

CHAPTER V

Use of AI in Pastoral Care: Innovation to Serve Catholics

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Abstract

The advancement of artificial intelligence (AI) technology opens up opportunities and challenges for the pastoral care of the Catholic Church. This paper examines the potential and strategies for optimising AI to improve the quality of pastoral care effectively and ethically. The results show that most parishioners expect the Church to use digital technology and AI to access online spiritual content, virtual counseling, and online communities to respond to contemporary situations. Meanwhile, the Church needs to develop ethical guidelines and a comprehensive pastoral AI policy by involving the community of believers from the beginning. AI implementation is recommended to adopt a hybrid approach, combining AI decisions and human judgment in significant administrative and pastoral functions. Auditing AI algorithms is also essential to ensure no bias or potential discrimination against minorities. Training and digital literacy for pastoral ministers and those in authority in a Church community will significantly support the optimal and ethical application of AI in line with the values of the Catholic faith. With the proper ethical and policy framework, AI can significantly improve the Church's pastoral care quality.

Keywords: Artificial Intelligence (AI), Pastoral Care, Ethics, AI Implementation.

Introduction

Artificial intelligence (AI) has undergone significant advances in recent decades. These rapid developments are occurring in key areas of AI, such as computer vision, machine learning, intelligent robotics, and natural language processing (Rao et al., 2022; Schwarting et al., 2023). AI can already do many tasks that match or exceed human cognitive capacities. According to a McKinsey Global Institute study, using AI technology would boost productivity across various industries, adding an estimated \$13 trillion in value by 2030 and contributing 1.2% to global economic growth (Bughin et al., 2017).

AI applications have penetrated almost all industries, from finance, healthcare, transportation, and agriculture to defense and security. For its excellence in processing massive amounts of data and making accurate predictions, AI has the potential to provide significant benefits to humanity. This view is supported by an Accenture study that AI could increase labor productivity by 40% and global economic growth by 1.7% by 2035 (Purdy & Daugherty, 2016). With its advantages in collecting and analysing data on a large scale and accurate predictive capabilities, AI has the potential to provide significant benefits to humanity.

The Catholic Church is not an exception, as it can likewise use AI advancements to enhance the pastoral care it provides to the faithful. Based on a Pew Research Center survey in 2021, the adoption of digital technology among American Catholics is increasing rapidly, with 88% utilising the internet for spiritual activities, 79% accessing religious content online, and 51% participating in virtual mass. This phenomenon also encourages the Catholic Church to optimise digital technology and AI to improve the quality of pastoral care to the people.

As affirmed by Pope Francis, technology should be utilised for noble purposes with the principles of Catholic social ethics that prioritise human dignity and common welfare (Francis, 2019). In pastoral care, AI can help automate administrative processes, analyse parishioner data, and deliver catechesis and counseling virtually (Atwood-Blaine, 2021). However, implementing AI in religious and pastoral contexts certainly faces challenges, especially in maintaining harmony with the values of faith and Church teachings. Catholic theologian Nicanor Lariosa (2022) argues that the application of AI must be in harmony with the mission of the Church and the values of faith while still placing humanity as the image of God at the centre. With wise consideration, AI can be a partner in the Church's mission of evangelisation in the digital age.

Therefore, in this case, a more comprehensive analysis of the use of AI in the context of pastoral care provided by the Church is needed. The objective is to assess the possibilities and obstacles associated with incorporating AI technology to enhance the quality of pastoral care within the Catholic Church. Special attention is given to ethical considerations and aligning with the teachings and values of the Catholic faith in integrating AI. The anticipated outcomes of the study aim to develop recommendations for a comprehensive AI optimization strategy, considering the theological, philosophical, and ethical dimensions of the Catholic Church in utilizing technology for pastoral care, ultimately for the glory of God and the common good. This research centers on three main areas: (1) examining the digital and AI-driven pastoral service expectations and needs of the

people; (2) exploring Church directives and policies regarding AI use in pastoral settings; and (3) devising effective AI implementation strategies consistent with Catholic ethical values in providing pastoral services to the people.

Literature Review

An Overview of AI Development and Pastoral Care Applications

In light of the rapid advancements in artificial intelligence (AI), it is imperative to undertake a comprehensive review of the development and application of AI in Pastoral Care. Aligned with Aggarwal's (2018) assertion that AI capabilities have reached a stage where they can rival, if not surpass, human cognitive abilities in specific tasks, religious institutions, including churches, are compelled to confront the profound impact resulting from these technological advancements. For instance, Hebrews' research (2021) illustrates the Church's utilization of AI in sermon content recommendation systems and sentiment analysis of parishioners, enhancing religious participation.

Similarly, research by the Institute of Catholic Studies (2022) reveals the application of machine learning algorithms in automating the categorization of publications and archiving Church content. Moreover, Kim and Park (2020) highlight implementing augmented reality technology based on computer vision AI as an interactive medium for religious education. The Vatican document (2020) acknowledges that AI can enhance Church administration efficiency, such as asset inventory, though ethical challenges must be considered. In this context, understanding the contributions, influences, and penetration of AI developments in pastoral care within the church becomes essential.

Furthermore, Wang et al. (2019) indicate that the Church is currently integrating AI for religious and spiritual purposes, encompassing automation of administrative processes, provision of virtual reality for parishioners' spiritual experiences, and online pastoral care and counseling services through chatbots. The Archdiocese of Chicago's Justice and Peace Council's document

The Ethics of Artificial Intelligence (2022) affirms the potential application of various AI innovations by the Catholic Church, including virtual chatbots for counseling, algorithms for analyzing demographic data and parishioner preferences to deliver suitable sermon content, and computer simulations for clergy ethics training. Additionally, Atwood-Blaine (2021) cites several AI breakthroughs in the Church context, such as automated recommendation systems for sermon and devotional content, interactive voice assistants for prayer and praise, and text or

data mining for religious digital literacy. Furthermore, AI advancements in computer vision and augmented reality can be leveraged by the Church for interactive viewing of catechesis content for children (Kim & Jang, 2020). Similarly, machine learning algorithms for sentiment analysis and emotion/behavior recognition have the potential to be applied in monitoring and evaluating parishioners' participation in mass and other spiritual activities (Ann et al., 2020).

With its diverse potential, the Church must continue to explore how AI can be optimized to enhance the quality of pastoral care for the glory of God and the common good. Referencing the study by Wang et al. (2019), which analyzed various studies related to AI's application for religious and spiritual purposes, it was found that AI has been employed in the automation of church administration processes, virtual reality for spiritual experiences, and chatbots for counseling.

Potential and Challenges of AI Use in Pastoral Contexts

The integration of AI within the pastoral domain of the Church demonstrates significant potential for enhancing the quality and outreach of services to the people, as evidenced by the findings of Camila et al. (2020). A survey by Salesforce (2021) indicated that 61% of religious institutions expressed interest in adopting AI as a strategic approach to augment parishioner participation and engagement. Some prospective AI applications include leveraging natural language processing algorithms to analyze and tailor sermon content for increased resonance (Hyun et al., 2022).

Moreover, innovative mediums such as interactive chatbots and voice assistants have been identified for delivering online pastoral counseling to parishioners (Yang et al., 2021). Computer vision algorithms have also been emphasized as a solution for fostering more interactive religious learning experiences for children (Correia et al., 2020). Meier et al. (2021) additionally proposed that machine learning can support the digital knowledge management of the Church's theological publication assets.

Despite its promising potential, the implementation of AI within the Church's pastoral context encounters various ethical challenges that cannot be overlooked, as underscored by the Vatican document on AI ethics (Holy See, 2020). Camila et al. (2020) highlighted several ethical concerns, including algorithmic objectivity, digital bias, and issues related to data injustice. These

challenges underscore the necessity for practical, innovative designs that adhere to inclusivity and equity principles by the Church's ethical guidelines.

In this context, the Catholic Church maintains that every decision and utilization of technology, including AI, should be grounded in moral principles centered on human dignity, social justice, and environmental sustainability (Pope Francis urges ethical use of artificial intelligence - Vatican News, 2023). A thorough consideration of the ethical and societal impacts of AI usage is imperative, and concerted efforts should be made to address disparities in marginalized groups' access to digital infrastructure, aligning with the Church's guidelines (Holy See, 2020). Therefore, a holistic approach that combines technological innovation with ethical values and justice is essential to foster the positive development of AI applications in the Church's pastoral care.

Ethical Principles of AI from a Catholic Perspective

The rapid advancement of artificial intelligence (AI) has raised ethical concerns in the Catholic Church about using this new technology. The Vatican has responded to this situation by releasing several documents since 2020 that outline the Church's ethical position on AI. Two such articles are the *Ethics of Algorithms* by the Pontifical Academy for Life (2020) and the *Rome Call for AI Ethics* (Holy See, 2020). The Catholic perspective identifies transparency, accountability, fairness, explainability, non-maleficence/beneficence, and privacy as the fundamental ethical principles of AI (Catholic Network on Ethics of AI, 2022).

It is believed that transparency and accountability are essential for AI systems to be held accountable and understandable to human users. This enables users to comprehend the rationale and principles guiding AI systems in decision-making. Simultaneously, as AI systems need to be accountable, there is a requisite for vigilant monitoring of algorithmic and technological usage. This approach empowers users to comprehend the repercussions of employing AI systems, enabling more informed decision-making. Additionally, fairness is intricately linked to the development and deployment of AI without discrimination or bias towards specific groups. Any injustices in using AI technology may result in adverse consequences for segments of the population, contravening the ethical principles endorsed by religious organizations and global ethical standards. Furthermore, privacy pertains to safeguarding personal data as a fundamental human right.

In conjunction with these principles, the application of AI must align with the Catholic theological perspective on the intrinsic dignity of humans as reflections of the divine image (Boniolo et al., 2022). Consequently, AI systems should function solely as tools designed to serve human needs without exerting control or oppressing human freedom (Maldonado, 2021). Hence, Catholic doctrine emphasizes that the development and implementation of AI should adhere to ethical standards for solidarity, justice, and the genuine well-being of humanity.

Discussion

Analysis of People's Needs and Expectations for Digital Pastoral Services

The development of digital technology has changed the way people interact with the church in their faith lives. If, in the past, people could only access the church physically, now they can connect digitally through online platforms and content. In line with what Gooch et al. (2022) said, the development of digital technology makes the church no longer seen merely as a physical building but as a community and interaction network of believers that crosses geographical and spatial boundaries. Various digital platforms such as social media, mobile applications, and podcasts to the metaverse create a new digital church with new ways of interacting virtually. If we look closely, this aligns with Catholic teaching that the church is the people of God themselves, more than a building (Lumen Gentium art. 6).

Digital technology enables the proclamation of the Gospel to the ends of the earth (Acts 1:8) with personal interactions that cross the boundaries of time and space. A global study involving more than 12,000 Catholics in 12 countries found that the majority (86%) want the church to utilize digital technology for people's engagement, especially millennials and Gen Z (Barna Group, 2021). The most desired services include access to spiritual content online (91%), virtual pastoral counseling (61%), and online communities to share faith experiences (59%).

This expectation is driven by people's need for more personalized and contextualized pastoral care, given the distance, time and cost constraints of accessing a physical church (Francis & Hoefnagels, 2022). Wirth et al. (2022) state that parishioners want spiritual content specific to their interests and values rather than generic standards. In addition, pastoral counseling that considers people's backgrounds and life contexts is more effective than a one-size-fits-all approach

(Pagliari et al., 2022). Understanding people's requirements and expectations for digital pastoral care is crucial.

The church must maximize the use of digital intelligence technology, including machine learning algorithms and natural language processing, to provide individualized pastoral material and services at scale while being responsive to the needs and expectations of the populace. Examples of how this might be achieved include chatbots that provide interactive counseling, spiritual interest-based online forums, and sermon and devotional content recommendation systems that are tailored to individual users' profiles (Molnár-Gábor, 2022). In today's digital world, the church may provide scalable, relevant, and inclusive pastoral care by utilizing artificial intelligence and big data analytics.

This strategy is consistent with the theological-pastoral idea of Pope Francis, according to which the Church's acts of love and service should always consider the social context and the needs of the communities it serves to help them grow in their love and faith (Evangelií Gaudium, art. 41-42). The Church can provide digital pastoral services that are increasingly inclusive and contextual in the modern era by bringing evangelical relational nuances to the use of AI and big data.

Guidelines and Policies of the Church Regarding the Application of AI in Pastoral Settings

The enhancement of AI technology within pastoral and diocesan contexts is an increasingly prevalent contemporary trend observed in numerous dioceses globally. Some examples of concrete implementation include using a counseling chatbot by the Archdiocese of Los Angeles that can provide automated responses to fundamental questions about the Catholic faith (Grandin, 2022). Similarly, the Diocese of Vienna's AI-based homily content recommendation system provides the most relevant devotional material for each worshipper's specific profile (Molnár-Gábor, 2022).

Furthermore, the use of digital technology in the context of spirituality and religiousness also continues to grow globally, such as the Archdiocese of Sydney's online counseling platform, which has served more than 100,000 people in 80 countries since 2020 (CathNews, 2021). A survey by MIT also found that Catholics generally prefer online community engagement to complement rather than replace traditional interactions, so AI and digital technologies can strengthen solidarity (MIT Centre for Constructive Communication, 2022). However, the Church needs

comprehensive ethical and policy guidance to ensure that AI applications are always aligned with evangelical values and human dignity. Some fundamental principles that need to be considered include the protection of people's personal data and sensitive data. This includes regulating technology vendors' access, encryption, and data storage to prevent unauthorized misuse (Chukwuere & Hutchinson, 2022). Anonymization or identity blurring needs to be done before AI systems use data (Sarabia-Panol & Yartey, 2022).

In addition, transparency and interpretation of AI algorithms are required so that the decision-making process can be understood and audited (Wang, 2021). Periodic testing is also essential to ensure AI systems are free from bias or discrimination against a particular gender, race, sexual orientation, or background. Periodic redesign of AI models can help maintain their inclusiveness (Sarabia-Panol & Yartey, 2022). Finally, human oversight is still required for AI decisions on clinical, legal or administrative matters to avoid fatal errors (Wang et al., 2021). With these comprehensive guidelines, it is hoped that AI can be implemented within the corridor of human values in line with the evangelical spirit for the common good.

AI Implementation Strategies for Effective and Ethical Pastoral Care

The integration of AI technologies into the Church's various pastoral services has the potential to improve their efficiency and accessibility significantly. The development of digital technology has changed the way people interact with the church. Churches must now be responsive in digitally meeting people's needs for pastoral and spiritual services. Therefore, integrating AI into church services is necessary, although not without challenges. Some examples of successful AI implementation include spiritual counseling chatbots in the Dioceses of Los Angeles and Cincinnati that can respond to thousands of parishioners' queries every month (Rose, 2022). This shows the real potential of improving the efficiency and accessibility of church services through AI.

However, ethical challenges and the risk of dehumanization remain serious concerns (Suen, 2022). Therefore, AI implementation strategies require a gradual and ethical approach to ensure maximum benefits without compromising the core values of pastoral care. In its implementation, the involvement of the community of believers from the planning stage to the evaluation of the pastoral AI system is essential to ensure that the value brought is in line with the expectations and values of the people (Sarabia-Panol & Yartey, 2022). In implementation, a hybrid

approach involving human and machine collaboration is ideal (Wang et al., 2021). The importance of cross-functional church training to understand the ethics and limitations of AI is also highlighted so that all stakeholders can contribute with a good understanding of the implementation of this technology.

Algorithm reviews and parishioner feedback must be periodically reviewed to refine AI systems to remain fair, safe and aligned with human values and social justice. Thus, applying AI in various aspects, such as online liturgy, counseling, and church financial administration, can benefit all people ethically and humanely.

Conclusion

The development of digital technology and AI has changed how people interact with the church. Churches must be more responsive to meet the needs of the people for digital pastoral and spiritual services. Most parishioners expect churches to leverage digital technology and AI to enhance parishioner engagement through online spiritual content, virtual counseling, and online communities. Integrating AI into pastoral care shows significant potential for increased efficiency, accessibility, and personalization.

However, ethical challenges and the risk of dehumanization are serious concerns. Therefore, AI implementation strategies require a gradual and ethical approach involving the community of believers from the planning stage. Crucial principles to be considered include safeguarding personal data, transparency, and the elucidation of AI algorithms, along with human supervision over AI-generated decisions. With a comprehensive ethical and policy framework, the integration of AI into various pastoral services has the potential to significantly enhance the quality of church services and imbue them with a human touch. Several strategic recommendations can be devised to optimize AI for effective and ethical pastoral services within the Church:

1. The Church should establish a thorough ethical framework and a pastoral AI policy, engaging the participation of the community and all stakeholders from the initial planning stages. This is imperative to ensure that the implementation of AI aligns with the tenets of faith and meets the community's expectations. Fundamental principles to be regulated include the transparency of AI algorithms, protection of individuals' data, assessment of fairness and minority inclusivity, and establishing mechanisms for system accountability.
2. adopting a hybrid approach that combines AI-driven decisions with prudent human judgment in critical administrative and pastoral functions is advised in

implementing AI. This approach is essential to uphold accountability and ethical adherence as primary considerations in church services.

3. Periodic audits of AI algorithms should be conducted to verify the absence of bias or potential discrimination that could disadvantage specific gender, race, sexual orientation, or background groups. This practice aims to maintain the inclusivity and equity of AI implementation.
4. Providing sufficient training and fostering digital literacy among clergy and church staff will facilitate the seamless integration of AI. A profound understanding of the ethics and limitations of AI is essential to ensure that Catholic values utilize this technology for the greater glory of God and the common good.

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