



Enhancing Customer Experience through Business Intelligence: Preference and Behavior

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ABSTRACT

The current study aimed to explore the influence of business intelligence (BI) in terms of (personalization, predictive analytics, segmentation, feedback analysis and Omni-channel integration) in enhancing customer experience (CE) in terms of preferences and behavior. A convenient sample of (237) employees responded to a self-administrated questionnaire and SPSS was used to deal with collected primary data. Results of analysis indicated that BI is able to influence CE in terms of preferences and behavior from perspective of senior employees of electronics trading organizations operating in Jordan. Among the chosen variables of BI characteristics, we have noticed that Omni-channel integration scored the highest influence among all adopted variables with a strong correlation that accounted for 86.1% of the variations in the measurements we make. Study recommended that organizations must focus on the efficient connection of multiple channels to provide coherent and pleasurable customer experiences. Further recommendations were presented in the study.

Keywords: Business Intelligence, Behavior, Customer, Predictive Analytics, Segmentation, Omni-Channel Integration

JEL Classifications: M15, L86, D91

1. INTRODUCTION

Business intelligence is a modern phenomenon that has taken the business world by surprise in the last decades and it has brought about positive change on the way organizations are managed. What started as merely a reporting tool has become quite complex and is now considered as a core component of doing business. The proliferation of data that businesses collect together with the enhanced technological developments have contributed to the rise of business intelligence as organizations' necessity for information and improved performance in competitive trade environment.

Bany Mohammad et al. (2022) argued that the increasing complexities of the business environment have been cited as having fostered the growth of business intelligence, in an effort to promote data driven decision making. Since the availability of large volumes of data in organizational environments, it has been increasingly important to find meaningful information in

this data. Choi et al. (2022) agreed on the same idea adding that BI applications and systems help businesses gather, process, and analyze information in real time to obtain insights that will help it make better business decisions, improve performance, and results.

In addition, the availability of business information in organizations through the democratization of data has also provided a central result of the business intelligence. Earlier, data analysis and interpretation were a process used only by some closed teams or departments of a particular company (Bharadiya, 2023a). Now, business intelligence tools and self-service analytics platforms make it easier for employees from different levels and departments to analyze data themselves. This democratization of data allows for more people in the organization to make the right decision at the right time with accurate and up to date information in a way that makes the business much more dynamic and responsive in the market and to the consumer needs (Ragazou et al., 2023).

Wolniak (2024) aimed in their study to examine the usage of business analytics in customer behavior analysis through critical literature analysis. Combining business analytics with the analysis of customer behavior in Industry 4.0 offers organizations a revolutionary way to understand customer needs, wants, and actions deep. The data gathered and processed in real-time allow for quick changes in reaction to altering market conditions while addressing consumers through different touchpoints. In addition, in some cases, such as in call centers or computerized messaging, tools like predictive modeling and predictive analysis enables business to anticipate possible trends, combat customer churn and improve levels of satisfaction. Thus, businesses can realize the full value of business analytics as an ability to make strategic decisions, improve marketing approaches, and advance overall business performance in contexts of Industry 4.0 (Eboigbe et al., 2024).

Pandugula et al. (2024) aimed at examining how artificial intelligence and business intelligence through Omni-channel integration is with task clustering and segment labeling. Through collecting related literature, results of analysis indicated that in the modern retail business environment, the ability to meet the customers need on time and the supremacy of customer experience is crucial. Thus, the win-win model must appear to be vital for the retailer as well as the customer, and at the center of the retailer's activity, there is a mission to manage customer relations. Merchants do everything to make each successful interaction as meaningful and valuable as possible. However, some robust constraints include personal recall of customer preferences, the urgency of fulfillment, and ability of the salesperson in bundling the "right" items.

Rane et al. (2023) attempted to investigate how the seemingly revolutionary idea of hyper-personalization can change the realm of customer relations and act as a powerful tool for increasing customer loyalty and satisfaction under the CRM umbrella. Results of study managed to find out that innovative customer segmentation tools help in separating the customers according to different characteristics to ensure relevant and special treatment. The unfolding of these tools promotes the capacity of CRM systems to offer customers the right things at the right time and place as a way of deepening the interaction between them and brands. The hyper-personalization therefore consist of the following strategies: Proactive Communication, Personalized Marketing Campaigns and the Contextual Customer Journey. The study also measures the viability of real time personalization, where the CRM came with a capability to personalize content and offering indicating dependability on the actions of the client. In addition, the paper analyses how the concept of hyper-personalization applies to Omni-channel strategies, evaluating the function of different tactical touchpoints concerning their integration. Such implementation of hyper-personalization enables organizations to foster long-term customer relationships that in turn translates to improved customer loyalty and improved satisfaction in the ever changing and competitive business environment.

Bharadiya (2023b) focused on understanding how machine learning ML can change business intelligence BI and its effects

on decision-making. Forecasting, customer profiling, demand and churn analysis are all made easier using predictive analytics that is made possible through ML. Operations, fraud and outliers are what ML has in its toolkit when it comes to anomaly detection. Natural Language Processing (NLP) enforces sentiment analysis, text mining and chatbots that would help in better customer service. Recommendation systems give people recommendations based on stored data, which is accomplished with collaborative and content-based filters, which are powerful ML techniques.

1.1. Research Gap

Although the study establishes that business intelligence tools like personalization and predictive analytics are used to improve customer experience, the existing literature may have given limited attention to how and to what extent these tools influence the tendencies of its customers. While there is awareness of the various types of BI and how they can be employed; it seems that there is a gap in how personalization strategies and the accurate predictions that result from BI can be utilized to create products/services aligned to the particular needs of the consumers, predict consumer behavior effectively, and consequently improve the customer experience.

The literary gap in this research context may be the complex insight into the synergistic relations among these particular BI components concerning customers' experience improvement. Previous literature could have perhaps documented findings on separate BI tools and its influence on customers in a single manner but little literature could have explored the combined influence of multiple BI strategies in unison. Hence, the examination of how personalization, predictive analytics, segmentation, feedback analysis, and omni-channel integration work simultaneously to influence customer preferences and behaviors to enable organizations to understand better and utilize such instruments at the same time for improved customer experiences where such research gap exists.

Moreover, the section highlights customer preferences and behaviors as critical BI outcomes that would be the focus of the study. However, a potential gap in the literature could be associated with poor investigation of the long-term consequences and BI-supported sustainability of the customer experience improvement. Although researchers may have explored the effects of BI tools on customer preferences and behaviors for the short run, there is a dearth of research that has sought to establish the long-term effects of BI strategies. The knowledge of how ongoing BI initiatives transform customers and their behaviors in the complex business environment could likewise offer insights to those organizations wishing to sustain effective customer experience in the end. Hence, exploring the longevity as well as the change dynamics of BI in the context of customer preference and behavior improvement could potentially address a theoretical void in the BI literature.

1.2. Aim and Objectives

Launching from above gap, our research here aims at exploring the influence of business intelligence (BI) (personalization, predictive

analytics, segmentation, feedback analysis and Omni-channel integration) in enhancing customer experience (CE) in terms of preferences and behavior. This meant that the study seeks to answer the following question:

1.2.1. How BI managed to enhance and support customer experience in terms of customer behavior and preferences?

Reaching the aim of study was done depending on actualizing the following objectives:

- Identify the concept of BI in business world
- Explore the interconnectedness between BI and customer experience
- Highlight how BI can influence preferences and behavior of customers.

2. LITERATURE REVIEW

2.1. Customer Experience (CE)

Chauhan et al. (2022) noted that customer experience (CE) has recently become a dominant idea that is used in various industries as part of the move away from product-oriented approaches towards customer-oriented ones. CX includes the awareness of a product or service to the point of sale and even after sale to customers of a firm or company. Kurhayadi et al. (2022) stated that this approach looks at customer experience from an emotional, psychological, and the implementation aspects in order to design an experience that will create a brand that customers trust, are loyal to, and are satisfied with.

According to Golf-Papez et al. (2022), CE was defined as the total of all contacts a customer ever has with the firm and all its partners throughout the entire customer relationship, customer experience (CX) is a term used to describe all customer interactions with a company that impact the buyer's emotions and overall perception. While it transcends the basic aspects of people's perceived value found in business transactions to combine a holistic value perception based on the impressions that customers get from their interactions with a company and its staff, products, and customers' touchpoints (Kim and So, 2022). An organization should thus demonstrate a positive attitude towards customers to champion their cause and make sure they gain lasting customers by offering them positive experiences instead of losing them by damaging customer loyalty, reputation and potential growth (Kim and Kim, 2022; Hashem et al., 2017).

Tom Dieck and Han (2022) argued that the gradual establishment of customer experience framework resulting from other factors such as innovative technologies, dynamic customer behavior and growing competition. Companies are realizing that customer experience is not a one-off event but a continuous process of creating, designing and delivering superior experiences through all relevant touch points thereby creating competitive advantage on one hand and responding to the evolving higher standards of consumers on the other (Rahman et al., 2022; Hashem et al., 2023). Thus, the core idea of utilizing customer needs, wants and suffering lies in improving every factor of the customer experience and building long-term customer relationships and ensuring business growth (Nguyen et al., 2022; Hashem et al., 2015).

2.2. Business Intelligence (BI)

Udeh et al. (2024) and Adaga et al. (2024) stated that BI has become one of the most important strategic directions in the recent management development as customer-focused improvement approach. In academic sources, customer experience is usually described as the sum total of experiences that a customer has when interacting with a firm at any point in time throughout the duration of the relationship (Adewusi et al., 2024). It refers back to the definition that customer experience enhances each and every touch point that a customer gets in touch within an organization, in an effort to design a good and integrated experience that will meet or even surpass the expectations of a customer as according to (Mohammed et al., 2024; Freihat et al., 2023).

Jaradat et al. (2024) stated that BI integration in customer experience management in organizations has received attention based on the value proposition of offering firms data-driven insights' outcomes. Similarly, using statistic and big data computation tools, organizations can obtain significant information about customers' behavior, their preferences, and changes in those trends and this is advantageous because organizations can directly interact with customers offering them what they need (Usman et al., 2024). According to Hosen et al. (2024), BI has been described as helping firms to adopt a customer-centric approach because. Through the use of analysis of trends, historical data, and other relevant data sources that are managed through the BI system, it can identify customer needs and mold the business processes in order to serve those needs effectively in order to cultivate long-term loyalty.

Moreover, studies carried out on business intelligence, as in Majid et al. (2024), Paramesha et al. (2024), and Alzghoul et al. (2024) have looked at the way in which business intelligence affects the indicators most closely associated with the customer experience, including customer satisfaction, loyalty, and retention. As the business intelligence is making it easy to understand customer needs and behaviors, an organization is able to deliver what a customer expects to receive because BI tools improve its customer satisfaction and loyalty. The majority of academic works reveal business intelligence as enabling on the one hand, better internal process and operational execution improvements, on the other, as facilitating customer-oriented activities that raise customer experience in every touchpoint.

More specifically, customer experience management has been enhanced through BI through the approaches including preference management, analytics forecast management, strategic segmentation, feedback management, and channel integration management.

2.2.1. Personalization

Business intelligence tools have help businesses to offer customers more individualized experiences by being able to filter through customer data to identify the customer's preferences, purchasing history, and behavioral patterns. This way, organizations feed it into the process of making recommendations and advertisements, products, and services to fit the different customers' needs and increase their attentiveness (Ibeh et al., 2024).

2.2.2. Predictive analytics

In this type of analysis, companies can predict consumer behavior and conduct, and this will help them in a very big way to meet customer needs and demands as they arise. Using past data and trends, the commercial entities are in a position to gain an understanding of customers' behavior and act in a manner that will ensure that the interactions improve customers' experiences (Tsiu et al., 2024).

2.2.3. Segmentation

Business intelligence helps in classification into demographic, behavioral, and psychographic characteristics of customers. Through the division of customers into different groups, it will be easier for the business to sell products to certain customers in certain segments through market targeting and hence enhance their appeal, satisfaction and relevance.

2.2.4. Feedback analysis

Business intelligence applications help to work with the data that is collected through customers' feedback in forms of questionnaires, testimonials as well as through social media channels. Through analysis of this feedback data, businesses can find patterns that need to be solved, and we can make responsible decisions to improve their products, services, or client relations (Alkhwaldi, 2024).

2.2.5. Omni-channel integration

Omni channel integration is achieved through business intelligence by giving an analysis of customer interaction from website, mobile application, social media and physical stores. This integration also helps to provide excellent customer continuity across channels and means that businesses can provide a unified experience to customers no matter how they choose to engage with the company (Chatterjee et al., 2024).

2.3. Customer Behavior and Preferences

GhorbanTanhaei et al. (2024) argued that customer behavior is defined as activities, choices as well as events that are characteristic of a company's customers while engaging with its products/stores. Such activities, choices and events include the process of buying behaviors, research, feedback, and interactions with the company's marketing content. Since consumers always act in ways that are perceptible to organizations, it is vital for organizational entities to better comprehend this behavior they exhibit in order to gain the maximum benefit of all that it provides to business organizations, and influence its outcome in a way that favors the delivery of the right products and services to consumers (Haris, 2024). According to Cai and Yang (2024), customer behavior is described as how customers or groups of customers usually behave whenever they are provoked by a company or by its environment. This means that through understanding customer behavior, organizations can get significant information about the customers for instance their wants, their reasons to make a certain decision and what next they are likely to do hence improving the marketing strategies and customer experiences for better comparison with the desires of the consumers (Sutia and Fahlevi, 2024).

Sunarya et al. (2024) stated that customer preferences include the discrete attitudes customers may have towards products, services, brands, or experiences. Sari et al. (2024) noted that these preferences are forged by different determinants like Personal values, experience, cultural belief, and needs. Amorim et al. (2024) also added that customer preference refers to the priorities or the course of action that customers take towards what they want to consume in the market. Understanding and adapting to customers' needs is crucial for organizations that wish to be sensitive to position and communicate appropriate products to consumers (Qiu et al., 2024). When market customers' demands, needs, and perceptions are identified through market research and benchmarking, as well as through feedback received, the overall customer satisfaction can be improved if the companies adjust their customer offering and the promotional mix accordingly (Pranta et al., 2024).

2.4. Model and Hypotheses

Given the main aim of study and objectives to reach that aim, author has developed a model that explains the relationship between variables as in Figure 1.

Launching from above model, the following set of hypotheses was reached:

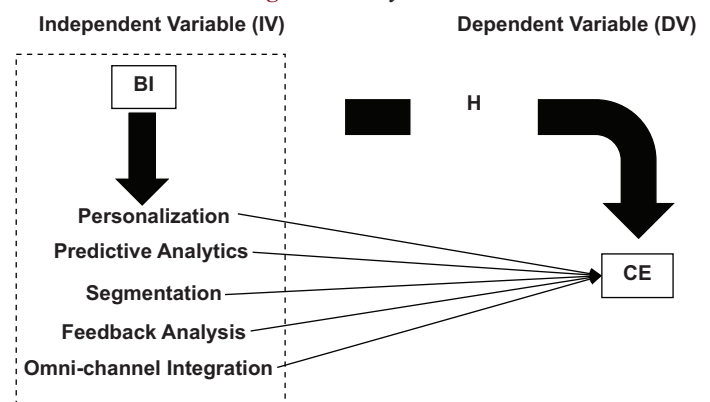
2.4.1. Main hypothesis

- H: BI is able to influence CE in terms of preferences and behavior from perspective of senior employees of electronics trading organizations operating in Jordan.

2.4.2. Sub-hypotheses

- H₁: Personalization is able to influence CE in terms of preferences and behavior from perspective of senior employees of electronics trading organizations operating in Jordan
- H₂: Predictive analytics is able to influence CE in terms of preferences and behavior from perspective of senior employees of electronics trading organizations operating in Jordan
- H₃: Segmentation is able to influence CE in terms of preferences and behavior from perspective of senior

Figure 1: Study model



employees of electronics trading organizations operating in Jordan

- H₄: Feedback analysis is able to influence CE in terms of preferences and behavior from perspective of senior employees of electronics trading organizations operating in Jordan
- H₅: Omni-channel integration is able to influence CE in terms of preferences and behavior from perspective of senior employees of electronics trading organizations operating in Jordan.

It is worth mentioning here that this research was carried out with the underpinning theory of Customer Relationship Management (CRM) Theory. CRM theory aims at bringing the management of customer firm interfaces with actual and possible buyers to optimize its relational and sales outcomes. In this occasion, CRM theory will be helpful for revealing the nature of BI tools, personalization, predictive analysis, segmentation, feedback analysis, and Omni-channel integration to improve the customer experience. Linkage of BI strategies and CRM shows that organizations are in a better position to capture and respond to customer demands and trends.

3. METHODS AND MATERIALS

3.1. Methodological Approach

This study presume that by adopting BI, it is possible to enhance customer experience in terms of preferences and behavior. Achieving this objective was done depending with quantitative approach because it was considered better suited. It can be based on the use of a larger sample size which in turn will contribute to the generation of better results.

3.2. Population and Sampling

Participants in the study were senior employees of electronics trading organizations operating in Jordan. Consequently, we have adopted a convenient sample of (250) employees for the present study. After the application process we were able to collect (237) correctly completed questionnaire this show our response rate was (94.8%) which is acceptable in statistical perspective.

3.3. Tool of Study

Questionnaire was determined to be the main instrument of the current study. The tool was developed on Likert 5-point scale and consisted of two sections. The first accounted for demographics of study sample into perspective. The other section included statements concerning study sub-variables which included (Personalization, Predictive analytics, Segmentation, Feedback analysis and Omni-channel integration). To ensure that the developed study tool had validity with aim, we have consulted its content using help of academics as well as a specialist in the particular field. After the arbitration process, questionnaires included the total of (37) statements. Besides, we have also conducted Cronbach's Alpha (α) test to ensure that the tool was internal consistency and valid. Table 1 showed that all the content of tool was reliable since all of them had an α above 0.70.

3.4. Data Screening and Statistical Processing

Handling of collected primary data was done by use of the statistical package for social sciences also known as SPSS. In order to test these hypotheses, multiple and linear regression has been performed, alongside providing mean as well as the standard deviation of collected primary data. To mitigate bias in the study, the authors employed the use of convenient sampling techniques in conducting the study to minimize selection bias and realize scalable sampling. Protocol on data sharing and collection with the research participants were made clear with a spirit of voluntarism to ensure that participant were aware of the research study's aim and were willing to participate in it. Participants did not disclose personal information to avoid participants being easily identified and the response was standardized to ensure that there was no bias. Measures were taken by training researchers to reduce bias, or to reduce subjectivity and objectivity; data gathered also included using multiple sources and types to review the assumption that they may not see the picture holistically. Each of these approaches was undertaken concurrently to improve the validity, reliability, and objectivity of the study and to reduce bias that may affect the discovery of the effects of business intelligence on customer experience in electronics trading organizations in Jordan.

4. RESULTS AND DISCUSSION

4.1. Demographic Results

Frequency and percentages were calculated for respondents' demographics as in Table 2. It was seen that majority of respondents were males forming % of total sample.

4.2. Questionnaire Analysis

Mean (μ) and standard deviation (σ) were measured as it was shown in Table 3. Results indicated that all variables scored a mean that was higher than mean of scale 3.00 which indicated that the questionnaire was positively-received.

Table 1: Alpha value

variable	Alpha value
Personalization	0.922
Predictive analytics	0.966
Segmentation	0.887
Feedback analysis	0.851
Omni-channel integration	0.961
CE	0.903

Table 2: Demographics

Variables	f	%
Gender		
Male	195	82.3
Female	42	17.7
Education		
BA	69	29.1
MA	104	43.9
PhD	64	27.0
Experience		
2-6	25	10.5
7-11	62	26.2
12-16	120	50.6
+17 years	30	12.7
Total	237	100.0

Table 3: Questionnaire results

Statement	μ	σ
Personalized content help in analyzing consumer behavior	3.143	1.486
It can develop data that are derived from consumers' preferences	3.321	1.657
Personalization is able to understand and analyze consumer behavior	3.143	1.514
Through personalization, preferences and behavior is identified	3.089	1.528
Identifying preferences and behavior leads to better targeting	3.338	1.580
Personalization	3.207	1.356
Through BI, a business can predict consumer behavior and preferences	3.089	1.528
It is based on historical data that are derived from consumers' behavior	3.173	1.515
Dealing with consumers' trends and desires enable a business to predict more related content	3.194	1.536
Through predictive analytics, there would be a chance for better segmentation	3.283	1.538
Anticipating demand means the business is aware of the nature of their consumers	3.194	1.536
Predictive analytics	3.186	1.436
Segmentation dissects consumers according to their preferences	3.148	1.557
Effective segmentation enables a business to target markets	3.506	1.646
Better service delivery can be reached through segmentation	3.304	1.695
Segmentation can cater specific needs for better consumer understanding	3.249	1.576
Satisfaction and loyalty can be reached through segmentation	3.367	1.575
Segmentation	3.315	1.337
Feedback analysis help identify more behavior data related to consumers	3.494	1.178
It can help in identifying aspects of preferences that are welcomed by consumers	3.844	1.092
Implementing changes is more related when it is based on feedback analysis	3.806	1.111
Feedback analysis involves all kind of data including social media, reviews, contents and trends	3.987	0.927
With feedback analysis, business can take prompt decisions for changes	4.114	0.965
Feedback analysis	3.849	0.838
Omni-channel facilitates integrating data from different channels	3.160	1.496
It can support the business to provide a seamless experience to consumers	3.435	1.560
Omni-channel integration supports the efforts for a better marketing strategies	3.489	1.558
It enables the business to be more effective and optimized	3.198	1.515
Omni-channel supports the delivery of a cohesive experience	3.342	1.460
Omni-channel integration	3.325	1.412
Business intelligence helps in product recommendations with relation to customer's activities	3.722	1.167
Through the use of advanced predictive analytics customer needs can be forecasted, inventory managed and problems solved a head of time	3.097	1.494
BI technologies help to analyze customers behaviors to enable organizations offer appropriate help or respond to complaints	3.308	1.479
Businesses are in a position to segment its clients appropriately, communicate directly to the concerned customers and engage them	3.405	1.539
BI assists business in determining the prices to charge to remain competitive	3.160	1.496
Businesses can enhance work processes, product, and services to achieve their goal and provide a good experience to their customers	3.350	1.565
Business intelligence helps firms capture data from customer communications in real time facilitating faster responses and actualization of appropriate customer responses	3.072	1.515
CE	3.302	1.168

4.3. Hypotheses Testing

Multiple regression and linear regression were used in order to test hypotheses. We hypothesized that "BI is able to influence CE in terms of preferences and behavior". Results indicated that $r = 0.947$, the variables under examination exhibit a strong correlation (Table 4). More importantly, the variables we are examining accounted for 89.6% of the variations in the measurements we make. Furthermore, the study revealed that at a 0.05 level the F value is significant. This implies that BI is able to influence CE in terms of preferences and behavior. Multiple regression analysis allows the study to evaluate this theory.

We have depended on linear regression to test linear regression as in Table 5 and following results were reached:

- H_1 : The first sub-hypothesis scored an $r = 0.871$, the variables under examination exhibit a strong correlation. More importantly, the variables we are examining account for 75.9% of the variations in the measurements we make. F value was significant. This implies that Personalization is able to influence CE in terms of preferences and behavior.
- H_2 : With $r = 0.886$, the variables under examination exhibit a strong correlation. More importantly, the variables we are examining account for 78.6% of the variations in the measurements we make. F value was significant. This implies that Predictive analytics is able to influence CE in terms of preferences and behavior.
- H_3 : With $r = 0.859$, the variables under examination exhibit a strong correlation. More importantly, the variables we are examining account for 73.7% of the variations in the measurements we make. F value was significant. This implies that Segmentation is able to influence CE in terms of preferences and behavior.
- H_4 : With $r = 0.27$, the variables under examination exhibit a weak correlation. More importantly, the variables we are examining account for 7.3% of the variations in the measurements we make. F value was significant. This implies that Feedback analysis is able to influence CE in terms of preferences and behavior.
- H_5 : With $r = 0.928$, the variables under examination exhibit a strong correlation. More importantly, the variables we

Table 4: Testing main hypothesis

		Coefficients						
Model		Unstandardized coefficients		Standardized coefficients	t	Sig.	R	R square
		B	Standard error	Beta				
1	(Constant)	0.105	0.131		0.797	0.426	0.947 ^a	0.896
	Personalization	−0.167	0.069	−0.194	−2.416	0.016		
	Predictive analytics	0.317	0.069	0.389	4.570	0.000		
	Segmentation	−0.135	0.063	−0.155	−2.154	0.032		
	Feedback analysis	0.197	0.031	0.141	6.436	0.000		
	Omni-channel integration	0.726	0.052	0.878	13.942	0.000		

Table 5: Testing sub-hypotheses

Model		Unstandardized coefficients		Standardized Coefficients	t	Sig.	R	R square
		B	Standard error	Beta				
H ₁ : Personalization is able to influence CE in terms of preferences and behavior								
1	(Constant)	0.895	0.096		9.320	0.000	0.871 ^a	0.759
	Personalization	0.751	0.028	0.871	27.205	0.000		
H ₂ : Predictive analytics is able to influence CE in terms of preferences and behavior								
1	(Constant)	1.005	0.086		11.702	0.000	0.886 ^a	0.786
	Predictive analytics	0.721	0.025	0.886	29.342	0.000		
H ₃ : Segmentation is able to influence CE in terms of preferences and behavior								
1	(Constant)	0.815	0.104		7.804	0.000	0.859 ^a	0.737
	Segmentation	0.750	0.029	0.859	25.664	0.000		
H ₄ : Feedback analysis is able to influence CE in terms of preferences and behavior								
1	(Constant)	1.851	0.345		5.372	0.000	0.270 ^a	0.073
	Feedback analysis	0.377	0.088	0.270	4.307	0.000		
H ₅ : Omni-channel integration is able to influence CE in terms of preferences and behavior								
1	(Constant)	0.750	0.073		10.313	0.000	0.928 ^a	0.861
	Omni-channel Integration	0.768	0.020	0.928	38.134	0.000		

are examining account for 86.1% of the variations in the measurements we make. F value was significant. This implies that Omni-channel integration is able to influence CE in terms of preferences and behavior

5. DISCUSSION

We have aimed in this study to explore how personalization, predictive analytics, segmentation, feedback analysis and Omni-channel integration of business intelligence (BI) can influence and enhance customer experience (CE) in terms of preferences and behavior. For that reason, we have depended on quantitative methodology through a convenient sample responded to a self-administered questionnaire. The sample consisted of (237) employees of electronics organizations operating in Jordan. Depending on SPSS, results of analysis accepted the main hypothesis that argued “H: BI is able to influence CE in terms of preferences and behavior from perspective of senior employees of electronics trading organizations operating in Jordan.” Among the chosen variables of BI characteristics that included personalization, predictive analytics, segmentation, feedback analysis and Omni-channel integration, we have notices that Omni-channel integration scored the highest influence among all adopted variables with a strong correlation that accounted for 86.1% of the variations in the measurements we make. It was noticed that Omni-channel integration proved to be the most significant factor among the chosen variables. Even more impressive is the contribution of

Omni-channel integration that has an R-squared value of about 86.1% of the variations in the measurements to substantiate the depth of influence this specific BI characteristic has on customer experience outcomes. These results agreed with Wolniak (2024) who noted that such a high degree of correspondence proves the importance of Omni-channel integration in the context of BI for creating superior customer experience through multiple-channel gut point experience. This result suggests that organizations choosing to incorporate Omni-channel strategies within their BI frameworks are highly likely to record improved enhancements on the customer interactions, satisfaction and experience hence underlining the need for cohesiveness across more than one channel for improving customer relations.

In the second rank, it was seen that predictive analytics scored strong correlation and accounted for 78.6% of the variations in the measurements we make. Business intelligence has an effective tool known as predictive analysis that can bring a dramatic change on an organization’s customer experience (CE) by shaping their preferences. Predictive analytics provides organizations with powerful state-of-the-art tools for identifying customer needs, behavior and trends in advance. With this capability, there is an ability to ensure that business interacts with its customer in a way, offer products and services that are preferred by such customer hence improving on the customer experience. In academic terms, the incorporation of predictive analytical approaches in client experience management ensures that organizations shift from pure responsive approaches to both preventive and customized actions

concerning client interactions. Hence, the use of historical data and present information as well as the application of forecast and predictive analyzing models will allow businesses to predict the customers preferred choices, their tendency to purchase and their behaviors in the future. Pandugula et al. (2024) came agreeing with the same results adding that this predictive capacity helps the organizations in offering the right and useful offerings, right recommendations and appropriate timely intervention to the individual consumers that can help in building a better relationship and consumer loyalty. Furthermore, the enhancement of predictive models as per the current data analysis makes the customer experiences more engaging even when the consumers' behaviors or preferences evolve gradually.

Taking a deeper look to results, third rank was scored by personalization that exhibited a strong correlation and accounted for 75.9% of the variations in the measurements. To examine customer experience enhancement as the key discussion topic of this result, it is crucial to underscore personalization as the most powerful lever that may shape customer preferences and behaviors. One on one experiences allow companies to sell and even market their products and services based on the customer's special needs and desires. It means that, in today's business world, organizations can use data analytics tools and concentrate on customer orientations, presenting value propositions, recommendations, and messages that truly matter to customers. It has the capacity to improve customer satisfaction and response, and to elicit brand loyalty because of identifying the needs and usage patterns of individual customers. Rane et al. (2023) and Bharadiya (2023b) agreed on the same results stating that analytically, personalization remains a strong area when it comes to its capacity to drive changes of customer experience in terms of derived preferences and behaviors. Research has suggested that differentiated interactions causes increased customer satisfaction and might cause the customer to become more loyal since the business seems to understand and care about the customer. Product personalization and customization helps to touch resources with target customers and make them consider products and services as more valuable to achieve changes in attitude that includes satisfaction and loyalty.

The least influential dimension was found to be feedback analysis scored a weak correlation and accounted for 7.3% of the variations in the measurements. This implied a weak acceptance for the hypothesis "Feedback analysis is able to influence CE in terms of preferences and behavior". According to the statement, it was found out that the feedback analysis was the least significant variable among the investigated parameters, which includes weak coefficient and explains only about 7.3% of deviations in the measurements. This result points to the fact that feedback analysis was only modestly effective in altering CE concerning customer preferences and behavior than other things like personalization, analytics, segmentation and Omni-channel solutions. The observed weak relationship and the small proportion of variance suggest that weak support can be provided to the hypothesis about feedback analysis affecting CE in terms of preferences and behavior. This in turn means that in the perspective of the study feedback analysis did not seem to feature prominently amongst

the influences on the customers as the BI dimensions did. They imply that the feedback analysis process including collecting, analyzing and acting on feedbacks might be less influential in making changes in customer preferences or behaviors than the other variables examined.

In terms of applicability of the study, this might cause some organizations to question their approaches to feedback analysis. It may imply that businesses have to pay attention to ways in which it gathers feedback, processes data, and even make use of the feedback gathered in improving customer experience. Although feedback analysis is always valuable for appreciating customer attitude and recognizing opportunities for improvement, the findings of the present study indicate that in this particular milieu, feedback analysis may need more development to become a more potent determinant of customers' preferences and behaviors effectively. This goes on to assert that BI has to be an integrated approach, whereby every of the aspects such as feedback analysis is subjected to a check to see how it can boost the customer experience outcomes.

6. CONCLUSION AND RECOMMENDATIONS

It has been insightful to discover how different elements of BI including personalization, predictive analytics, segmentation, feedback analysis, and Omni-channel integration may affect or improve CE where preferences and behaviors are concerned, in this study. As guided in the quantitative research design using a sample of 237 employees drawn from electronics organizations in Jordan, the research results not only endorse but also amplify the role of BI on customer experience. The fact that the main hypothesis has been accepted, which stated that BI can actually affect CE in terms of preferences and behavior, underlines the fact that data driven strategies are now widely seen as a major tool for helping to manage customer relationships and perceptions. Interestingly, the study showed that of all the studied BI variables, this of Omni-channel integration had the highest influence, which explained statistically significant and significant variations of 86.1% of the measurements. This result not only shows the significance of Omni-solution that helps to create significant customer experiences, but it also states the significance of consistent multi-solution that can make significant changes in customer relations as well overall satisfaction.

The relatively high R-squared value shows that Omni-channel integration has a large impact on the outcomes of the customer experience, thus indicating that the mentioned BI characteristic is capable of having a profound effect on the customers' experience, choices, and behavior. The research implies that organizations that promote and execute Omni-channel implementations within BI frameworks are likely to benefit from better client engagement, satisfaction as well as experience. The clear and strong findings of the study make evident for organizations the importance of having strategic and Omni-channel thinking and implementation when developing and delivering effective, relevant interaction environments for customers.

Launching from results and conclusion, we recommend:

1. Since Omni-channel integration is significantly affecting customer experience results, organizations must focus on the efficient connection of multiple channels to provide coherent and pleasurable customer experiences. The concept of customer experience maintenance means that organizations can improve customers' satisfaction and their loyalty due to consistency and continuity of contact with clients.
2. The study shows how data enables organizations to design customer interactions and behavior accordingly. It is suggested that organizations should go on strengthening the application of predictive analytics, segmentation, feedback analysis to clarify the customers' preference and behavior, then closely reach the target of effective customization.
3. Personalization should remain the major concern of business organizations to develop unique products and services together with recommendations based on individual consumers' characteristics and needs in order to increase the likelihood of developing more commitment.

6.1. Practical and Theoretical Implications

Carrying out the current research was based on reach practical and theoretical implications. From a practical perspective, it was seen that using BI to set up the recommendation system may help to improve the end-customers' satisfaction as long as it is focused on offering appealing products that match the behaviour of particular customers. With this it can also be easier to increase customers satisfaction, involvement and loyalty towards the brand.

From a theoretical perspective, the findings of the study are useful to establish how businesses can apply business intelligence to acquire insight into the customers and instrument the customer experience. It may help elucidate how data analytics – customer behavior analysis, and customer experience management are linked in theory.

6.2. Limitations of Study

This study was limited to the following:

- The issue that could be perceived is the question of correct etiquette and admissibility in the collection of customers' data for business intelligence. One requires to ensure compliance with data protection regulation and also dealing with the customers' privacy issue
- Another weakness that could be cited is the one that arises from high levels of generalization from specific demographics or markets. In selection of respondents, it is important to note that, the more diverse sample is collected this would increase the generalization of the study across customers.

6.3. Future Research

Launching from results and discussion presented above, we recommend the following future research orientation:

1. Conducting a longitudinal study proposing to assess customer experience over a long period might help to understand the efficiency and sustainability of business intelligence driven strategies and their consequent effect on the development of customer experience

2. To investigate and compare the strategies used in BI for improving customer experience across different industries effective benchmarking could be used to identify best BI practices per industry and or areas for improvement of BI initiatives that would improve the overall appreciation of BI in the management of customer experiences.

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