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Presenting a Model for Creating Customer Loyalty Based on Business Technological Intelligence

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Abstract

Purpose: This research delves into the innovative factors that influence customer loyalty within the context of business technological intelligence.

Design/methodology/approach: The study adopts an applied approach, incorporating both quantitative and qualitative methodologies through surveys and data mining. The statistical population comprises 10 senior managers and experts from the Panberes cosmetics and hygiene company, selected via snowball sampling to pinpoint key components and factors. Subsequently, data mining was conducted on the company's data warehouse, encompassing 5,200,000 records from 2011 to 2019. Data analysis was performed using R software, employing data mining and customer clustering techniques.

Findings: The results identified six pivotal indicators for the model: duration of customer cooperation, purchase delay, purchase frequency, purchase amount, profitability, and discounts offered to customers. The research concludes that customer loyalty in multi-level marketing companies is shaped by these six indicators, in conjunction with business intelligence and considering five distinct customer clusters. To elevate customer loyalty and secure a competitive advantage, companies in this domain should prioritize these factors. Furthermore, the study recommends that multi-level marketing companies emphasize the role of discounts and credit sales while also ensuring the satisfaction of their primary customers through enhanced services and support.

Keywords: Multi-level Marketing, Customer Loyalty, Business Technological Intelligence

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1. Introduction

With the rapid population growth, providing employment can no longer be solely reliant on a few marketplaces, farms, and workshops, nor can it be addressed exclusively through the labor supply and demand market (Tiwari, 2023). The significance of employment is undeniable, and due to its vastness, its positive and negative impacts affect the entire society (Wirtz, 2023). Unemployment is one of the challenges facing our society, resulting in numerous economic and social problems such as poverty, moral corruption, and addiction. It can be argued that the current crucial social and economic issues in the country revolve around creating new job opportunities. The mismatch between human demands and available resources, the principle of market competitiveness, and the ever-changing organizational environments are propelling humanity towards new business horizons, including multi-level marketing (MLM) (Nasaji, 2017). Consequently, multi-level marketing and evaluating its effectiveness have become highly significant. In other words, reduced hiring in government agencies, coupled with a trend toward a modern lifestyle, can be a strong motivator for seeking employment in multi-level marketing companies and generating additional income (Esser, 2022). Downsizing in organizations and factories, particularly during the COVID-19 pandemic, the demise of many traditional and outdated jobs, job insecurity, concerns about retirement and disability, increasing unemployment, holding multiple jobs, insufficient income, lack of time for family and personal interests, and similar issues represent only a fraction of the reasons people seek new job and income opportunities. On the other hand, the allure of multi-level marketing has attracted a large number of individuals (Movahedzadeh, 2020). However, due to the emergence of pyramid and Ponzi schemes aimed at quick and substantial profits, the perception of multi-level marketing in Iran has been tarnished (Razvani, 2018). This is despite the fact that the multi-level marketing system has gained importance worldwide as a strategic tool for boosting profitability and creating income and jobs for the population. Anyone can become a member, regardless of age, ability, or experience, and benefit from this system. In today's business landscape, companies need to move away from the traditional business model and innovate by reinventing their businesses. To achieve this, it is crucial to identify the need for company activities and address existing ambiguities (Esser, 2022), with a focus on creating a sustainable business model that fulfills all company goals, including economic, environmental, and social objectives. Innovation is considered one of the most potent drivers for sustainable businesses, being market-oriented and generating value for all stakeholders (Nosratabadi et al., 2019). By utilizing such models, companies can ensure the long-term development of their business activities. In line with these findings, multi-level marketing companies must create value for both customers and sales representatives, ultimately leading to the achievement of the company's goals and benefiting society as a whole. For these reasons, a multi-level marketing company needs to identify and assess the satisfaction that customers derive from the system they are a part of. Moreover, companies should implement appropriate experiential marketing strategies to enhance customer satisfaction and subsequently gain their loyalty (Purcaru et al., 2022). Loyalty can be defined as an attitude characterized by trust in a company. Based on this trust, a company can predict its customers' behavior (Long et al., 2022), which should be evident through the fulfillment of commitments by both

parties (Raimondo, 2022). Generally, this trustworthy relationship between customers and representatives of the company stems from their experiences with the product and their interactions with what the company offers. This trust is also crucial because the company's sales representatives seek future business partners among customers, aiming to recruit them to expand their network of representatives. Therefore, to foster customer loyalty, multi-level marketing companies need to prioritize maintaining ongoing relationships with customers and providing them with training programs and non-monetary incentives rather than solely focusing on their profit plans. Once this loyalty is established, sales representatives recommend the multi-level marketing system to customers, persuading them to become part of the sales network through a partnership based on trust, honesty, and competence. Given the complex relationship between company representatives and multi-level marketing systems, identifying the key components that contribute to loyalty within this system has become crucial (Purcaru et al., 2022). Nevertheless, a review of previous studies reveals that extensive research has been conducted to identify factors influencing customer loyalty and strategies for retaining customers. However, in the context of designing and developing a customer loyalty management model within commercial companies and multi-level marketing, particularly in Iran, there has been a lack of research at the national level. This study stands as a novel research endeavor, focusing on the innovative cosmetics and hygiene market. Furthermore, in Iran, multi-level marketing has not yet received formal recognition from companies, and comprehensive legal frameworks are absent in this domain. This has led companies to view this tool as an informal means of marketing their products. However, multi-level marketing can increase a company's customer base and, consequently, their loyalty. Additionally, existing models related to multi-level marketing are primarily designed for other countries, and due to cultural and infrastructural differences, these models might not be entirely effective in Iran. Therefore, more extensive research is necessary in this field to develop new and localized models that can contribute to establishing this type of marketing within companies. Hence, the present research aims to address this topic.

2. Theoretical Foundations and Literature Review

Building Customer Loyalty

The primary objective of relationship marketing activities is to establish customer loyalty. Customer loyalty can be defined as "a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, thereby causing repetitive same-brand or same-brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior." Customers are the driving force behind profitable growth, and customer loyalty can lead to profitability. For a loyal customer, positive attitude and behavior are associated with the commitment to repeat purchases from a brand in the future (Wirtz, 2023). Loyal customers are highly unlikely to switch to a competitor solely based on price, and they even make more purchases compared to non-loyal customers. It is essential for sellers to retain loyal customers who contribute to the long-term profitability of businesses. Encouraging existing customers to increase their purchases is a way to enhance a company's financial growth. Moreover, the financial growth of organizations depends on the company's ability to retain existing customers at a faster rate compared to acquiring new customers (Wilkinson, 2023). Therefore, competent managers should understand that achieving growth comes not only from attracting new customers but also from retaining existing ones, as they can be encouraged to make more

purchases and recommend the company's products and services to others (Triningsih et al., 2023)

Multi-Level Marketing

Multi-Level Marketing (MLM) is a sales method where companies sell their products and goods directly to consumers without advertising or intermediaries. After purchasing, customers can choose to market the company's products and earn profits (Trevisan et al., 2023). Income in MLM is generated both from direct sales and sales through downlines. The multi-level nature of marketing is one of the methods of direct sales marketing. MLM offers marketers the opportunity to build a sales network, and by expanding this network, multiple levels of marketing are formed, promoting the company's products and services (Purcaru et al., 2022). In MLM, individuals sell products through participation and receive profits based on the organization's compensation plan, as the entire network's activities contribute to everyone's profitability (Roman et al., 2021). The network collaborates to increase sales and profits, aiming for mutual benefit. This type of marketing is considered effective and powerful due to its network of individuals driven to increase sales for higher profits. However, MLM can have both positive and negative consequences (Nadlifatin et al., 2022).

Literature Review

A review of conducted research in this field (Table 1) indicates that although extensive studies have explored customer loyalty and its influencing factors, research in the context of multi-level marketing, especially in Iran, remains limited. Moreover, most existing research has routinely focused on identifying and examining factors, often leading to models based on digitalization without considering the structure of multi-level marketing in the retail industry. The focus on innovative customer loyalty models based on business intelligence and the current societal conditions (digitalization) within the MLM domain has been overlooked by researchers. Additionally, the factors influencing customer loyalty vary across different studies, often encompassing brand-related factors, quality-related factors, customer perception factors (experience, satisfaction, and trust), marketing factors, and their combinations. Therefore, conducting research in this area using a new approach and incorporating expert opinions as active participants in this field is innovative. In light of these points, the present research aims to explore the model (innovative business) of customer loyalty by investigating innovative factors influencing customer loyalty in multi-level marketing based on business technological intelligence.

Table (1): Review of Previous Research

Researcher & Year	Title	Method	Results
Mousavifard & Hosni (2022)	The Impact of Digital Marketing on Brand Loyalty with the Mediating Role of Product Innovation	Quantitative - Structural Equation Modeling	Digital marketing impacts brand loyalty with the mediating role of product innovation, with a coefficient of 3.47 from Sobel's test (t-statistic).
Hamidizadeh et al. (2019)	Designing and Explaining the Sustainable Customer	Quantitative - Path Analysis	Trust, payment security, perceived value, customer satisfaction,

	Loyalty Model in E-commerce: A Study on Retail Websites		customization, ease of purchase, website's non-commercial reputation, and interactive shopping have a significant relationship with sustainable customer loyalty in e-retailing. Moreover, customer satisfaction and trust play the role of mediating variables in the model.
Haghighi et al. (2018)	Presenting a Model for Customer Loyalty in Electronic Markets	Qualitative	Five factors: value proposition, brand image, trust and security, website and technology, and customer service are the influencing factors on customer loyalty.
Turkestani et al. (2016)	The Impact of Satisfaction and Trust on Electronic Loyalty and Online Purchase of Tourism Products	Quantitative - Structural Equation Modeling	Website capability and perceived security impact trust and satisfaction. Cost affects satisfaction, but cost has no effect on trust, and this hypothesis was rejected. The results also confirmed the impact of trust and satisfaction on loyalty.
Porsaru (2022)	Creating Long-Term Business Sustainability: The Impact of Experiential Marketing on Sales Representatives' Loyalty to Multi-Level Marketing Systems	Qualitative	Sales representatives in multi-level marketing companies have three main experiences: (1) experience of being in the MLM system, (2) experience of relationships with customers, and (3) product experience. These experiences play a significant role in creating sales representatives' satisfaction and increasing their loyalty.
Ramanathan et al. (2020)	A New Perspective of E-trust in the Era of Social Media: Insights from Customer Satisfaction Data	Quantitative - Structural Equation Modeling	Researchers presented a model based on pre-purchase factors such as access to services, electronic payment experiences, offering comparative prices, and post-purchase factors including timely delivery, handling customer complaints, and follow-ups by the retailer. They concluded that both pre-purchase and post-purchase factors influence long-term customer loyalty in e-retailing.
Richheld & Sasser (2019)	Examining the Factors Affecting Customer Loyalty in the Banking Industry	Quantitative - Structural Equation Modeling	Factors related to employee competence, service-related components, service quality, and physical environment factors

			influence enhancing customer loyalty to banks.
Paul & Jacob (2018)	"Investigating the Background and Achievements of Customer Loyalty in Online B2C Environments (where there is an institution-customer relationship)"	Quantitative - Structural	

3. Research Methodology

The current research is applied in nature and employs a mixed-methods approach, combining quantitative and qualitative methods through surveys and data mining, with the aim of developing a model. The study also has a field-based and survey-based design, as the researcher directly interacts with the studied phenomena and collects data within the organization. The variables in this research can take on both qualitative and quantitative values, allowing for their categorization as categorical or numerical variables, or alternatively, as qualitative and quantitative variables. The research process began with an environmental scan and exploration of relevant variables, followed by in-depth qualitative interviews with experts and focus groups to identify relationships between the research variables.

The research was executed in three distinct phases. In the first phase, a literature review was conducted to gain a comprehensive understanding of the subject matter and existing research in this field. The second phase focused on extracting components through semi-structured interviews with experts. The collected data was then analyzed using qualitative content analysis. The third phase involved model presentation and customer clustering. Data analysis was carried out using data mining approaches to segment customers.

The qualitative phase involved a sample of 10 experts in business intelligence, data mining, and multi-level marketing. The quantitative phase utilized data mining on the Panberes company's data warehouse, which contained 5,200,000 records from 2011 to 2019. The data was collected from the company's sales and marketing department and analyzed using R software, a powerful tool for statistical analysis and computation. The research primarily focuses on marketing management and customer relationship management, specifically in the context of multi-level marketing and business intelligence. The Panberes company was chosen as a case study due to the importance of network marketing in manufacturing companies. The temporal scope of the research encompasses data collected between 2011 and 2019.

4. Findings

In the qualitative phase, the data obtained from interviews with experts underwent three stages of coding: open coding, axial coding, and selective coding. In the open-coding stage, significant phrases and keywords were identified from the interviewees' responses. Axial coding involved categorizing these

identified concepts into specific codes. Finally, selective coding was employed to eliminate duplicate codes and select the final codes that occurred only once. Tables 2, 3, and 4 present the results of these three coding stages.

Table (2): Results of Open Coding

Concepts	Concepts
Expert 1: In my opinion, the company in question should pay more attention to customer segmentation, where repeat purchases can play a significant role. I believe that the company should perform clustering based on the profitability that customers bring them. It seems that the length of cooperation between customers and the company plays a crucial role in their clustering.	Expert 6: Delays in purchasing can be a point of interest for the sales department. It seems that profitable customers should be given attention. Customers who have a strategic partnership with the organization are suitable for clustering.
Expert 2: Repeat purchases by customers should be considered by the company. The company should consider the discount index for profitable customers. The purchase volume of customers plays a significant role in clustering.	Expert 7: As a marketing manager, I try to select customers who make more purchases. The organization should consider discounts to attract customers. Profitability plays a vital role in customer selection.
Expert 3: The company should pay more attention to the last purchase of customers and their purchase volume. The company should consider the purchase amount of customers for clustering. I think the higher the customer purchases, the more suitable the cluster is for the company.	Expert 8: Repeat purchases by customers lead to improved relationships between the company and customers. The purchase volume of customers should be considered. Customer purchases should be continuous.
Expert 4: The company should choose clusters that have a longer cooperation duration. The more customers purchase, the more suitable the cluster. I believe the purchase volume can also play a significant role in clustering.	Expert 9: The company should segment its customers based on the profitability component. The purchase volume of customers is a crucial principle in marketing. The organization should also pay attention to the principle of discounts.
Expert 5: The company should focus on profitable customers. Customers who make more purchases are also profitable. The company should offer discounts to profitable customers.	Expert 10: The purchase amount can be a suitable criterion for segmenting them. The length of cooperation plays a constructive role in customer clustering. Profitability is a crucial factor in marketing.

Table (3): Results of Axial Coding

Axial Codes	Expert Code	Axial Codes	Expert Code
Repeat Purchase, Profitability, Long-term Cooperation	A1	Purchase Delay, Profitability, Long-term Cooperation	A6
Repeat Purchase, Discount Offering, Purchase Amount	A2	Purchase Amount, Profitability, Discount	A7
Purchase Delay, Purchase Amount, Profitability	A3	Repeat Purchase, Purchase Delay, Cooperation Duration	A8
Repeat Purchase, Profitability, Long-term Cooperation	A4	Profitability, Purchase Amount, Discount Offering	A9
Profitability, Purchase Amount, Discount Offering	A5	Repeat Purchase, Profitability, Long-term Cooperation	A10

The selective coding results revealed that six main codes remained, which are:

- The length of customer cooperation
- Purchase delay
- Repeat purchase
- Purchase amount
- Profitability
- Discount offering

After coding, the fuzzy Delphi method was implemented in three rounds. The actions taken in each stage are as follows.

Stage One: In the first round of the Delphi questionnaire, a list of factors influencing clustering, extracted from the coding process, was presented. The respondents were asked to provide their opinions on the degree of influence of each factor, component, and index on the processes and outcomes, by choosing one of the available options. These options were presented on a Likert scale, ranging from "Very Low Impact: 1" to "Very High Impact: 5."

Stage Two: The verbal variables were converted into triangular fuzzy numbers. Each expert's opinion was assigned triangular fuzzy numbers, resulting in a set of triangular fuzzy numbers for each expert. The level of disagreement between each expert's opinion and the average opinion of the expert panel was determined. As the absolute difference in the average expert opinions for one indicator still exceeded 0.2 after the second round of the Delphi, a third round of the survey was conducted. The outcomes of the two Delphi rounds are shown in Table 4:

Factors	Defuzzified Value (Round 1)	Defuzzified Value (Round 2)	Difference between Round 1 and 2
Length of Customer Cooperation	0.694	0.767	0.072

Purchase Delay	0.689	0.378	0.311
Repeat Purchase	0.556	0.722	0.167
Purchase Amount	0.600	0.750	0.150
Profitability	0.650	0.722	0.072
Discount Offering	0.689	0.778	0.089

Stage Three: Index Screening and Acceptance

In this stage, the indices were screened by comparing their acquired values with a threshold. The researchers set 0.7 as the threshold for acceptance. If the defuzzified value of an index in the final round was 0.7 or higher, it was accepted; otherwise, it was rejected and removed. The final table was prepared after examining the differences in expert opinions, using the absolute difference between the average opinions from the first and second rounds.

As the average difference in expert opinions for all indicators was less than 0.2, it was concluded that a consensus had been reached. Since all indices had defuzzified values equal to or greater than 0.7 in the final round, all were accepted (Table 5).

Table 5: Final Fuzzy Delphi Results

Index	Aggregated Expert Opinions (l, m, u)	Defuzzified Value (S)
Length of Customer Cooperation	0.550, 0.800, 0.950	0.767
Purchase Delay	0.483, 0.733, 0.917	0.711
Repeat Purchase	0.500, 0.750, 0.917	0.722
Purchase Amount	0.533, 0.783, 0.933	0.750
Profitability	0.500, 0.750, 0.917	0.722
Discount Offering	0.567, 0.817, 0.950	0.778

Post Fuzzy Delphi - Clustering Process

After the Fuzzy Delphi method, the clustering process was implemented. The clustering was done using classical clustering methods, and the hybrid K-means algorithm with Particle Swarm Optimization (PSO) was utilized.

Evaluation and Weight Determination

To evaluate the effectiveness, the K-means algorithm was initially used. In the first stage, after data collection, the weight of each index was calculated using the Analytic Hierarchy Process (AHP) and pairwise comparisons of the indices. This involved one unit CEO and four CEOs from the target company making pairwise comparisons to determine the weights of the model indices. The resulting pairwise comparison matrix is presented in

Table 6, highlighting the six main indices identified.

Table 6: Pairwise Comparison of Model Indices

M-F	R-F	R-M	L-F	L-M	L-R	
0.252	0.143	0.333	3	7	8	Expert 1
7	0.143	1	5	5	7	Expert 2
7	5	0.125	0.125	0.252	5	Expert 3
0.2	0.333	3	4	9	0.2	Expert 4
7	0.125	0.167	7	7	3	Expert 5
1.765	0.336	0.530	2.208	2.208	2.787	Geometric Mean

The numbers in this table represent the importance of one index relative to another. For example, the number 8 in the (L-R) column for Expert 1 signifies that, in the view of Expert 1, the importance of the "Length of Relationship" index is eight times greater than that of the "Recency of Purchase" index. By considering these pairwise comparisons and inputting them into MATLAB software, the weight of each index was finally determined. When more than one expert's viewpoint is used, the best approach is to utilize the geometric mean of the experts' opinions. Based on the aforementioned, the weighted index assignment is presented in Table (7).

Table (7): Determining the Weighted Index Assignment

Eigenvector (W) Number of Customer Purchases Customer Purchase Value	Recency of Customer Purchase	Customer Relationship Length
0.349	2.208	3.354
0.116	0.336	0.530
0.277	1.765	1

Based on Table 6, the 'Length of Relationship' criterion, with a normalized weight of 0.349, has the highest priority. The 'Number of Customer Purchases' criterion, with a normalized weight of 0.308, is the second priority, while the 'Customer Purchase Value' criterion, with a normalized weight of 0.227, comes in third. On the other hand, the 'Recency of Purchase' criterion, with a

normalized weight of 0.116, has the lowest priority. The inconsistency rate of the comparisons made is 0.086, which, being less than 0.1, indicates that the comparisons can be relied upon. The output is displayed in Figure 1.

Figure (1) displays the inconsistency rate of the comparisons made.

Following the determination of the inconsistency rate, customer data was structured into four variables: customer relationship length, recency of purchase, purchase frequency, and net sales amount. Subsequently, clustering was performed using the K-means algorithm and Particle Swarm Optimization.

The parameters for this process are detailed in Table (8).

Value	Parameter	Value	Parameter	Value	Parameter	Algorithm
Random numbers	R1, r2	1.2	C2	2	K	PSO-KM
Convergence of gbest	Stop Condition	0.9	Vmin	1.2	C1	

The stopping condition for the designed algorithm is the convergence of the 'gbest' function, which is illustrated in Figure 2.

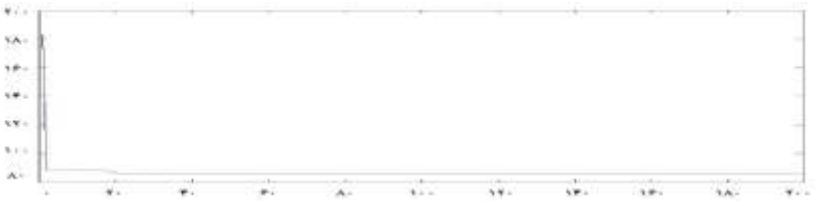

Figure (2). Output of the gbest function

The research data was clustered as shown in Figure 3 after the PSO-KM algorithm was executed.

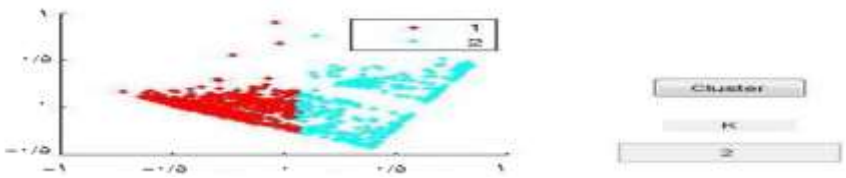

Figure (3). Data Clustering for K=2

The figure mentioned in the text, which displays the clustering of data into two clusters (K=2), is not provided here.

The text then indicates that the centers of the clusters for each index were calculated, as shown in Table 9.

Table (9): Calculation of Cluster Centers

Customer Relationship Length (L)	Recency of Purchase (R)	Purchase Frequency (F)	Net Sales Amount (M)
0.7419 ↑ The average of the elements in the first cluster.	0.9020 ↑	0.2772 ↓	0.0378 ↓
0.1609 ↓ The average of the elements in the Second cluster.	0.6427 ↑	0.0752 ↓	0.0367 ↓

Table (9) reveals that customers belonging to the first cluster exhibit high averages in the 'Customer Relationship Length' and 'Recency of Purchase' indices, while their averages in 'Purchase Frequency' and 'Net Sales Amount' are lower than the overall customer average. Similarly, customers in the second cluster have a higher average in the 'Recency of Purchase' index but lower averages in 'Customer Relationship Length,' 'Purchase Frequency,' and 'Net Sales Amount' compared to the overall customer average.

In the present case study, to evaluate the performance of this algorithm in comparison to the K-means algorithm, the Mean Squared Error (MSE) and execution time were used. Table (10) presents the error rate and execution time for each algorithm.

Table (10): Error Rate and Execution Time for Each Algorithm

Algorithm	Mean Squared Error	Execution Time
K-means	0.067236	0.121
Hybrid K-means with Particle Swarm Optimization	0.01709	170.831

The text states that based on Table 9, the hybrid algorithm demonstrates a lower Mean Squared Error in clustering but requires a longer execution time compared to the K-means algorithm. It emphasizes that the accuracy of customer segmentation is more important than the speed of the process.

The results of the customer clustering are then elaborated:

- **Cluster 1**: This cluster comprises 2508 records. The customers in this cluster are considered valuable to the company due to their favorable position. The company should invest more in these customers to further enhance their satisfaction. This can be achieved through improved after-sales services and strengthened communication.
- **Cluster 2**: This cluster includes 2045 customers who are also in a relatively favorable position. The company should implement more incentive policies to encourage increased purchases from these customers. Offering discounts and credit sales could contribute to improving the status of this customer cluster.
- **Cluster 3**: This cluster consists of 2879 customers who are in an unfavorable position. The company needs to focus on increasing the purchase volume and frequency of these customers by offering diverse services and creating value.
- **Cluster 4**: This cluster comprises 2988 customers who exhibit sporadic buying behavior, lower profitability, and less frequent purchases. The company should entice them to purchase by offering suitable discounts, as price or purchase amount plays a significant role for this cluster.
- **Cluster 5**: This cluster includes 3092 customers who are not considered good customers. Efforts should be made to attract them away from competitors and towards the company by offering discounts on their total

purchases. The aim is to convert them into customers from other clusters who generate more profit, meaning their value increases with repeat purchases. Tiered discounts can help improve the status of these customers within the company.

5. Discussion and Conclusion

The current research aims to design a model for creating customer loyalty in multi-level marketing companies aligned with business intelligence. Multi-level marketing is a topic that has not yet received much attention in Iranian companies, and most previous research has taken a descriptive approach to its examination. Since there haven't been adequate field and applied studies in this area, this research serves as a turning point for initiating empirical studies in this field. Additionally, due to rapid environmental changes, companies need to take an intelligent approach to multi-level marketing, which can lead to increased agility in their multi-level marketing activities. This aspect has received less attention in previous studies. This research addressed the issue of increasing customer loyalty by combining multi-level marketing with its intelligentization. The research findings identified six indicators that can be considered for the model. These indicators can contribute to designing a model for creating customer loyalty in multi-level marketing companies aligned with business intelligence. The first indicator pertains to the length of customer cooperation. Experts believe that there are customers who are constantly in touch with the company and are recognized as loyal customers. The second indicator refers to the purchase delay. This indicator shows the time interval between customer purchases. The shorter this interval, the more profitable the customers are for the organization. The third indicator is repeat purchases. In this cluster, customers repeatedly and continuously purchase services and products from the company and can be considered strategic customers. The fourth indicator includes customers with high purchase amounts, as some customers may make many purchases but with low values. Therefore, a cluster should be considered where the purchase amount of customers is high. The fifth indicator encompasses customers who generate high profitability for the company. They consistently purchase the required services and products and are considered golden customers. Finally, the sixth indicator involves offering discounts to customers. This cluster indicates that providing appropriate discounts attracts such customers, and they might switch to competitors if faced with high prices. Based on the aforementioned indicators, five customer clusters and six indicators were considered. Each indicator will be explained further. One of the effective indicators in modeling customer cooperation duration is for the company to view its customers as business partners and strengthen its relationships with them by establishing customer relationship management and customer voice units. In this regard, Esser (2022) and Nosratabadi et al. (2019) showed that customers who have long-term relationships with organizations form a suitable cluster for the company, and efforts should be made to retain them through marketing programs such as providing better services and support. This strengthens the relationship with customers and ultimately leads to organizational profitability. Therefore, establishing customer relationship management units can help increase the number of customers in this cluster. The second indicator used for customer clustering was purchase delay, which indicates the time interval between customer purchases. The shorter this interval, the more purchases customers make, ultimately leading to higher

profitability for the organization. Therefore, this cluster of customers expects the company to offer services such as discounts, lottery programs, and purchase support in return for their frequent purchases. Thus, customers in this cluster can also become part of the first cluster, maintaining a continuous relationship with the company and making their purchases from it. Turkestani et al. (2016), Hamidizadeh (2019), Long et al. (2022), and Ramanathan et al. (2020) showed that companies should pay attention to customers who make a lot of purchases as a main cluster and try to increase their purchases through surveys. This can be in the form of offering better prices, services, or complementary products, ultimately leading to high profitability for organizations. The third indicator for customer clustering was repeat purchases, which shows how often customers visit and make purchases from the company within a specific period. The higher the repeat purchase frequency, the greater their loyalty. Therefore, repeat purchases can be a suitable indicator for customers, reflecting their level of loyalty. In this regard, Turkestani et al. (2016), (2017), and Lofthouse & Storr (2021) indicated that for customer clustering, it is necessary to consider their repeat purchases as a basis for measuring their loyalty. This means that loyal customers tend to consistently purchase from their preferred companies due to their satisfaction, resulting in high profitability for the companies. The fourth indicator used in this research for clustering was the purchase amount. This signifies how much a customer is willing to pay for the desired services and products. The higher the payments, the more profitable the customers are. Therefore, companies need to encourage these customers to make more purchases by offering better prices. In this context, Hamidizadeh et al. (2019), Esser (2022), and Paul & Jacob (2018) showed that paying attention to the purchase amount of customers is a suitable indicator for clustering them. Customers who make larger purchases should be separated from other customers and considered a desirable cluster for companies to focus on, as this can contribute to increased profitability. The fifth indicator considered in this research is profitability, which refers to the profit each customer brings to the company through their purchases. Companies can achieve better financial performance by increasing profitability. The results of this indicator align with the findings of Su & Lee (2023) and Lofthouse & Storr (2021), which showed that profitability is often a primary indicator for customer clustering in most companies. The main goal of a company is to increase profits through various marketing and sales mechanisms. Therefore, customers who generate more profit should be considered a key cluster and treated as business partners. By enhancing interactions between them and the company, profitability can be improved through increased sales. Companies should view profitable customers as their main business partners; otherwise, their profitability will decline. The sixth indicator examined in this research is the discount offering. This indicator suggests that increasing discounts leads to more customers. Consequently, some customers, due to lower incomes or not having high financial expenses, prefer to buy from places that offer discounted prices. Although these customers might be considered company customers with minimal profit, companies can achieve high profitability in the long run by increasing the number of such customers and offering appropriate discounts and credit sales. In this regard, Tiwari (2023) showed that providing discounts to customers can create a new cluster of customers whose profitability is low in the short term but high in the long term. Considering the customer cooperation duration cluster, it can be suggested that to enhance interactions with customers, the studied companies should

focus more on increasing organizational knowledge through customer knowledge by implementing electronic customer relationship management systems. It is recommended that multi-level marketing companies request customer data at the time of registration on the company's website, using appropriate incentives and ensuring the protection of individuals' privacy. Regarding the purchase delay and repeat purchase clusters, it can be stated that a precise and continuous description of different categories of service and product preferences, in addition to providing the basis for formulating correct policies, serves as feedback and a control tool for measuring the success of policies. Therefore, assigning the task of monitoring the preference capacity of products and services, as well as the changes in each cluster over time, to a specific cluster by different companies is necessary and essential. In relation to the purchase amount cluster, it can be mentioned that a company aiming to target the first cluster as its market should be able to offer the most affordable service to the market, essentially implementing a price leadership strategy. To achieve this, the company can provide services of standard quality without special features. Regarding the profitability cluster, it can be stated that designing numerous, diverse, and differentiated products and services for customers in different groups can lead to increased loyalty and ultimately organizational profitability. Explaining customer retention programs for profitable customers can play a significant role in enhancing their relationship with the organization, such as by offering more discounts, lottery programs, and so on. Concerning the discount offering cluster, it can be expressed that credit sales to customers lead to increased purchases and repeat purchases. Therefore, companies should sell their products and services on a long-term basis to customers with sufficient creditworthiness. Creating a customer lifecycle based on their value and profitability.

References:

- Hamidizadeh, M. (2019). Designing and explaining the sustainable customer loyalty model in e-commerce: A study on retail websites. *New Marketing Research*, *1*(2), 79-92.

- Haghighi, M., Alavi, M., & Sarafi, A. (2018). Presenting a model for customer loyalty in electronic markets. *Management Knowledge*, *20*(79), 15-32.

- Hosseini Shakib, M., & Moradian, M. (2018). Evaluation of innovation management performance and ranking of effective factors using the Analytic Network Process (ANP) in Mapna Material Engineering Company. *Industrial Technology Development Quarterly*, *16*(31), 5-12.

- Lofthouse, J., & Storr, V. I. (2021). Institutions, the social capital structure, and multilevel marketing companies. *Journal of Institutional Economics*, *17*, 53-70.

- Long, S., Lee, J., Yamani, Y., Unverricht, J., & Itoh, M. D. (2022). Does automation trust evolve from a leap of faith? An analysis using a reprogrammed pasteurizer simulation task. *Applied Ergonomics*, *100*, 103674.

- Madani, H., Shahhosseiny, M. H., & Khamseh, A. (2011). Impact of generic plan on the development of technology capabilities. *Hakim Research Journal*, *14*(1), 23-31.

- Movahedzadeh, N. (2020). *The impact of network marketing companies and agent characteristics on the tendency to choose network marketing as a job opportunity among students of the Faculty of Economics and Management, Urmia University* [Unpublished master's thesis]. Urmia University.

- Mousavi Fard, S., & حسنی, S. (2022). The impact of digital marketing on brand loyalty with the mediating role of product innovation (Case study: Manizan Dairy Products Company of Kermanshah). *Business Management Quarterly*, *55*, 75-94.

- Nadlifatin, R., Persada, S., & Clarinda, M. (2022). Social media-based online entrepreneurship approach on millennials: A measurement of job pursuit intention on multi-level marketing. *Procedia Computer Science*, *197*, 110-117.

- Nasaji, N. (2017). *The impact of the characteristics of multi-level marketing companies and distribution factors on people's tendency to adopt network marketing jobs in Tabriz* [Unpublished master's thesis]. Takestan Higher Education Institute

- Nosratabadi, S., Mosavi, A., Shamshirband, S., Kazimieras Zavadskas, E., Rakotonirainy, A., & Chau, K. (2019). Sustainable business models: A review. *Sustainability*, *11*(6), 1663. https://doi.org/10.3390/su11061663

- Paul, T., & Jacob, J. (2018). A two-stage approach for a reflective-formative hierarchical latent variable model for measuring customer loyalty: Special case of Indian e-customers. *International Journal of Electronic Marketing and Retailing*, *9*(3), 230-253.

- Purcaru, I., Urdea, A., Constantin, C., & Brătucu, G. (2022). Building long-term business sustainability: The influence of experiential marketing on sales representatives' loyalty to multi-level

marketing systems. *Sustainability*, *14*(15), 9507. https://doi.org/10.3390/su14159507

 Ramanathan, U., Williams, N., & Zhang, M. (2020). A new perspective of e-trust in the era of social media: Insights from customer satisfaction data. *IEEE Transactions on Engineering Management*, *69*(4).

 Razvani, A. (2018). *The impact of network marketing on brand dimensions considering the role of organizational innovation* [Unpublished master's thesis]. Kharazmi University

 Richheld, F. F., & Sasser, W. E. (2019). Zero defections: Quality comes to services. *Harvard business review*, *68*(5), 105-111.

 Roman, M., Wasiak, M., Roman, M., Roman, K., Niedziółka, A., & Krasnodębski, A. (2021). Essence of the compensation plan in the process of motivation in multi-level marketing (Mlm). A case study. *Sustainability*, *13*(16), 8738.

 Sadeghi, Y., & Khamseh, A. (2018). The development of innovation management model in petrochemical companies producing polyethylene products in Iran and prioritize the factors using analytic network process (ANP) fuzzy. *Journal of Management Accounting and Auditing Knowledge*, *7*(27), 163-180.

 Suh, T., & Lee, S. B. (2023). Configuring managerial factors to enhance omnichannel experience and customer engagement behaviors for a solid loyalty loop. *Electronic Commerce Research*, 1-23. https://doi.org/10.1007/s10660-022-09661-6

 Tiwari, P. (2023). Effect of innovation practices of banks on customer loyalty: An SEM-ANN approach. *Benchmarking: An International Journal*. https://doi.org/10.1108/BIJ-06-2022-0392

 Triningsih, S., Iswanto, H., & Hadi, P. (2023). Seller loyalty of Shopee marketplace community: Community study in Shopee Bekasi campus. *International Journal of Business*, *4*(2).

 Turkestani, M., Mafakheri, F., & Haghighat, M. (2016). The impact of satisfaction and trust on electronic loyalty and online purchase of tourism products. *Tourism Management Studies*, *11*(34), 93-109.

 Trevisan, L. N., Ogiba, L. Z., & Maziero, V. L. (2023). Multilevel marketing under the consumer protection approach: A systematic literature review. *Journal of Promotion Management*, 1-21.

 Wilkinson, J. (2023). *Social media's influence on customer loyalty in e-commerce* [Master's thesis, Hanken School of Economics].

 Wirtz, J., & Chew, P. (2023). Customer loyalty for services. In *Elgar Encyclopedia of Services* (pp. 1-6). Edward Elgar Publishing.

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