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The Application of Artificial Intelligence in Business Segmentation

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Abstract: *The application of artificial intelligence (AI) in business segmentation provides effective and innovative methods for analysing large data sets and automating customer segmentation processes. Artificial intelligence allows businesses to better understand what customers need, their preferences and behaviour, and to personalise approaches to different segments. Instead of traditional manual methods, AI uses machine learning algorithms to discover hidden patterns and trends in data. The report presents a deep investigation on the application of Artificial Intelligence in business segmentation. It discussed the basic methods and tools used in AI segmentation and the role of AI segmentation in optimisation of marketing strategies, providing new opportunities for personalisation, analysis, and automation.*

Keywords: *business segmentation; artificial intelligence.*

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1. Introduction

Artificial Intelligence (AI) is a revolutionary technology that plays an important and multi-layered role in modern business segmentation, providing tools and methodologies to better understand customers and their needs. Its technologies not only optimise segmentation processes but also offer new and innovative approaches to expand the customer base and increase customer satisfaction. Through various machine learning algorithms, artificial intelligence is able to analyse extensive datasets quickly and efficiently, thereby freeing up human resources for more important tasks.

Business segmentation is a process that divides the market into different groups of customers who have similar characteristics, needs, or behaviours. The purpose of segmentation is to identify specific target segments in order to develop tailored marketing strategies that better meet the preferences and needs of each group (Cortez, Clarke, & Freytag, 2021).

The application of artificial intelligence (AI) in business segmentation provides effective and innovative methods for analysing large data sets and automating customer segmentation processes. Artificial intelligence allows businesses to better understand what customers need, their preferences, and behaviour, and to personalise approaches to different segments. Instead of traditional manual methods, AI uses machine learning algorithms to discover hidden patterns and trends in data.

2. Main Methods and Tools Used in AI Segmentation

Segmentation using artificial intelligence allows companies to identify and categorise customers into specific segments in order to offer personalised products and services.

Some of the main methods and tools used in AI segmentation are:

2.1. Machine Learning Methods

- Clustering - divides data into groups so that objects in one group are more similar to each other than objects in other groups. Similarity can be based on different characteristics or attributes, depending on the context of the analysis (Alikhanian et al., 2013).

- K-means is used to group data into K predefined clusters based on similarity between data.

- Hierarchical clustering - stepwise, this method creates a tree-like structure of the clusters, allowing different levels of segmentation.

- Decision trees - they model decision-making by segmenting data based on set characteristics to delineate distinct categories

- Neural networks - they are used for complex segmentation, including when processing unstructured data (e.g., images or text).

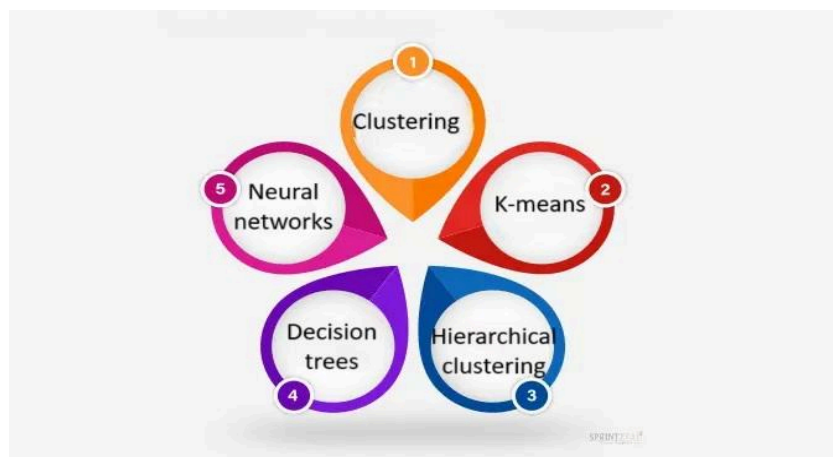


Figure 1. Machine learning methods

2.2. Data Analysis

It is a process of inspecting, processing, and modelling datasets in order to extract actionable insights, formulate conclusions, and support decision-making:

- Regression analysis: is used to predict customer behaviour and assess dependencies between various factors.
- Sentiment analysis: processes text data (e.g., from social media) to identify users' affective states and behavioural patterns

2.3. Visualisation and Analysis Tools

Data visualisation and analysis are important aspects of the information processing process that help organisations extract valuable insights and make informed decisions.

Python is one of the most widely used programming languages for data analysis and offers many libraries that facilitate data processing, analysis, and visualisation. Data visualisation is key to understanding the information and insights that analytics provide.

2.4. Data Management Platforms

Data management platforms offer tools and technologies for data collection, storage, processing, and analysis:

- CRM systems integrate AI algorithms to analyse customer data and offer personalised segments -
- Marketing platforms, such as HubSpot and Salesforce, offer features for database segmentation and user behavioural analytics

2.5. Analysis and Behaviour

- Chatbots and recommendation systems use AI to analyse user interactions and make relevant suggestions.
- Behavioural analysis refers to tools that track and analyse user interaction pathways with products and services.

Table 1. Comparative analysis of the main methods and tools used in AI segmentation

Aspect	Machine Learning Methods	Data Analysis	Visualisation and Analysis Tools	Data Management Platforms	Analysis and Behaviour
Purpose	Automates prediction and pattern recognition tasks.	Extracts insights and trends from raw data.	Visualises and interprets data and model results.	Stores, processes, and organises data efficiently.	Models and predicts user/system behaviour.
Strengths	High accuracy for complex tasks; adaptive learning.	Helps identify actionable insights.	Simplifies data understanding through visuals.	Scalable and handles large datasets.	Enables understanding of system/user interactions.
Challenges	Requires large datasets and high computational power.	Assumptions may not hold for all datasets.	Can be resource-intensive for real-time data.	High setup costs; require technical expertise.	Noise and uncertainty in behaviour modelling.
Real-Time Usage	Used in streaming models (e.g., reinforcement learning).	Often batch-mode but moving toward real-time.	Dashboards and live updates in some tools.	Supports real-time pipelines (e.g., Kafka + Spark).	Used for dynamic systems like fraud prevention.
Examples	Neural Networks, SVMs, Decision Trees, K-Means.	Descriptive, predictive, and diagnostic analysis	Tableau, Power BI, Matplotlib, Plotly, D3.js.	Hadoop, Apache Spark, AWS S3, Google BigQuery.	Sentiment analysis, anomaly detection, behaviour modelling.

Output	Predictive models, classifications, or clusters.	Statistical summaries, trends, and patterns.	Interactive charts, dashboards, and reports.	Cleaned, structured datasets for analytics.	Behavioural patterns and actionable insights.
Key Users	Data scientists, AI engineers.	Analysts, business intelligence teams.	Business users, data visualisation specialists.	Data engineers, cloud architects.	Behavioural analysts, business strategists.
Cost Implications	High (training and inference costs).	Moderate (depends on the complexity of the analysis).	Varies (open-source vs. enterprise tools).	High initial cost, but reduces long-term data expenses.	Moderate; depends on modelling complexity.
Scalability	Scales with data and computational resources.	Limited by complexity and dataset size.	Scales well but depends on the underlying data infrastructure.	Scales for distributed and cloud-based systems.	Context-dependent ; scales with predictive power.
Examples of Applications	Autonomous systems, fraud detection, and recommendation systems.	Market analysis, forecasting, and risk assessment.	Performance tracking, business intelligence.	Big data analytics, storage for ML pipelines.	Personalised services, predictive maintenance.

3. Application of AI in Business Segmentation

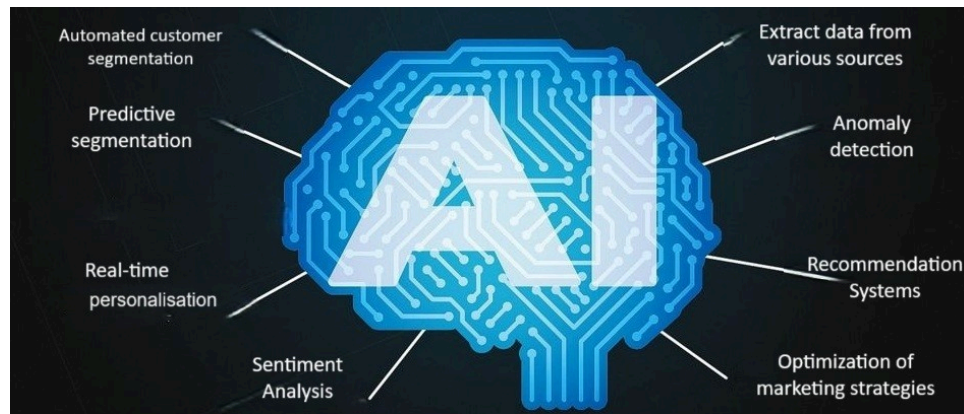


Figure 2. Application of AI in business segmentation

Artificial intelligence can be applied in the following ways:

3.1. Automated Customer Segmentation

Automated customer segmentation through artificial intelligence is a process in which AI technologies are used to automatically classify and divide customers into different segments. This technique optimises marketing efforts and enhances comprehension of customer needs and behaviour (Hossam, 2022). The process of automated segmentation with AI involves several key steps:

- Data collection - customer data is collected from multiple sources, including social networks, websites, and CRM platforms, and it is important that this data is diverse and representative.
- Data processing and preparation - this step includes removing invalid records, filling gaps, and standardising formats. AI tools can automatically perform this step to provide quality data for analysis.
- Analysis and modelling - machine learning algorithms are used to analyse the data. AI discovers natural groups in the data and determines the characteristics of each segment. Clustering

techniques (e.g., K-means, agglomerative clustering) and classification models (such as random forests and logistic regression) are frequently applied in segmentation tasks.

- Visualisation and interpretation - analysis results are presented through graphs and dashboards, thus enabling businesses to interpret data and make informed decisions.

The advantages of automated segmentation are:

- Speed and efficiency - AI algorithms can process data at significantly higher speeds than traditional methods, thus allowing companies to respond to changes in customer behaviour.

- Dynamic adaptation - AI can update segmentation in real-time, taking into account new data and changes in customer behaviour.

- Higher accuracy - AI systems can identify complex patterns, resulting in more accurate and relevant segments.

- Personalisation - allows companies to offer customised marketing campaigns based on the specific needs and preferences of each segment.

Some of the main technologies and tools used for automated segmentation with AI include:

- Machine learning algorithms. Clustering (K-means, DBSCAN) and classification algorithms.

- Data analysis tools - platforms like Power BI, Google Analytics, and Tableau offer AI integration for data visualisation and analysis.

- CRM systems - platforms such as HubSpot and Salesforce, which include built-in AI segmentation features.

Automated segmentation finds application in online commerce, financial services, media, and entertainment. Online platforms use automated segmentation to offer personalised recommendations and targeted advertising campaigns to their customers. Banks and financial institutions automatically segment customers to offer tailored financial products and services. Streaming platforms use AI to segment users based on their preferences, leading to better personalisation of content.

Instead of traditional manual methods, AI uses machine learning algorithms to discover hidden patterns and trends in data, resulting in more accurate and dynamic segmentation.

3.2. Predictive Segmentation

Predictive segmentation is a method that uses data analysis and machine learning algorithms to anticipate customer behaviour and classify them into different segments based on these predictions. This technique is especially useful for companies that want to optimise their marketing strategies and improve customer interactions. Artificial intelligence uses historical data to predict future customer behaviour.

The predictive segmentation process includes the following basic steps:

- Data collection - customer data can be collected from a wide variety of sources such as completed transactions, web behaviour, social media, and customer feedback.

- Data processing - the data that is collected is prepared and processed to ensure that it is structured and clean. This step may include removing duplicates, filling gaps, and standardising formats.

- Analysis and modelling - machine learning algorithms (such as regression) are used to analyse the data and create predictive models. These models estimate the likelihood of customer behaviours, such as a purchase.

- Segmentation - customers are classified into different segments based on predicted behaviour. These segments may include "high-risk customers", "loyal customers", and "probable buyers";

- Monitoring and updating - predictive models must be regularly updated with new data to maintain their accuracy and applicability.

Predictive segmentation offers key advantages, which can be:

- Proactivity: this advantage enables companies to act in advance by selecting the customers most likely to show interest or engagement;
- Resource allocation efficiency: focuses efforts and resources on the most promising segments, thereby increasing the effectiveness of campaigns;
- Tailored customer experience: enables development of customised offers and communications based on individual customer preferences and needs;
- Enhanced customer loyalty: by predicting customer needs, companies can offer products and services that increase satisfaction and loyalty.

Various tools and technologies can be employed to perform predictive segmentation, including machine learning algorithms, data analytics platforms, and CRM systems.

Predictive segmentation can be applied in online commerce, marketing, financial services, and other sectors. E-commerce platforms use predictive segmentation to assess the likelihood of customers making a purchase and offer personalised promotions.

Various businesses employ predictive segmentation to target specific customer groups with advertising campaigns based on behavioural analysis and previous interactions. Banks and lending institutions use predictive analytics to assess credit risk and predict the likelihood of late payments.

3.3. Real-time Personalisation

Artificial intelligence has the ability to process vast quantities of data in real time and personalise offers, messages, and communication with customers. This enables dynamic segmentation and adaptation of marketing strategies based on customer behaviour on a real-time basis. Real-time personalisation is an approach whereby businesses tailor their offers, propositions, messages, and experiences to customers based on their immediate actions and behaviour. This method is especially important in the digital environment, where customers expect personalised and relevant interactions.

The real-time personalisation process includes the following basic steps:

- Data collection - data is collected in real-time from various sources such as websites, social media, mobile applications, and CRM systems, which include location information, previous purchases, customer behaviour, and interactions;
- Data analysis - real-time analytics systems process the collected data to identify preferences and patterns. Machine learning and AI algorithms help make decisions quickly;
- Adaptation of offers - based on the analysis, businesses personalise their offers, for example, offering specific products, services, or content that is applicable to the current customer;
- Feedback and optimisation - following the delivery of a personalised experience, the system collects feedback to evaluate the effectiveness of the personalisation and make necessary adjustments.

Real-time personalisation has numerous benefits, such as increased engagement, improved customer experience, rapid adaptation, and optimisation of marketing campaigns. Customer interest is heightened by personalised offers, thereby increasing the likelihood of conversion. When customers get exactly what they are looking for, their satisfaction and loyalty increase.

By adapting their strategies in real-time, businesses are able to respond swiftly to shifts in customer behaviour. Personalised messages and offers reduce advertising costs and increase the effectiveness of marketing campaigns.

Real-time personalisation is achieved through tools and technologies such as:

- Platforms for data analysis - these are tools that offer real-time analytics features such as Mixpanel, Google Analytics, and Adobe Analytics (Merrouchi, Skittou, & Gadi, 2018);
- Content Management Systems (CMS) - platforms that allow companies to adapt the content of websites and applications in real-time.

- AI and machine learning - algorithms that analyse data and offer personalised recommendations in real-time.

- Marketing automation tools - platforms that offer email and website personalisation features such as Marketo, HubSpot, and Salesforce.

Real-time personalisation can be applied in online commerce. There are e-commerce platforms that offer personalised recommendations based on previous purchases and current customer behaviour. Social media platforms, such as Facebook and Instagram, adapt the content of news feeds in real time according to the interests and interactions of users. In financial services, banks use real-time personalisation to offer up-to-date financial products and services based on customer behaviour.

Real-time personalisation is a key aspect of modern business. It provides a competitive advantage by integrating AI and data analytics technologies. In this way, companies can provide unique and relevant experiences for customers, increasing their engagement and loyalty.

3.4. Sentiment Analysis

AI can analyse customers' social media opinions, reviews, and comments using natural language processing (NLP). This makes it possible to understand their emotional attitude towards a given product or service and thus segment customers according to their attitudes (positive, negative, or neutral). This technique is particularly valuable for business and is used to determine the emotional mood or tone of textual information.

In general, sentiment analysis goes through the following basic steps (Lange, 2023):

- Data is collected from various sources, such as social media, online reviews, blogs, forums, and customer reviews.

- Data pre-processing involves cleaning the data, removing redundant characters and stop words, and performing text normalisation.

- Text analysis is carried out using machine learning algorithms and NLP techniques, and texts are classified by mood, with the main categories being positive, negative, and neutral;

- Interpretation of results - results are visualised through graphs or dashboards, allowing easy interpretation and analysis of customer sentiment;

Sentiment analysis has many benefits for businesses, such as understanding customer reactions, identifying trends, managing reputation, and optimising marketing. Sentiment analysis allows companies to gain a clear understanding of how customers perceive their products and services. Moreover, companies can discover new trends in customer preferences and behaviour. It helps businesses monitor their online reputation and respond to negative reviews or comments, and sentiment analysis results can be used to fine-tune marketing campaigns and messages (Wankhade, Rao, & Kulkarni, 2022).

Some of the main sentiment analysis tools and technologies include:

- Natural language processing libraries such as SpaCy and TextBlob in Python that offer NLP and sentiment analysis features.

- Platforms for data analysis are tools that offer APIs for text and sentiment analysis, such as Microsoft Azure, Google Cloud Natural Language, and IBM Watson.

- Social media management systems offer mood monitoring features for social platforms; notable examples include Hootsuite and Sprout Social.

Sentiment analysis can be applied to online reviews, customer service, and social media. Many companies analyse reviews of their products, thereby seeking to understand customer preferences and areas where they need to improve quality. Most brands monitor customer sentiment for news and social media campaigns, so they can react quickly to public opinion. Sentiment analysis can be used to gauge customer satisfaction in conversations with chatbots or agents.

Sentiment analysis is a powerful tool that enables businesses to understand and address customer needs and expectations. By implementing natural language processing and machine

learning technologies, companies can extract valuable information from text data, leading to better decisions and strategies.

3.5. Extract Data from Various Sources

AI can combine data from various sources, such as social networks, CRM systems, customer reviews, and purchases. This data provides a more complete picture of customers and their preferences. Multi-source data mining is a particularly important process of gathering and integrating data from multiple sources to obtain a holistic view of a particular situation or topic. Data can be derived from a variety of sources, which are generally classified into the following categories:

- Structured data refers to information with a well-defined structure, such as data in relational databases (SQL) or tables. Such may be customer and sales data;
- Unstructured data, i.e., data without formal structure and includes customer reviews, social media posts, and emails. This may include text, images, audio, and video.
- Semi-structured data possesses partial structure, commonly seen in formats such as XML or JSON, which are not as rigidly organised as relational data.
- Real-time data refers to continuous streams of data that come from sources such as IoT devices, sensors, and web applications.

The data extraction process includes the following basic steps:

- Identification of sources - determining the relevant data sources to be used for the analysis;
- Data collection - involves extracting data from the identified sources. This can be done via API (Application Programming Interface), web scraping, exporting from databases, or manual collection;
- Data processing - this step includes removing duplicates, filling gaps, and normalising formats. Cleaning and transformation of collected data to ensure its quality and compatibility;
- Data integration - in order to simplify the analysis, the data from different sources is consolidated into a single structure or database.

The tools and technologies that can most often be used for data mining are:

- ETL tools - tools for extracting, transforming, and loading data, such as Talend, Apache Nifi, and Informatica.
- API integrations - using REST or SOAP APIs to retrieve data from web applications and services;
- Databases - SQL and NoSQL databases (such as MongoDB and PostgreSQL) that offer data retrieval mechanisms.
- Web scraping - tools that allow data extraction from websites, such as BeautifulSoup and Scrapy.

Data mining can be applied in marketing analytics by collecting data from social media, websites, and customer reviews to analyse the effectiveness of marketing campaigns. It also finds applications in financial services by extracting data from various financial platforms and systems for risk analysis and customer behaviour. In healthcare, data collection from electronic health records, laboratory tests, and surveys helps to improve healthcare services (Wang, 2016).

Extracting data from various sources is a fundamental process for successful analysis and decision-making. By using a variety of tools and techniques, organisations can integrate and analyse data, allowing them to extract valuable information and improve their business strategies.

3.6. Anomaly Detection and Identification of New Segments

AI can detect anomalies or identify new, unexpected segments that traditional approaches might miss. By analysing behavioural and product interaction data, AI can detect customer segments that exhibit unexpected or unusual behaviour.

Anomaly detection is a process that identifies unusual or rare observations in data that may signal problems or new opportunities. For example, in web traffic, it is possible to detect unusual patterns of user behaviour that may signal cyberattacks.

There are a number of methods to detect anomalies, such as:

- Statistical methods use statistical tests to identify data points that significantly deviate from the mean or expected distribution.

- Machine learning - algorithms such as DBSCAN, Isolation Forest, and One-Class SVM can detect anomalies in multidimensional data.

- Neural networks - using autoencoders to learn normal behaviour and identify anomalies.

Identifying new segments involves dividing data into groups with similar characteristics or behaviours that can reveal new target audiences or marketing segments.

Segmentation methods are clustering, deep learning, and behaviour analysis.

Anomaly detection and identification of new segments are important processes. They have multiple applications in various fields and help organisations identify potential problems and opportunities, improving decision-making and strategic planning:

- Financial services - analysis of transactions to detect anomalies that may signal fraud, such as unusually high amounts or transactions from unknown locations. Additionally, new high-risk customer segments can be identified and managed through tailored strategies.

- Marketing - discovery of new customer segments that can be targeted with personalised offers based on behaviour and preferences. Anomalies in consumer behaviour may also highlight the need to adjust existing marketing strategies.

- Production - detection of anomalies in the production process, which can help identify defects and optimise production. Identify unusual patterns in sensor data that can predict equipment failures.

- Economics and sociology - detecting anomalies in economic data that can help identify new social or economic trends. Identifying new segments in society that may present new needs or interests;

- Cybersecurity - identifying unusual behaviour in network traffic that may signal cyberattacks or malicious activity. Detecting anomalies in data management systems can prevent security breaches.

Anomaly detection and identification of new segments play a key role in various industries. By properly applying analytics and machine learning methods, organisations can extract valuable insights to improve their response to market changes, customer needs and operational challenges.

3.7. Recommendation Systems

AI recommendation systems are technologies that help personalise the products and services offered to customers. Based on past interactions and behaviour, AI models can suggest products or services that best meet the needs of customers in a given segment (Takyar, n.d.; Zhang, Lu, & Jin, 2021).

Several types of recommender systems can be distinguished:

- Collaborative filtering systems include user-based content that is liked by similar users and is recommended to the user; item-based content that is similar to items that the user has already rated or purchased is recommended.

- Content filtering systems recommend items based on their characteristics that match the user's preferences. For example, in streaming platforms, recommender systems can analyse the genre, actors, or directors of the films.

- Hybrid systems- combine collaborative and content filtering methods to improve recommendation accuracy.

Recommender systems are widely used in various fields and industries.

They provide personalised offers to users, which increases satisfaction and engagement. Here are some basic applications:

- Electronic commerce - platforms such as Amazon use recommender systems to offer additional or related products to users based on previous purchases, reviews, and user profiles. Systems may also provide special offers based on customers' purchase history;

- Media platforms - Netflix and Hulu use recommendation systems to suggest movies and TV shows that a user is likely to be interested in, based on their viewing history and ratings. Spotify and Apple Music create personalised playlists and recommendations for new artists based on users' listening habits;

- Social media - Facebook and Instagram offer content and profiles to follow based on the user's interests and interactions, which increases engagement on the platform. Recommender systems can segment audiences and deliver targeted ads;

- Tourism and hospitality - platforms like Airbnb and TripAdvisor offer accommodation and attractions based on previous bookings and user ratings. Systems may offer special packages to users seeking certain types of experiences.

Recommender systems play an important role in improving user experience and optimising business processes in various industries. By using sophisticated algorithms and data analysis technologies, they enable organisations to deliver relevant and personalised offers that help increase customer engagement and loyalty.

Recommended systems use classical algorithms /K-Nearest Neighbours (KNN) and Singular Value Decomposition (SVD)/, machine learning - regression, classification, and clustering used to predict user preferences, deep learning - use of neural networks to detect complex dependencies and patterns in data.

Recommender systems provide personalised offers that increase user satisfaction and the likelihood of conversion. Referral systems help increase sales volume by encouraging users to buy additional products.

Challenges with recommender systems can be the following:

- Cold start problem - new users or items may not receive adequate recommendations due to insufficient data.

- Tendency to choose - users can lock themselves into certain types of content, which can limit discovery.

- Security and privacy - collection and analysis of personal data may raise privacy concerns.

3.8. Optimisation of Marketing Strategies

AI has the ability to analyse the effectiveness of different marketing campaigns and help companies optimise their marketing strategies for different segments. This includes predicting what time is most effective to launch a campaign or what channels will be most relevant to a given segment.

Artificial intelligence has an increasingly significant role in the optimisation of marketing strategies, providing new tools and techniques that help organisations achieve better results (Wen, Lin, & Guo, 2022).

AI contributes to various aspects of marketing in the following ways:

- Personalisation - AI analyses user behaviour data to provide personalised content and suggestions in real time. Artificial intelligence can segment audiences based on various characteristics, allowing marketers to target campaigns to specific groups.

- Data analysis - AI can analyse historical data to predict future trends and user behaviours, helping to make informed decisions.

- Marketing automation - artificial intelligence supports chatbots that provide quick responses to customer inquiries and guide users through the purchase process. AI automates the personalisation of email campaigns, optimising send times and message content.

- Optimisation of ads. PPC Advertising - AI analyses real-time data to optimise paid advertising campaigns, such as Google Ads, to maximise ROI. A/B testing - AI automates and optimises A/B testing, analysing results, and quickly implementing changes for better results.

- Content marketing - AI tools can generate articles, blogs, and social media posts, saving the content team's time and effort. AI can analyse customer opinions and feelings about the brand, which helps adapt strategies.

- Customer relationship management - AI analysis of customer behaviour patterns to identify customers who may leave, enabling proactive retention measures. Customer relationship management (CRM) systems with AI capabilities offer personalised interactions based on the customer's history (Gkikas & Theodoridis, 2022).

Artificial intelligence is revolutionising the optimisation of marketing strategies, providing new opportunities for personalisation, analysis, and automation. By implementing AI, organisations can achieve higher levels of engagement, customer satisfaction, and ultimately better financial results.

For example, a marketing team can use AI to determine which communication channels (email, social media, or mobile apps) are most effective for different customer segments.

4. Conclusion and Future Work

In conclusion, it can be said that the benefits of using AI in business segmentation are undeniable. These include process automation, precision, adaptability, and scalability. AI automates manual segmentation and analysis processes, discovers deep dependencies and patterns in data that may be elusive to humans, can process huge data sets and work with multiple segments simultaneously, automatically leading to faster and more accurate results. Using AI in business segmentation would allow companies to process and analyse large volumes of data, discover hidden patterns and trends that traditional methods might miss, personalise marketing strategies, and predict future behaviours. AI not only facilitates the segmentation process but also provides a competitive advantage in the dynamically changing business landscape.

In future work, we plan to focus on predictability - the migration of the individual profile from one segment to another over time. For clustering, it is necessary to introduce integral distances D , which reflect the proximity of a new user (User) to Reference Users from each (SE) Segment - the proximity criteria can be represented as a vector of the properties of each segment.

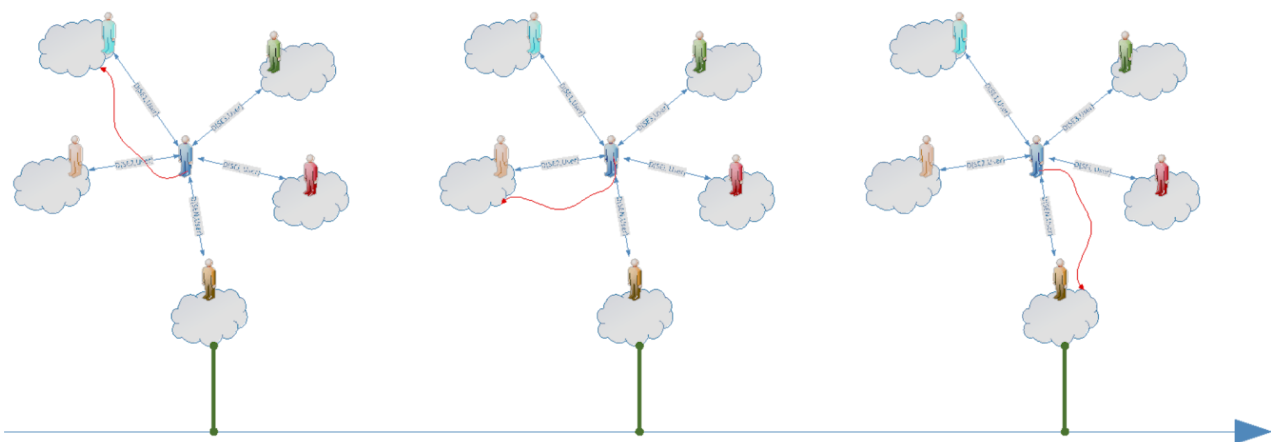


Figure. 3 The migration of the individual profile from one segment to another over time.

We also have a vector of User's characteristics, and we are looking for the Vector difference to be smaller than the membership vector ε – then, this User belongs to the Segment for which the inequality is satisfied, it may be more than one segment, it may not currently exist defined segment.

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