “third sector”. Phase 1</i>	6
<i>Articles selected using the keywords “renewable energy communities” “third sector” and “Italy” Phase 2</i>	8
<i>Articles selected using the keywords “renewable energy communities” and “third sector” and “Italy” and “religious organizations”. Phase 3</i>	3

Source: Own elaboration

In summary, the data from the articles evaluated over the last five years reveal the following: the literature on renewable energy communities and third sector organizations is underdeveloped; furthermore, little attention is paid to the relationship between “REC” and “third sector” when the terms “Italy” and “religious organizations” are added. To streamline the analysis and reflect the topic under study, the articles most closely aligned with the content were selected. We address the research questions posed previously:

- RQ1: How many studies have analyzed the topic of “renewable energy communities” in the definition of “third sector” in the last 5 years?

AQ1: Over the past five years, 147 studies have analyzed the topic of “renewable energy communities” within the definition of “third sector organizations”. Not all are considered. Those that don't address the topic in depth are discarded.

Most of these articles, in investigating the coupling, are oriented to identify opportunities and challenges that energy communities face, particularly in terms of legislation, municipal governance and stakeholder participation (Bonfert, 2024). In particular, the study by Pezzagni et al., (2024) proposes a qualitative research model to fill the knowledge gaps related to Collective Energy Initiatives (CEIs) in some European countries, through desk research and surveys to identify the development stages and explore impactful practices; the authors study 14 CEIs organized as foundations and associations, finding that there are many barriers that hinder and promote such initiatives. The barriers are of various nature: legislative, political institutional barriers, lack of data, lack of fiscal incentives, poor technological infrastructure, supply chain/technical complexity of the entire process; an interesting aspect also emerges: awareness of renewable energy and energy cooperatives.

Despite these challenges, energy communities are becoming a significant element in the global paradigm shift towards a smart and sustainable energy environment (Budine & Delimar, 2025). Challenges related to the ongoing transposition processes in various EU Member States emerge in particular to highlight the main obstacles to the effective implementation of RECs, in terms of

governance, technical issues, and economic sustainability (Magni et al., 2024). Because access to funding for the establishment of a renewable energy community is difficult, and many people have no savings, energy communities are rarely formed (Hanke & Lowitzsch, 2020); the lack of savings often becomes one of the main obstacles to their establishment (Rahmani et al., 2020). With regard to environmental sustainability, stakeholders from all sectors—the state, the market, the community, and even the third sector—play a leading role, equally supporting decarbonization; in particular, in the study by Gooding et al. (2023), based on a survey of REC managers from the third sector and beyond, results demonstrate that partnerships that include third sector organizations are more likely to actively engage the public in REC implementation and maintain commitment to this goal in changing technological implementation contexts. When designing RECs, stakeholders have different values and concerns regarding the social, environmental, and technological dynamics of the energy transition, which need to be better understood to accelerate the transition (Campos et al., 2022). The success of urban energy projects is partly due to social factors, as most include local stakeholder engagement and broader community involvement (Gooding et al., 2023). Studies also pay attention to the creation of bottom-up RECs that include multiple actors, including third sector organizations (Otamendi-Irizar et al., 2022). Interest is also focused on studying the trust demonstrated in the creation of a renewable energy community, its influence on the local context, its composition, and the characteristics of the networks of actors that comprise it (Musolino et al., 2023). Some of these studies emphasize the importance of mutuality and the general interest; renewable energy cooperatives (RECs) are analyzed as models that play a key role in promoting a new energy paradigm that prioritizes equity and inclusiveness (Dudka et al., 2024). However, most studies consider renewable energy communities as a viable decarbonization strategy, aimed at replacing fossil fuels with renewable energy (Brisbois & Cantoni, 2025); a key mechanism to enable the integration and equitable sharing of locally generated renewable energy, while delivering environmental, social and economic benefits (Mutani et al., 2025).

RECs established by third sector organizations are perceived as useful actions to promote social justice in the rapid expansion of solar energy (Rielli & Campos, 2025).

We then narrow the scope of the investigation by inserting the keyword “Italy”, which allows us to answer the second research question:

- RQ2: How many studies have analyzed the topic of “renewable energy communities” in the definition of “third sector” by adding the keyword “Italy” in the last 5 years?

AQ2: Over the past 5 years, 50 studies have analyzed the topic of “renewable energy communities” within the definition of “Third Sector Organizations” by adding the keyword “Italy.” The results obtained from the analysis of the articles confirm that, together with the study of the “Italy” dimension, the number of articles halves. Unfortunately, the establishment of RECs in Italy is struggling to spread as it should, and very few are active (Blečić et al., 2023). Most of them are concentrated in Germany where “many actors play an important role in the governance of renewable energy: from the national government, to subnational institutions, municipalities, cooperatives, municipal utilities, and various associations and umbrella organizations” (Anfinson et al., 2023, p. 8). In Germany, important local actors in the transition to renewable electricity are engaged in community-based initiatives led by citizens (Fouladvand et al., 2022).

Italy is often cited in the literature on RECs involving Third Sector Organizations when mentioning Legislative Decree 199/2021, which expanded the number of entities that can access an energy community in Italy; in addition to families, local authorities, and SMEs, Third Sector Organizations and research institutions can also participate (Piazza et al., 2023). In particular, the study by Musolino et al., (2023) highlights that in the creation of energy communities in Italy, contexts are very important because they influence the ways in which actors meet in the networks. Their characteristics also depend on local conditions and available resources, as well as the needs and values promoted by operators or spokespeople, and all of this is consistent with the social context; “initiatives launched in Northern Italy are characterized by larger dimensions and a more effective presence of businesses

and/or universities and research institutes. Conversely, because of the socioeconomic context, initiatives related to the issue of energy poverty and promoted by non-governmental organizations (NGOs) prevail in the South". In the study by Mutani et al., (2025), an analysis of Italian RECs is proposed as matrices for the promotion and development of smart cities; the authors assert that the combined use of tools such as top-down and bottom-up improves energy resources by allowing greater involvement of all local actors, particularly citizens, who will thus be able to decide whether to join an energy community and share energy, thus solving the problem of energy poverty. Ferreira et al., (2024) identify in their study some associations as levers that act to mitigate energy poverty at the local level; in particular the authors using a Portuguese case study (REC Telheiras, Lisbon) located in one of its most populous civil parishes characterized by buildings with poor electrification and thermal discomfort, demonstrate that "the collaboration between the Local Partnership of Telheiras (a network of local non-profit organizations), and the local authorities, in particular the Civil Parish, of Lumiar, framed in a process of technical assistance of the EU Energy Poverty Advisory Hub (EPAH)" mitigate energy poverty at local level in a context of energy vulnerability. Esposito et al.'s (2024) study on the implementation of energy communities across Europe, including Italy, is useful; the analysis shows that the implementation of these innovative energy systems is not yet possible in all Member States, both due to the lack of a legal definition and the lack of economic incentives, which hinder their development; however, some studies are oriented exclusively towards the promotion of Energy Communities, an incentive that rewards, in €/kWh, the energy produced and consumed in the same period of time by community members (Magni et al., 2024). In many European countries, such as Italy, it is possible to implement a REC, despite differences in national regulatory frameworks. Thanks to the implementation of RED II, with Legislative Decree no. 199/2021, also known as the "renewable energy decree", the possibility of accessing the REC has been extended to religious, third sector, and research entities. Thanks to this Decree, communities based on the voluntary participation of their members, allow energy exchange between its members, accelerating

the process of decarbonization of the energy system, favoring the environment rather than financial profits (Wahlund and Palm, 2022; Tatti et al., 2023)

It foresees and strongly recommends adapting policies and measures to alleviate energy poverty; European countries must implement it with policies to support vulnerable groups (Hanke & Lowitzsch, 2020; Efthymiou et al., 2022). Support measures in Member States are often linked to the type of legal entity, rather than the functional context of the energy community (Lowitzsch et al., 2024; Capellàn-Pérez et al., 2020).

Dudka et al. (2024) further observe, in a comparative study of Italian and Belgian RECs, that the development of energy cooperatives requires a more structured collaboration between government and the third sector, with the aim of countering the commodification of the energy transition. In some countries, including Italy, considered pioneers in renewable energy, there is unfortunately a delay in the implementation of solar power (Rielli & Campos, 2025). Furthermore, in Italy and other countries, third sector stakeholders, such as cooperatives, non-governmental organizations, social enterprises, and community-based initiatives, are often neglected in EU programs aimed at encouraging energy transition and decarbonization (Husiev et al., 2023). Predicting consumers' interest in participating in organizational models of energy sharing, such as RECs, is possible through the study of behavioral, value-belief-norm (VBN), and diffusion of innovation (DOI) theories (Morgan & Canfield, 2021); This study shows that even a non-profit third sector organisation can become a facilitator to maximize the connectivity of the energy sharing system while minimizing losses and best serving the needs of a community (Wolske et al., 2017). The most significant obstacle to the creation of RECs is the initial investment, while the most important aspect is the number of consumers, with 100 being the indicative number to ensure the profitability of the business model (Gonzalez et al., 2023). In Italy, despite these challenges within the third sector, the community energy business model proves attractive and sustainable. Research, however, is turning its attention to a new model: Positive Energy Districts. Volpe et al., (2024) analyze this new model as the expression of forms of sustainable urban energy, noting how it is emerging and gaining ground among

researchers and urban planners, including associations among its members. In the context of smart and sustainable energy systems, the involvement of distributed generation technologies, smart meters, and blockchain technologies also favors the entry of new actors with new relevant roles in the market, public administration, the Third Sector, and community spheres (Campos et al., 2024).

Not surprisingly, according to the proposed analysis, the relationship between RECs and the Third Sector in Italy has received the most attention, while research on the same relationship in terms of religiously motivated RECs has received much less attention. The findings are based on the recent publication of the “CEI Vademecum” for renewable energy communities, published in May 2024.

We illustrate the findings in the third research question:

- RQ3 How many studies have analyzed the topic of “renewable energy communities” in the definition of “third sector” by adding the keywords “Italy” and “religious organizations” in the last 5 years?

AQ3: 39 studies address this topic. Articles deemed irrelevant because they focused more on the technical aspects than the social issues were excluded. The most relevant ones are therefore cited.

Specifically, the articles selected for study and analysis highlight how RECs that include religious organizations from the Third Sector have the potential to become, at the local level, a true point of reference not only for social issues, but also for energy resilience; they are an excellent example of a consolidated community, addressing common goals and geographically widespread in Italy (Costa & Campanini, 2024). This REC model, which also includes religious entities among its members (Esposito et al., 2024), carries out various social activities, contributing to social benefits. Therefore, it is desirable for an ecclesiastical entity to join it, not only to promote the country’s decarbonization, but also to generate direct income to support social initiatives. Costa and Campanini (2024) therefore argue that these types of RECs, in which religious entities are actively engaged, strengthen community bonds through shared decisions for the common good. Also in the study by Piazza et al. (2023) on renewable energy consumption, religious organizations are cited as Third Sector

organizations that can access an energy community. Blečić et al., (2023) conducted a qualitative investigation on the relationship between energy communities and social inclusion, through the study of a real case of an Italian energy community located in Cagliari, discussing the social acceptance of RECs, considering religious organizations such as churches among the member actors. The specific focus of the investigation also included religious leaders such as the parish priest of the neighborhood involved in the research; the project results show that energy communities are dynamic entities that evolve and change over time and assume a central role in the development of sustainable energy systems capable of including and involving many subjects, including those living in conditions of energy poverty, as they have the potential to provide answers to problems of social and economic inequality and the energy crisis. Faith-based organizations play a leading role in local energy communities, which are formed by groups of individuals to increase their independence and autonomy and reduce certain expenses (Moroni, 2024). In multi-user RECs, members may include private citizens, offices, SMEs, and even faith-based organizations, each with their own energy needs and investment capabilities (Esposito et al., 2024). Peeters et al., (2025) in a recent study discuss the complexity of RECs, attributed to the difficulty of finding information on the actual number of energy communities, and on the most relevant information. It would be necessary to include information on non-members or groups representing them, such as anti-poverty associations, religious organizations, or other community advocacy groups. This information could provide insights into the nature, accessibility, and inclusiveness of energy communities, especially regarding the principle of “open and voluntary participation”. Reading the articles resulting from the search, the analyzed content reveals that no one has yet studied or explored the model of a REC with an exclusively religious vocation. Based on these findings, we can reopen the debate by filling this gap in the literature, likely due to the lack of temporal evidence caused by the recent publication of the “CEI Vademecum” in May 2024. Let us now answer the last question.

- RQ4: Which topics have been explored in depth and which require further exploration?

AQ4: It would be necessary to focus on faith-based renewable energy communities, examining their structural aspects, benefits, and local impact from the perspective of creating supportive communities.

These are very important in the Italian context because they can participate in the energy transition in various ways, both as producers and consumers of renewable energy. As widely discussed, joining a REC by religious organizations contributes to reducing energy costs, combating energy poverty, and promoting integral ecology, creating supportive and equitable communities. Unfortunately, as highlighted in the previously cited study by Costa and Campani (2024), faith-based energy communities usually lack technical expertise, and it also happens that members of a parish wishing to join the community often find themselves unable to participate in the planned project due to belonging to another electrical substation.

Comments on the graphs

Table 4 shows the most relevant sources of the analysis.

Table 4: Most relevant Sources on REC and Third Sector

Sources	Articles
CHALLENGES IN SUSTAINABILITY	1
ENERGY POLICY	1
ENERGY RESEARCH I& SOCIAL SCIENCE	2
FRONTIERS IN SUSTAINABLE CITIES	1
INNOVATION IN URBAN AND REGIONAL PLANNING, VOL 2, INPUT 2023	2
INTERNATIONAL JOURNAL OF URBAN SUSTAINABLE DEVELOPMENT	1
JOURNAL OF CLEANER PRODUCTION	3
JOURNAL OF INNOVATION I& KNOWLEDGE	1
JOURNAL OF SUSTAINABLE DEVELOPMENT OF ENERGY WATER AND ENVIRONMENT SYSTEMS-JSDEWES	1
RENEWABLE I& SUSTAINABLE ENERGY REVIEWS	5
RENEWABLE ENERGY	2
SUSTAINABILITY	17
SUSTAINABLE CITIES AND SOCIETY	1
UTILITIES POLICY	1

Analyzing the complete list of 39 papers provided in the document produced by the bibliometric review, the following conclusions emerge:

- There are 8 studies and authors that discuss REC and Third Sector organizations.

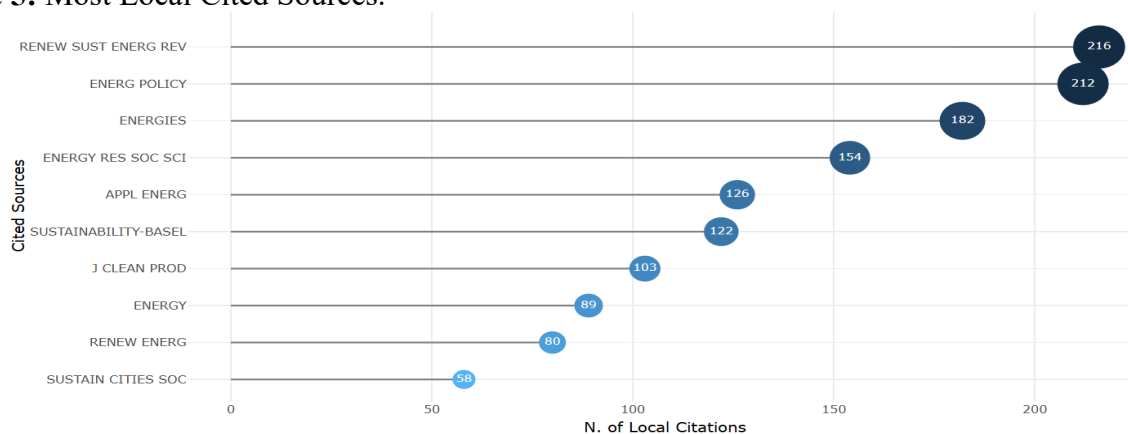
- The studies and authors that specifically discuss the topic of REC and Religious Bodies are 4 and they are the following:
 - a) Ferreira, E., Sequeira, M. M., & Gouveia, J. P. (2024). Sharing Is Caring : Exploring Distributed Solar Photovoltaics and Local Electricity Consumption through a Renewable Energy Community. *Sustainability* , 16(7), 2777.
 - b) Costa, V., & Campanini, F. (2024). Community-Centred Energy Planning: Within and beyond Administrative Borders. *Sustainability* , 16(5), 2049.
 - c) Esposito, P., Marrasso, E., Martone, C., Pallotta, G., Roselli, C., Sasso, M., & Tufo, M. (2024). A roadmap for the implementation of a renewable energy community. *Heliyon*, 10(7).
 - d) Piazza, G., Bracco, S., Delfino, F., Di Somma, M., & Graditi, G. (2023). Impact of electric mobility on the design of renewable energy collective self-consumers. *Sustainable Energy, Grids and Networks*, 33, 100963.

In the end:

- There are 27 non-related studies: Most of the remaining papers were classified as “Not relevant” or “Not included”, because they focused on purely technical aspects (e.g. batteries, stochastic optimization) without mentioning third sector organizations.

Looking at the trend emerging from our analysis, we note that most of the studies deemed relevant were published in 2024. This suggests that the inclusion of religious and third sector entities in Energy Communities is a very recent and rapidly expanding research topic. Table 5 lists the citations.

Table 5: Most Local Cited Sources.



The table presents a ranking of the 10 main scientific journals in which the authors have published their analyses, sorted by number of articles, resulting from the bibliometric analysis generated using the R software “Bibliometrix” and the “Biblioshiny” interface, on the research topic. There is a clear dominance of two journals that almost outperform all the others, each exceeding 200 articles:

- Renewable and Sustainable Energy Reviews (216): Being ranked first, it suggests that the research field analyzed relies heavily on reviews (literature reviews) and synthesis studies. It is a high-impact journal.
- Energy Policy (212): The massive presence of this magazine indicates that the topic is not purely technical/engineering, but has a very strong political, economic and regulatory component.

The ranking shows an interesting mix of different disciplines as it is not purely theoretical and technical research, but applied research with strong political and social implications.

- Social Sciences: The fourth position of Energy Research & Social Science (154) confirms that the sociological aspect (social acceptance, consumer behavior, energy equity) is central in this dataset.
- Applied Technology: Magazines such as Applied Energy (126) and J Cleaner Prod (103) represent the more practical and industrial side.
- Urban Planning: The final entry, Sustainable Cities and Society, suggests that some research touches on urban planning and smart cities.

The following is a commentary on figure 2 showing the Three-Field Plot.

Specifically, the graph shows a mature research field polarized along two fronts: those who write want to publish either in journals with very high review impact (the longest bar) or in policy journals. The first two bars (Renewable & Sustainable Energy Reviews and Energy Policy) are visually almost identical in length (216 vs. 212).

In table 3 node size represents keyword frequency. Colors identify thematic clusters. In the red cluster, we find that RECs and collective self-consumption, social impact, and active participation are fundamental to the development of social communities. Some key variables include the obstacles and barriers that hinder the creation of energy communities (Moretti et al., 2023; Grignani & Hoops, 2025) or the countries where they are most developed, such as Germany (Anfinson et al., 2023). We find significant importance in the purple node represented by the variable “integration”, a fundamental mechanism for enabling the equitable sharing of locally produced renewable energy, generating positive social and environmental impacts on the territory (Mutani et al., 2025). The green node relates to the creation of a framework to manage social policies useful for valorizing the model and reducing energy poverty by promoting inclusion (Hanke & Lowitzsch, 2020; Efthymiou et al., 2022). Other relevant variables (Blue Node) concern the complexity of social challenges and the needs that characterise them (Sacchetti, 2018; Brisbois and Cantoni, 2025) and the opportunities offered by religious organisations in creating social value and positive environmental impacts when part of a REC (Terrana, 2025; Calia et al., 2024).

6. REC of religious origin: the case of “Vallette REC”

Energy communities (RECs) offer religious organizations the opportunity to actively contribute to the energy transition, benefiting from the advantages of sharing renewable energy and promoting sustainability in their communities. Religious organizations, like associations and other third-sector entities, find their *raison d'être* in the people who comprise them, and this strong sense of social community among members is the foundation of the spirit of energy communities; they were created to unite diverse groups into a single, virtuous entity from an energy perspective. In Italy, numerous buildings are managed by associations and clergy; in particular, ecclesiastical organizations in Italy control nearly 46,000 properties and can represent a perfect solution for the creation of solidarity-based RECs, which unite community members to promote common and collective well-being. There

are approximately 25,471 parishes in Italy. Following the publication of the “CEI Vademecum” in 2024, even if energy communities among religious organizations were to be partially developed, Italy could truly become a model for other countries to follow. The “CEI Vademecum” is a valuable tool for addressing the issue and evaluating the first steps toward creating an energy community within a religious organization. The creation of a renewable energy community, including dioceses, monasteries, and churches, thus becomes a supportive community that helps combat energy poverty through energy efficiency in buildings and energy sharing among members. Energy sales and shared consumption generate revenue that can provide financial support to vulnerable communities in the region. Religious-led renewable energy communities, even if developed in small communities, can undoubtedly help support and increase the country’s energy resilience, as these groups become “self-producers” and “self-consumers” of their own energy needs. According to the Third Sector, the energy community is considered a cooperative with the sole purpose of promoting a social and solidarity economy and innovation in the energy sector, combating energy poverty and promoting energy sustainability (Moroni, 2024) ; Depeng et al., (2024) in their study present a comprehensive bibliometric analysis of the scientific literature on energy communities and cooperatives.

The analysis conducted by key themes and interconnections highlights how it is possible to create new cooperative models to promote sustainable energy systems, integrating technological innovation and community involvement. In recent times, cooperative forms of organization have led to significant progress in terms of energy use (Santos et al., 2024). Thanks to the concrete implementation of the Third Sector Reform and the publication of the “CEI Vademecum” in the Italian socioeconomic fabric, non-profit forms of REC have developed, which include religious organizations, very active in environmental and sustainability projects for the benefit of the local community. The Italian Episcopal Conference has proposed four models for establishing religiously led REC. Table 6 illustrates the proposed models. Based on the proponents, they are divided into:

Table 6: REC models provided by the CEI.

Model	Structure
<i>Ecclesiastical model</i>	<ul style="list-style-type: none"> - the promoter is the religious organization; - The participants are the parishes and possibly other individuals and families.
<i>Pluralistic model</i>	<ul style="list-style-type: none"> - the promoter is the religious organization; - other entities such as ETS and RSA; - involves the participation of a variety of subjects of different nature;
<i>Public model</i>	<ul style="list-style-type: none"> - the promoter is the Municipality; - It involves the participation of various entities, including religious organizations.
<i>Energy operator-driven model</i>	<ul style="list-style-type: none"> - The energy actor is the promoter; - It involves the participation of a variety of subjects of different nature.

Source: Own elaboration.

While it is desirable that in practice the pluralistic and publicistic models converge into a single, shared model, jointly promoted, the CEI nevertheless recommends that religious organizations prefer that the structures in which they invest be owned by the organization itself, so that they can benefit from self-consumption and sales revenues, whether they join the REC or decide to withdraw. Furthermore, in the pluralistic model and the ecclesiastical model promoted by the religious organization:

The Municipality is not specified among the participating entities; the reference to the Municipality is present in the public model, which also specifies religious organizations. However, the real challenge at the local level is the energy operator-led model; such a model could primarily use economic benefits to achieve a return on investment, resulting in social impacts that are secondary to energy efficiency impacts when assessing economic benefits. When establishing a faith-led REC, the “CEI Vademecum” requires the establishment of a working group to ensure that local projects are consistent with a common diocesan direction. This group must involve the relevant pastoral and administrative offices and must include technical figures with economic, financial, legal, and charitable expertise. The opportunities generated by the group establishing the faith-led REC must always be geared towards its social objectives, placing vulnerable people in the local community first.

A representative example of a solidarity and religious community for renewable energy that promotes energy justice by collaborating with the Third Sector is that of the Piedmont region, established by the Archdiocese of Turin in 2024. Unfortunately, it is currently not possible to provide precise numbers quantifying the number of religious renewable energy communities in Italy; there is no specific registry distinguishing them from others. However, it is possible that RECs exist promoted by or involving religious organizations, as these can be members of a REC, as specified by law. Below, we illustrate the case of the “*Vallette Energy Community*”: Renewable “Vallette” is a model of solidarity-based renewable energy, born in the working-class Vallette neighborhood of Turin, from which it takes its name. It began as a participatory foundation called “Energie di Comunità ETS” and includes a legal entity that will ensure the development of renewable energy communities within the Diocese itself. Adhering to the principles of environmental sustainability and ecological conversion, the Church of Turin has promoted a bottom-up model: the photovoltaic system, located on the church’s roof, perfectly exemplifies a participatory, bottom-up project aimed at promoting informed ecological and social choices. The model, in fact, is a grassroots initiative, thanks to the initiative of the Holy Family of Nazareth parish, citizens, and local needs. Its primary objective is local community development, with the goal of enlivening the neighborhood and promoting social justice by producing solar energy and reducing utility bills for vulnerable families. This model, based on a bottom-up approach, offers a number of advantages, such as greater citizen engagement, greater responsiveness to local needs, and the potential for more participatory, inclusive, and innovative projects. The project, funded by public and voluntary funds, represents a virtuous and innovative example, thanks to its flexibility and adaptability to local needs, replicable in other urban areas sharing the same energy and social challenges. As shown in Table 7, it specifically involves eight members selected from the most vulnerable; these are eight families whose homes are currently connected to the grid, created thanks to a 23.000 € grant from the Compagnia di San Paolo Foundation. It was initiated by the parish priest of Santa Maria di Nazareth, who has long been involved in social activities in the neighborhood. The parish priest is also responsible for distributing

shared electricity and managing payments and collections to sales companies and the GSE (Energy Services Authority). Thanks to the installation of a photovoltaic system on the church roof, it is able to generate electricity to be redistributed among its members. Its capacity is 20 kWp (kilowatt-peak). The model was created to transcend the idea of occasional assistance, offering a contribution to environmental protection; by sharing the energy produced, it will be possible to reduce costs and free up resources to pay for other basic needs of the eight vulnerable families. Another benefit of establishing the REC will be to promote social recovery and empower citizens to play a leading role in reducing energy pollution, addressing the problem of energy bills and initiating a process that has, above all, a cultural value: educating people about the consistent and conscious use of appliances, calibrating their schedules and alternating their use.

Table 7: Details of the La Vallette Energy Community.

Characteristics	Amount
<i>Number of members</i>	8 families
<i>Proposed model</i>	Bottom up
<i>Capacity in kW</i>	20 kWp (kilowatt peak).
<i>Energy flows</i>	21 MWh Total energy produced
<i>Community environmental impact</i>	10 kg (carbon dioxide)
<i>Savings and compensations</i>	4 TOE (tons of oil saved)

Source: Own elaboration.

The model promoted in Turin by Vallette is scalable and can be implemented in various directions with the aim of improving the area's energy efficiency, encouraging the development of new cooperation projects.

7. Conclusions

The governance system of Third Sector Organizations and the content provided in the "CEI Vademecum" perfectly meet the information required by the RECs; therefore, the alliance between

renewable energy communities and the Third Sector can help reshape the social fabric of our country, becoming a valid model for the creation of supportive communities. The model of renewable energy communities today represents an important and progressive area of research (Agliata et al., 2025), useful for combating energy poverty among the most vulnerable (Giannobile et al., 2024).

The growing urgency of the energy transition, particularly in disadvantaged and ecologically sensitive regions, requires spatially informed planning tools (Agliata et al., 2025) to guide the development of renewable energy and create mechanisms for solidarity and energy justice (Hanke et al., 2021). Policymakers and regional planners choose how to address climate change by promoting the energy transition through targeted and environmentally sound strategies; they tend to foster equity and social inclusion, combating energy poverty by prioritizing community-focused approaches, programs, and strategies, and energy justice. They seek to adapt transition plans and actions to the evolving needs and insights emerging from communities in their sociopolitical contexts (Taiwo and Tozer, 2025).

At this point in the analysis, we can state that: the topic of REC and religious third sector organizations remains in an exploratory, emerging, and growing phase. Current literature highlights the potential role of religious organizations in promoting and supporting REC, both as direct promoters and as catalysts for participation, and is drawing attention to this model from various disciplines, including economics. Dioceses and parishes are becoming catalysts for this new model based on environmental sustainability, solidarity, and innovation. In this sense, the third sector, composed of associations, cooperatives, foundations, religious organizations, and volunteers, can be an important ally; it has a deep connection with the local community, understands its social fragilities, and engages daily with those at risk of exclusion. Since Italy is among the European countries where families have the greatest difficulty paying their electricity and gas bills, renewable energy communities can help reduce energy poverty among individuals and families experiencing poverty and vulnerability, developing renewed social cohesion in local communities. A family is considered to be in energy poverty when paying electricity bills causes financial hardship. Renewable energy communities can represent a concrete way to combat energy poverty. They are a powerful tool for social cohesion,

promoting forms of energy solidarity that translate into new resources to support families in need and local associations. The new model becomes a solution that contributes to the achievement of the aforementioned Goal 7, included in the Sustainable Development Goals of the 2030 Agenda. For these reasons, it is necessary to raise awareness among TSOs and citizens with appropriate information campaigns about the concrete opportunities offered by RECs, which currently represent a more equitable, participatory, and sustainable energy management model, capable of strengthening the social network and eliminating costs on bills. Based on these guidelines, energy communities will be communities that harness the best energies within churches and society and that will be able to include vulnerable and disadvantaged groups by creating virtuous paths. They will become tools for the proper management of the assets and resources entrusted to churches for future generations of faithful. Faith-based organizations involved in the creation of solidarity RECs are initiating and, over time, will initiate a cultural shift that will generate concrete planning and improvements for the common good. They will also contribute to achieving European climate change objectives by promoting a just energy transition. After analyzing the “Vallette” REC in Turin (Italy), it can become a model to be imitated and replicated by other parishes and in other contexts facing energy poverty and economic disadvantage.

By implementing similar models that harness the clean and infinite energy of the sun, the affected areas will be able to reduce their heavy dependence on the electricity grid and the fluctuations of the international energy market, promoting social inclusion, energy justice, and social cohesion through the involvement of diverse community stakeholders, including the most vulnerable. Integrating renewable energy models with social ethics will address many persistent and potential inequalities within the energy sector, creating social harmony across the region (Ren et al., 2025). Although the objectives are aimed at creating common social well-being, some literature predicts that future work will address alternative operational paradigms, based on the cooperative approach (De Juan-Vela et al., 2023); possible models will be evaluated in which individual members of energy communities

will give priority to the economic benefits that will derive from the possibility of competing with each other, in order to maximize their individual objectives (Moncecchi, 2020; Norbu et al., 2021).

It will also stimulate local economic development, creating new skills and job opportunities in the renewable energy sector. Ultimately, the synergy between a renewable energy community and a religious organization, as demonstrated by the Vallette renewable energy community, can lead to sustainable and participatory cultural heritage enhancement projects, benefiting both local communities and the environment. This partnership represents a virtuous example of collaboration between various stakeholders to address energy and environmental challenges with an inclusive and supportive approach. However, there is still a lack of consistency in the literature in conceptualizing the benefits of renewable energy communities for various stakeholders (Cavana et al., 2025); furthermore, an official and comprehensive census of renewable energy communities is not yet available. The only organization that provides data on their diffusion is the GSE, which is also responsible for managing the funding allocated by the PNRR for the creation of these communities, although even today limited funding prevents the development of energy systems based on renewable energy (Karunathilake et al.; 2018; Rahmani et al., 2020).

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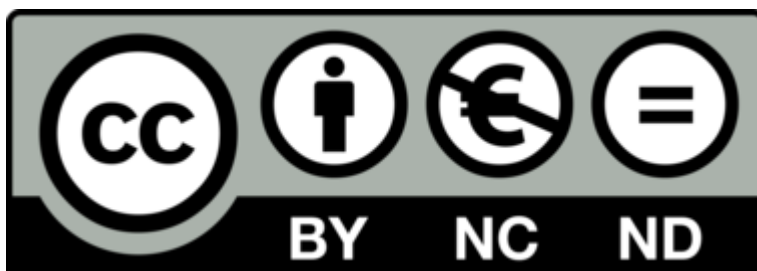
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