Proximate Determinants of Artificial Intelligence Acceptance on Bancassurance Growth and Management in India

Anli Suresh, Aarthi Monalisa M
Madras Christian College, University of Madras, India
anli.sgain@gmail.com, monalisaaarthi@gmail.com

Abstract

In the banking and insurance industries, artificial intelligence has changed business practices, products, and user experiences. A collaboration between banks and insurance firms known as bancassurance uses banks as a distribution network for insurance goods. The way that banks and insurance firms engage with insured has been completely transformed by the introduction of Artificial Intelligence (AI) technology in bancassurance. AI has enhanced customer service and increased client security in banks. AI systems, for instance, may examine consumer data to offer tailored insurance recommendations based on unique demands and risk profiles. Additionally, banks may automate underwriting procedures thanks to AI technology, which saves time and effort when evaluating insurance applications. This study focuses on the impact of such AI which boosts the digitalization for an imperative bancassurance experience amongst the insured. A descriptive study design and a judgement sampling method is utilized to study the attributes of the respondents in the Chennai City. A self-curated questionnaire by demography and theme that is both printed and digital, recorded using a Five - Point Likert, Ordinal and Interval Scale is used to record the responses. The tools of multiple statistical analysis are used using the SPSS software by the authors to analyze the collected data. The findings of the study reveal that the AI Attributes have a significant relationship with the factors of comprehensive digitalization of the insured of bancassurance and these elements contribute towards their purchase decisions.

Keywords: Artificial Intelligence (AI), Bancassurance, Demographic Profile, Digitalization, Penetration

Introduction

Bancassurance is the synergy between banks and insurance agencies where each of the unit works for the benefit of each other. Bancassurance is a complementary service provision which benefits all of the service units through fee income, wider potential customer base and one stop financial solution for all financial needs. Artificial intelligence (AI) is the newest revolution in the field of digitalized bancassurance. AI algorithms analyze vast amounts of

customer data, including transaction history, browsing behavior, and demographic information, to generate personalized insurance recommendations. (Aggarwal, C. C. 2018). By understanding individual preferences and needs, AI systems can suggest insurance products that align with the customer's financial goals, lifestyle, and risk tolerance. Personalization enhances customer satisfaction by offering tailored solutions that meet their specific requirements, ultimately influencing their choice of insurance products. AI-powered predictive analytics models forecast customer behavior and preferences based on historical data and market trends (Sharda, R., Delen, D., & Turban, E. 2020). By analyzing patterns and correlations in customer data, AI systems can anticipate future needs and proactively recommend relevant insurance products. Predictive analytics empower bancassurance providers to offer timely and targeted promotions, increasing the likelihood of customers choosing their products over competitors'. AI-driven chatbots and virtual assistants engage customers in real-time conversations, providing personalized assistance and guidance. These conversational interfaces utilize Natural Language Processing (NLP) algorithms to understand customer queries and deliver relevant information about insurance products and services. By offering convenient and accessible support, chatbots and virtual assistants influence customer choice by enhancing the overall banking and insurance experience. AI analyzes customer behavior across various touchpoints, such as website interactions, mobile app usage, and social media engagement. Behavioral analysis helps bancassurance providers identify patterns and preferences, allowing them to tailor marketing messages and product offerings accordingly. By understanding customer behavior, AI enables banks and insurers to anticipate needs and present relevant insurance options at the right time, influencing customer choice. (Tsui, K. M., & Karamouzis, S. 2019).

Literature Review

The overview of bancassurance as a service sector has been constantly evolving in terms of service quality, effectiveness in deliverance thereby shaping the demand of amongst the users. This evolution probes the growth of bancassurance in terms of digitalized sectors paving way for multifold dimensional improvement. (Preethi, Ms. N., Kumar, G. V., & Ravichandra, B. 2024). Internationally acclaimed insurance services have been pondered by the startups based on the digitalization involving seed funding and angel investing through the growth of Insurtech. (Sadana, D., & Kaur, Dr. K. 2023). (Brown, M., & Wissner-Gross, E. 2020) has seen significant transformations with the integration of Artificial Intelligence (AI) technologies. AI is revolutionizing the bancassurance sector by enhancing customer

experiences, optimizing operations, and mitigating risks. Customer Service and Experience: The tools that support the customers with constant and timely guidance are rendered in the form of AI-powered chatbots and virtual assistants, while Natural Language Processing (NLP) algorithms are customized in precise manner to respond to the customers preferences and choice. Insurtech assisted through this AI analyse customer data to personalize insurance recommendations and offers based on individual needs and preferences.

The underwriting systems developed through AI can advance the evaluation insurance applications, reducing manual errors and intervention thereby reducing wasteful steps of processing the policy issuing. The transaction patterns, credit scores and financial history of the potential policyholders to curb the Machine Learning (ML) algorithms that feed higher volumes of segregated data to associate with insurance risks. With the deployment of AI tools, the bancassurance sectors keep fraudulent activities at bay through anomaly detection and predictive analytics. It notifies the patterns and the activities to the necessary officials for proper intervention. The monotonous tasks of claim process and decision – making is preferably undertaken by the means of Natural Language Understanding (NLU) facilitating faster settlement. Computer Vision algorithms also aid the processing through images assessments. (Sahoo, S., & Mohapatra, S. 2020).

Prognostic analytics representations predict the market trends and assess probable risks, enabling proactive risk management strategies. AI-driven analytics provide insights into customer behaviour, enabling banks and insurers to tailor marketing campaigns and product offerings. Recommendation engines use customer data to suggest insurance products that align with individual preferences and life events. Chatbots and virtual assistants powered by AI engage customers in real-time conversations, providing personalized assistance and guidance. These conversational interfaces utilize natural language processing (NLP) to understand customer queries and deliver relevant information about insurance products and services. This convenient and accessible support influences customer choice by enhancing the overall banking and insurance experience. Furthermore, AI-driven behavioural analysis helps bancassurance providers identify patterns and preferences across various touchpoints, enabling them to tailor marketing messages and product offerings accordingly. By understanding customer behaviour, AI empowers banks and insurers to anticipate needs and present relevant insurance options at the right time, ultimately influencing customer choice. (Wang, H., & Fan, W. 2020).

Objectives of the Study

The prime aim is to study the impact status of AI attributes involved in bancassurance with respect to the prospective policyholders.

The secondary objective is to study the relationship of the factors and its impact of AI usage probing Digitalization.

The third objective is to comprehend the relative impact of demographic profile of the bancassurance insured on the novelty of Artificial Intelligence (AI)

Statement of the Problem

With the Banking and Insurance surging towards saturation due to lack of innovation, Bancassurance is the diversified strategy chosen by the dual industries. Innovation in AI and other attributes of growth seek the comprehensive sustainability. Insured who opt for the financial services seek value in the digitalization that influence their patronization towards bancassurance. Strategic approach ensures that the value addition to the services is justified and yields complete benefit through every artificial augmentation. Conceptualization and Implementation of these elements have an advantage with insured and favours their choices. Although the rate of achievement has been fairly low in emerging nations like India, sustainable growth of marketing AI induced bancassurance has proven to be quite effective in moving savings from households to the banking industry in established economies. The factor of penetration is currently focused on Comprehensive Sustainable growth focusing on the Insured which includes –Socio-Political, Economic and Environmental Growth is vaguely pondered upon and this study focuses to explore the dynamics of the Proximate Determinants of AI acceptance in Bancassurance Growth and Management in India.

Hypotheses of the Study

H_{01}: There is no significant relationship between the Educational Qualification and Financial Literacy associating with AI that impacts procurement of Bancassurance.

H_{02}: There is no relationship between factors of Personal Preference regarding AI and the Age of the potential policyholders of bancassurance.

H_{03}: There is no relationship between factors of AI processed Customer Management and the Occupation of the potential policyholders of bancassurance.

H_{04}: There is no relationship between factors of Channel Efficiency through AI and the Family Type of the potential policyholders of bancassurance.

Research Methodology

Table 1 – Research Methodology	
Research Design	Descriptive Study
Sampling Method	Judgement Sampling
Sampling Area	Chennai City
Sampling Size	232
Research Instrument	Self-designed structured printed questionnaire with scored using a five - Point Likert scale, Ordinal and Interval Scale
Collection of Data	Primary data- questionnaire; Secondary data- Journals, articles, web blogs, Reviews
Period of Study	March 2024 – June 2024
Statistical Techniques	Frequency Analysis, Reliability Analysis, Correlation Analysis and Regression Analysis
Statistical Tools	SPSS 21 software
Source: Compiled by Authors	

Interpretation: Table 1 reveals the Research Methodology which includes Research Design, Sampling Method, Area, Size, Research Instrument, Collection of Data, Period of Study, Statistical Techniques and Tools.

Data Analysis and Interpretation

Table 2 - Reliability Statistics	
Cronbach's Alpha	N of Items
.945	19
Source: Primary Data Analysis	

Interpretation: The reliability coefficient indicated by the Cronbach's Alpha is considered desirable beyond the mark of 0.70. The elements of the study used for the reliability statistics

have coefficient value of 94.5% reliance which is considered favourable for the 22 items considered for the same.

Factor Analysis

Table 3 - KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.914
Bartlett's Test of Sphericity	Approx. Chi-Square	2872.298
	Df	171
	Sig.	.000
Source: Primary Data Analysis		

Interpretation: The factor analysis is performed using the principal component analysis and varimax rotation in Table 3. The minimum factor loading criteria is set to 0.060. The value obtained for the Kaiser Meyer Olkin measure of sampling adequacy was 0.914 which indicated the appropriateness of data for factor analysis.

Table 4 – Communalities		
	Initial	Extraction
Financial Literacy		
Easy comprehension of the digitalized platform	*1.000*	*.892*
Senior Citizen friendly Infographics	1.000	.721
Relevant updates regarding changes and improvement.	1.000	.885
Technological, Inquiry based learning.	1.000	.666
Timely Digital Reference Resources	1.000	.687
Customer Management		
Personalized Account Management	*1.000*	*.844*
Handling the usual FAQs	1.000	.724
Digitalized instructional manual	1.000	.842
Enhanced Product Recommendation	1.000	.805
Means for Open Insurance (Informed decision)	1.000	.653
Personal Preference		
Ease of Digital application usage	1.000	.788
Comprehensive ability of the virtual assistants	*1.000*	*.942*
Smart gadgets availability	1.000	.761
Preferring Digitalized banking over F2F banking	1.000	.712

Channel Efficiency		
Ease of Documentation process	1.000	.751
Ease of Claim Approval	*1.000*	*.839*
Multiple redressal channels	1.000	.823
One stop solution for all financial requirements	1.000	.716
Reduced Channelization Cost	1.000	.756
Extraction Method: Principal Component Analysis.		
Source: Primary Data Analysis		

Interpretation: The factor analysis extracted in Table 4 excerpts four components out of 19 statements with 65.074% of variation in data which were segregated in the categories of Financial Literacy, Customer management, Personal Preference and Channel Efficiency in terms of the effect of determinants of Artificial Intelligence and its influence on Bancassurance Patronization, Growth and Management.

Table 5 - Correlation Analysis

		Educational Qualification	Financial Literacy
Educational Qualification	Pearson Correlation	1	.513**
	Sig. (2-tailed)		.000
	N	232	232
Financial Literacy	Pearson Correlation	.513**	1
	Sig. (2-tailed)	.000	
	N	232	232
**Correlation is significant at the 0.01 level (2 – tailed)			
Source: Primary Data Analysis			

Interpretation: Table 5 excerpts the outcomes of the Correlation Analysis between the AI attributes of Financial Literacy in terms of Bancassurance and Educational Qualification of the potential policyholders. With the results of Correlation Analysis, the computed significance value for the AI attributes of Financial Literacy of Bancassurance and the Educational Qualification is more than the acceptable significance value at 0.01 level, which suggests that the Null Hypothesis H01 is vetoed. Therefore, there is a noteworthy association between the

attributes of Financial Literacy in terms of Bancassurance and Educational Qualification of the potential policyholders.

Table 6 – ANOVA

Personal Preference

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.749	1	1.749	4.688	.031
Within Groups	85.806	230	.373		
Total	87.555	231			

Source: Primary Data Analysis

Interpretation: Table 6 shows the indicative results of ANOVA which has the f value of 4.688 is suggestive of a higher variance between the groups which suggests that the results are significant. The p-value indicated in this ANOVA is 0.031, concluding that the differences among the groups exist, poses a statistically significant relationship therefore rejecting the null hypothesis H_{02}. Therefore, there exists a notable relationship between the personal preference and Age of the potential bancassurance policyholder.

Table 7 – Correlation Analysis

			Customer Management	Occupation
Spearman's rho	Customer Management	Correlation Coefficient	1.000	.789**
		Sig. (2-tailed)	.	.002
		N	232	232
	Age	Correlation Coefficient	.789**	1.000
		Sig. (2-tailed)	.002	.
		N	232	232

**Correlation is significant at the 0.01 level (2 – tailed)

Source: Primary Data Analysis

Interpretation: Table 7 excerpts the outcomes of the Correlation Analysis between the AI attributes of Customer Management in terms of Bancassurance and Age of the potential policyholders. With the results of Correlation Analysis, the computed significance value for

the AI attributes of Customer Management of Bancassurance and the Age is more than the acceptable significance value at 0.01 level, which suggests that the Null Hypothesis H_{03} is vetoed. Therefore, there is a noteworthy association between the attributes of Customer Management in terms of Bancassurance and Age of the potential policyholders.

Regression Analysis

Table 8 (a) - Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.306[a]	.094	.092	.91898	2.481
a. Predictors: (Constant), Family Type					
b. Dependent Variable: Channel Efficiency					
Source: Primary Data Analysis					

Interpretation: Table 8(a) excerpts the outcomes of the Regression Analysis between the Factors Channel Efficiency in terms of Artificial Intelligence in Bancassurance and the Family type of the Bancassurance Policyholders.

Table 8 (b) ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3450.712	1	3450.712	38.959	.000[b]
	Residual	1594.308	230	88.573		
	Total	5045.020	231			
a. Dependent Variable: Channel Efficiency						
b. Predictors: (Constant), Family Type						
Source: Primary Data Analysis						

Interpretation: With the results of Regression Analysis depicted in Table 8 (b), the computed significance value for the Artificial Intelligence in Bancassurance and the Family type of the Bancassurance Policyholders is more than the acceptable significance value at 5%, which suggests that the Null Hypothesis H_{04} is vetoed. Therefore, there is a noteworthy relationship between the Artificial Intelligence in Bancassurance and the Family type of the Bancassurance Policyholders which signifies the impact of the same. The Regression Model obtained is as follows:

$$Yi = Ax + By + \varepsilon 1$$

Yi = Channel Efficiency; A = Family type of the potential bancassurance policy holders; B = unknown parameters; ε1= Standard Error.

Findings from the Study

Factor Analysis: Suggestive factors relating to bancassurance consumers extracted from the existing literature were tested for significance using component principal matrix analysis and the summative factors were categorized into four broader categories based on their working relevance – Customer Management, Financial Literacy, Channel Efficiency and Personal Preference, all of which were indicative motives for choosing bancassurance that suggests a faster growth and management in the normal set up environment.

Correlation Analysis: Correlation Analysis was used to find the relationship between the pertaining components alongside the demographic variables of the bancassurance policyholders in the vision of Artificial Intelligence. The tests of significance suggested that there a positive relationship between the financial literacy relating to AI and Educational qualification of the bancassurance policyholders. The other hypothesis suggested that the customer management has a suggestive effect based on the occupation of the bancassurance policyholder.

ANOVA: The test of ANOVA suggested that the personal preference powered through the Artificial Intelligence (AI) has a significant effect based on the Age of the bancassurance policyholders

Regression Analysis: The regression model derived through the tests suggest that Channel efficiency altered through the resulting AI services deployed by the bancassurance units have a significant effect based on the Family type that the policyholders hail from.

Concluding Observations & Suggestions

The next foremost upheaval, known as bancassurance, brings about the features of expanded income, which have a momentous impact on patron retention. Since the larger portion of India's population lives in rural areas, it is high time that AI usage and its inclusion started there as well extending the demographic standard of the policyholders as it is a suggestive factor of bancassurance management and growth. Owing to the intricacy of the measures and the claim settlement elements and majority financial inclusion initiatives frequently fall short of attracting a customer base, a demographic approach with determine the social, economic and political inclusion as well. Bancassurance, which uses clear visuals and knowledgeable support AI, is suggested to be the best method for reaching clients in rural and urban areas of the nation through banks. With the Worldwide Presence of Bancassurance, a resourceful management is determined to be successful.

Scope for Future Research

This study is focused only towards the population of Chennai City and limits only to the urban working and non-working population. This study can be extended to the rural population and all of the other perception related awareness and accessibility issues can be addressed in the further studies. It can also be extended to the varied age class focusing on multiple factors relating to bancassurance.

Social Relevance of the Study

Bancassurance is the next major revolution in the banking industry and comprehensive growth is the aiding factor for the economic development at the micro and macro level to create necessary synergy with the insurance sector as well. Insured are prone to skilfully trained agents and they have the advantage of making the informed decisions.

References:

Aggarwal, C. C. (2018). Data Mining: The Textbook. Springer.

Brown, M., & Wissner-Gross, E. (2020). AI for Insurance: How Artificial Intelligence is Reshaping the Insurance Industry. Packt Publishing.

Preethi, Ms. N., Kumar, G. V., & Ravichandra, B. (2024). Factors Influencing the Decision to Buy Life Insurances Products through the Bancassurance Channel. *International Journal of Research Publication and Reviews*, *5*(1). https://doi.org/10.55248/gengpi.5.0124.0351

Sadana, D., & Kaur, Dr. K. (2023). A Study on Factors Contributing Growth of Bancassurance.

Sahoo, S., & Mohapatra, S. (2020). Artificial intelligence in bancassurance: a scoping review. Future Business Journal, 6(1), 1-15.

Sharda, R., Delen, D., & Turban, E. (2020). Analytics, Data Science, & Artificial Intelligence: Systems for Decision Support. Pearson.

Tsui, K. M., & Karamouzis, S. (2019). Predicts 2019: AI and the Future of Work. Gartner.

Wang, H., & Fan, W. (2020). The Application of Artificial Intelligence in Bancassurance Business Model Based on Data Analysis. In 2020 IEEE International Conference on Artificial Intelligence and Computer Applications (ICAICA).