**Original Research Article**

**Impact of Phygital Retailing Strategies on Customer Satisfaction and Loyalty in Lulu Hypermarket, Nizwa, Sultanate of Oman**

**ABSTRACT**

**Aims**: This study investigates the impact of phygital retailing strategies on customer satisfaction and loyalty in Lulu Hypermarket Nizwa.

**Study Design**:This causal, quantitative study collected 361valid responses from shoppers, with a 93.28% response rate.

**Place and Duration of study**: The study area is Lulu Hypermarket, Nizwa, Sultanate of Oman. The period of study is from September 2024 to May 2025.

**Methodology**: The population of shoppers visiting Lulu is 28769 (Lulu Management database, October, 2024). The sample size is determined as 379 (Krejcie and Morgan, 1970). This sample size is collected from physical shoppers, online shoppers, buy in store, deliver at home and click and collect customers. Proportionate sampling is used by the researchers to collect the samples from each category of shoppers. Primary data is collected with the help of a structured questionnaire.

**Results**: The analysis explores how strategies like self-checkouts, online ordering, and digital displays enhance the shopping experience and strengthen brand loyalty. The correlation between satisfaction of phygital strategies and future purchase indicates a weak positive degree of correlation. The correlation between satisfaction of shopping mode and future purchase indicates a weak positive degree of correlation. Satisfaction of phygital strategies in Lulu hypermarket contributes only 6.6% to future purchase of shoppers. The satisfaction of shopping modes contributes only 7.5% to future purchase of shoppers Floor space inside the shop, shelf management and offers provided by Lulu Hypermarket are the major factors that influence shoppers to use phygital retailing strategies. The major factors that influence the online purchase of shoppers are Easiness to navigate products, offers and attractiveness of web site design. It is proved that gender has significant influence on the usage of self service checkout counter, Instore reviews, security scanner an digital display board. At the same time, it is concluded that there is no relationship between gender and frequency of usage of phygital strategies. Age has a significant influence on usage of phygital strategies. It is proved that age has significance influence on self servicecheck out counter, security scanner and usage of happiness loyalty rewards.

**Conclusion:**Phygital retail strategies are becoming increasingly important as shoppers embrace the blend of physical and digital experiences. Customers report high satisfaction, especially with features like mobile apps, self-checkout, and digital payments, which enhance convenience.

***Key words****: Physical shopping, online shopping, Click and collect, Self-service checkout counter, Pop up stores, Price Scanner, In store reviews, Security scanner, Payments, Happiness (Loyalty reward), Digital displays, satisfaction, loyalty*

1. **INTRODUCTION**

Phygital retailing connect physical and digital together to create a unique experience among customers. In an era of rapid technological advancement and changing consumer preferences, the retail industry is undergoing a profound transformation. The emergence of innovative technologies has contributed to reshaping the shopping landscape, leading to improved performance for retailers and enhanced shopping experience. Despite predictions suggesting that the rise of e-commerce may lead to a decline in traditional stores, reality has shown that physical retail spaces can thrive by integrating digital elements into their operations. This transformation highlights the concept of "phygital," which represents the seamless integration of physical and digital experiences, creating a more engaging and effective shopping environment.Customers can be experienced through physical (e.g., physical stores, branches), digital (e.g., website, social media, and different applications), and phygital (i.e., physical and digital) platforms. Recently, phygital platforms are widespread across various industries, such as retailing, banking, education, airlines, restaurants, tourism, entertainment, hospitality, etc. (Purcărea, 2018; Errichiello and Marasco, 2017).In this context, digital and physical commerce strategies play a vital role in enhancing customer experience and increasing loyalty, as seen in Lulu Hypermarket Nizwa. In this research, the researchers explored how the integration of digital and physical factors can contribute to improving the shopping experience and enhancing customer loyalty.

**1.1 Purpose of the study**

Retail sector sales in Oman are expected to grow by more than six per cent annually over the next five years, primarily driven by increase in tourism activity, rise in per capita income and a growing population. GCC retail industry sales are forecasted to grow at a compound annual growth rate (CAGR) of 5.7 per cent between 2022 and 2026 to reach US$370bn. “Bahrain (7.3 per cent CAGR), Saudi Arabia (6.5 per cent CAGR) and Oman (6.1 per cent CAGR) are expected to grow above the GCC average of 5.7 per cent CAGR during 2022-2026 period. Growth in the smaller countries such as Bahrain and Oman is expected to primarily be driven by increase in tourism activity, rise in GDP per capita and penetration of organised retail stores,” (Muscat Daily, December 25, 2022). Retail spaces have consistently expanded in recent years as major developers mostly from pan-GCC retailers and large-scale malls flock the Sultanate to set up shop, taking up new spaces in cities such as Muscat, Sohar and Nizwa (Times of Oman, July 24, 2018). Apart from Muscat, many new projects are springing up in other cities such as Sohar and Nizwa supported by the government’s effort in moving towards expansion of the retail sector (Muscat Daily, December 25, 2022). According to global research firm, Euromonitor International, the retail sales in Oman’s retail industry is expected to rise 9.3% between 2018 to 2023. Research from the company indicates that Oman's retail industry is worth $10.3 billion and is forecast to steadily rise to $11.3 billion by 2023. While store-based retail is expected to continue to dominate, with it currently accounting for $10 billion of the overall market in Oman, non-store retail, including online shopping, is expected to grow by 68 per cent from 2018 to 2023(Times of Oman, Times News Service, December 10, Monday, 2018).

**1.2 Statement of the Problem**

The integration of digital features within physical retail known as “phygital” retailing has emerged as a crucial strategy for engaging modern consumers. This shift, however, presents a unique challenge. While phygital retailing offers the potential to enhance customer satisfaction, boost loyalty, and create meaningful brand experiences, many retailers are still exploring how to effectively implement these strategies to realize these benefits.In the context of Oman, where retail sales are expected to grow due to factors like increased tourism and income levels, there is a pressing need to understand how phygital strategies can influence consumer behavior and drive sustainable growth. This study seeks to address the problem of how phygital commerce impacts customer satisfaction and loyalty in Lulu Hypermarket Nizwa.

**1.3 Objectives of the study**

1. To determine the level of shopper’s satisfaction who are using phygital retailing strategies.
2. To understand the relationship between customer satisfaction and loyalty.
3. To identify the effect of satisfaction on customer loyalty of shoppers using phygital retailing strategies.

**1.4 Hypothesis**

H1: There is insignificant relationship between gender and usage of phygital strategies used by shoppers.

H2: There is no significant relationship between gender and frequency of usage of phygital strategies.

H3: There is no significant relationship between age and usage of phygital strategies used byshoppers.

H4: There is no significant relationship between age and frequency of usage of phygital strategies.

H5: The relationship between satisfaction of shoppers and future influence is insignificant.

1. **REVIEW OF LITERATURE**

According to Pangarkar, Arora and Shukla, (2022) Omnichannel retailing has revolutionized the way retailers create strategies for engaging customers in making purchase decisions. They focused on the role of phygital functionality in enhancing rapport building, [social engagement](https://www.sciencedirect.com/topics/social-sciences/social-engagement), and developing trust and commitment, which results in a seamless customer experience, along with enhanced loyalty and patronage. Mishra et al. (2021) studied the mechanism through which cross-channel integration (i.e., both physical and digital) influences consumer retention.The findings suggested that cross-channel integration helps in consumer retention. Lazaris et al. (2021) examined the integration of retail channels affects customer satisfaction and loyalty intentions. Across three experimental studies, one of them in an operating physical store, accommodating comparisons of several omnichannel configurations, increasing the level of omnichannel integration positively influences customer satisfaction and loyalty intentions. The impact of increasing the level of omnichannel integration on customer satisfaction and loyalty intentions is more pronounced among consumers who perceive the channels as complementary and for consumers with a goal-directed shopping orientation. Kishore et al. (2022) investigated customer perceptions of phygital retailing's impact on satisfaction in the retail industry. There is a significantassociation between satisfaction, education, and occupation. Satisfaction with physical retailing, favoring mobile apps and virtual reality as valuable technologies. Dwivedi (2023) addressed the impact of dimension of loyalty (behaviour/ attitude) on customer retention in online shopping platforms post pandemic. Attitudinal loyalty significantly enforces customer retention over behavioural loyalty. Also, brand image mediates the impact of attitudinal loyalty on retention. Xuan, Truong and Quang, (2023) analyzed the potential effects of omnichannel retailing properties on customer experience and brand loyalty. Its centrality has been focused on omnichannel retailing cues comprising integration quality, perceived fluency, and assurance quality; customer experience is analyzed through hedonic and utilitarian values. Perceived fluency and assurance quality proved as the critical components of hedonic and utilitarian experiences. Adly and Eid (2016) investigated the relationships between the shopping environment, customer perceived value, customer satisfaction, and customer loyalty in malls in the United Arab Emirates. The customer perceived value of malls has a significant positive effect on both customer satisfaction and customer loyalty to malls. Customer satisfaction mediate the relationship between the mall environment and customer loyalty.Shanta and Gao (2023) explored mental imagery, entertainment, and aesthetics, and their impact on customer decision satisfaction. These factors significantly shape the overall customer experience in phygital environments, with mental imagery, entertainment, and aesthetics enhancing customers' emotional engagement. The influence of these hedonic factors was more pronounced for female customers compared to male customers.Kumar et al. (2022) studied the retail preferences of Omani shoppers, specifically comparing in-store and online shopping experiences at Lulu Hypermarket and Carrefour in Nizwa, Sultanate of Oman. Customer satisfaction was higher for in-store purchases at Lulu compared to Carrefour. In online shopping, satisfaction levels were relatively similar between the two retailers, with Lulu and Carrefour.Factors that influenced in-store purchases include complaint handling, store layout, and discounts, while online shopping satisfaction was primarily driven by product quality and convenience.Keren and Miranda (2018) analyzed phygitalization and its effect on customer satisfaction and customer loyalty in Sweden. The customer satisfaction of in-store technology has an effect on the level of customer loyalty. Findings emphasized that functionality, enjoyment, convenience, design, and customization are significant.Aniruddha, Vibha andYupal (2022) explored the phygital omnichannel luxury retailing for immersive customer experience. The role of rapport and social engagement examined the value of experienced sales people on phygital retailing. Omnichannel retailing trust and commitment is more important in building long-term relationships.Theodor (2018) highlighted shopper habits and expectations, and identifies the difference between the retailers analyzed with regard to change in consumer behavior.There is a growing consumer demand for “Grab and go” technology that helps consumers pay for themselves using their smartphones. Valeria and Alessandra (2021) highlighted how technological advancements are reshaping consumer experiences and retail operations. The integration of smart mobile devices and contactless technologies, including Radio-Frequency Identification (RFID), Quick Response (QR) codes, Near Field Communication (NFC), and Beacons, play a crucial role in enhancing consumer engagement. Additionally, emerging technologies such as Artificial Intelligence (AI), Augmented Reality (AR), and Virtual Reality (VR) are revolutionizing the relationship between consumers and retailers, offering immersive and personalized shopping experiences. Andrea (2018) explored the omnichannel shopping behavior of Swiss consumers in the context of apparel shopping. Key elements identified as influential in the omnichannel experience include showrooming, booking in-store sessions, the integration of a living-space concept, a fitting-room app, self-checkout systems, information centers, return lockers, and pick-up stations. These components collectively shape the retail environment by seamlessly blending physical and digital elements to meet the evolving expectations of Swiss consumers.Johnson and Barlow's (2021) analyzed the impact of phygital technologies on consumer behavior in the United States. These technologies enhance product appeal and foster stronger product attachment, both of which significantly influence purchasing decisions. Reducing the time required for payment processes, incorporating digital purchasing technologies, and enabling immersive product experiences prior to purchase are vital strategies for increasing sales. Maria, et al. (2022)examined the influence of digitalization on omnichannel strategies in Italy. The research highlighted that digitalization significantly enhances coordination, communication, and decision-making processes across the organization. Gerea et al. (2021) evaluated empirical studies on the omnichannel consumer experience in Chile. The study emphasized the need to explore the customer lifecycle within an omnichannel framework, integrate new technologies and channels, and investigate omnichannel customer behavior. Deka (2016), focused on customer loyalty towards retail stores. The retail store elements influence consumer behavior like products-its variety, quality, amount; the store ambiance-light, sound, cleanliness; the service-personnel, easy location; the location of the store-near consumer homes, and availability of parking space.These factors have varying degrees of influence on customers. The satisfaction of consumers depends on how these factors combine to serve in the best possible way.

**2.1 Research gaps**

Phygital retailing is quite a new and emerging concept and hence, very little scientific research has been undertaken on the various concepts of phygital retailing, the channels involved and their effect on various retailers’ parameters such as customer experience and satisfaction. Future research into the impact of phygital marketing on retail consumer decision making will require more direct investigation into the effects of specific phygital interventions in different contexts (Johnson and Barlow, 2021). Through the usage of in-store technology, customers and firms can better understand the relationship between in-store technology, satisfaction and loyalty to justify the means of phygitalization. Phygital retailing is in the transformation stage in the Middle East especially in Oman. Research studies focusing on phygital retailing and customer satisfaction and loyalty has not been addressed in Oman. Therefore this research addresses all these issues through this study.

1. **RESEARCH METHODOLOGY**

This research is a causal study as it studies the impact of phygital strategies on consumer satisfaction and customer loyalty. The phygital retailing strategies covered in this study are;Physical shopping (Shoppers visiting Lulu Hypermarket), Online shopping (through Talabat), Buy in store, deliver at home, Click and collect users, Self-service checkout counter, Pop up stores, Price Scanner, In store reviews, Security scanner, Payments (Credit cards or phone apps **(**ApplePay and Samsung-Pay), Happiness (Loyalty reward) and Digital displays. The study area is Lulu Hypermarket, Nizwa. The period of study is from September 2024 to May 2025. The research approach is quantitative study as the research is a survey and the data is collected from shoppers. The data is collected from the shoppers of Lulu Hypermarket.The average monthly population of shoppers visiting Lulu is 28769 (Lulu Management database, October, 2024). The sample size is determined as 379 (Krejcie and Morgan, 1970). Proportionate sampling is used to collect the samples from each category of shoppers.Primary data is collected with the help of survey using a structured questionnaire. prepared in Google Form in both English and Arabic. Respondents are informed about the purpose of the study and consent is taken for filling the responses. Pilot study is done among 25 respondents to identify the validity of the questions. The tools used for analysis includes coefficient of variation, correlation, mean and standard deviation, regression and chi-square test.

1. **RESULTS AND DISCUSSION**

There are 387 responses received after the data collection. After editing, 361 fully filled up responses are taken for this study. 26 responses were unfilled and incomplete and those were discarded. Thus the response rate is 93.28%.

Table no.1 Demographic profile of respondents

|  |  |  |  |
| --- | --- | --- | --- |
| Demographic profile |  | No of respondents | Percentage |
| Gender | Female | 253 | 70% |
| Male | 108 | 30% |
| **Total** | **361** | **100%** |
| Age | <20 | 65 | 18% |
| 20 to <30 | 211 | 58% |
| 30 to <40 | 58 | 16% |
| 40 to <50 | 21 | 6% |
| >50 years | 6 | 2% |
| **Total** | **361** | **100%** |
| Number of family members | 3 | 28 | 8% |
| 4 | 24 | 7% |
| 5 | 37 | 10% |
| 6 | 55 | 15% |
| More than 6 | 217 | 60% |
| **Total** | **361** | **100%** |
| Monthly Personal Income | <500 | 254 | 70% |
| 500 to <800 rials | 48 | 13% |
| 800 to <1100 rials | 32 | 9% |
| 1100 to <1400 rials | 12 | 3% |
| 1400 to <1700 rials | 3 | 1% |
| > 1700 rials | 12 | 3% |
| **Total** | **361** | **100%** |
| Social status | Married | 121 | 34% |
| Single | 233 | 65% |
| Widowed | 3 | 1% |
| Divorced/separated | 4 | 1% |
| **Total** | **361** | **100%** |

This table no.1 provides a detailed demographic profile of the shoppers. Out of 361 respondents, 70% (253) are male, while 30% (108) are female. The largest group, 58% (211), falls between the age of 20 to <30 years, suggesting the dominance of young adults. The second-largest group, 18% (65), is under 20 years, highlighting the significant presence of younger participants. Most respondents, 60% (217), come from families with more than 6 members, reflecting a trend toward larger family sizes. The majority, 70% (254), report a monthly income of less than 500 rials, indicating a predominance of respondents in the lower-income bracket. The majority of social status 65% (233), are single, while 34% (121) are married. A small percentage are either widowed (1%) or divorced/separated (1%). The high proportion of single respondents aligns with the younger age demographic.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Shopping modes | Highly satisfied | Satisfied | Neutral | Dissatisfied | Highly dissatisfied |
| Physical shopping | 134 (37%) | 159 (44%) | 55 (15%) | 9 (3%) | 4 (1%) |
| Online shopping (through Talabat) | 75 (21%) | 136 (37%) | 122 (34%) | 18 (5%) | 10 (3%) |
| Click and collect | 64 (18%) | 126 (35%) | 139 (38%) | 22 (6%) | 10 (3%) |

Table no.2 Level of satisfaction of modes of shopping in Lulu Hypermarket

(Values in parenthesis represent percentage)

The table no.2 evaluates satisfaction levels across three shopping modes in Lulu Hypermarket: Physical shopping, Online shopping (via Talabat), and Click and Collect. Physical Shopping is most favored, with 81% skewed towards satisfied (highly satisfied and satisfied). Only 4% of shoppers are dissatisfied. However, 37% of shoppers of Online Shopping are satisfied and 34% shows neutral response. Furthermore the satisfaction of Click and Collect users is 35% and 18% are highly satisfied.

Table no. 3 Coefficient of variation of modes of shopping

|  |  |  |  |
| --- | --- | --- | --- |
| Level of Satisfaction | Physical shopping | Online shopping (through Talabat) | Click and collect |
| Mean | 4.13 | 3.68 | 3.58 |
| SD | 0.84 | 0.94 | 0.94 |
| CV | 20.32 | 25.71 | 26.26 |

The table no.3 compares different shopping methods based on three metrics: average rating, standard deviation (SD), and coefficient of variation (CV). Physical shopping receives the highest average rating (4.13), reflecting greater user satisfaction compared to online shopping via Talabat and click-and-collect methods. However, Talabat shopping and click-and-collect have higher standard deviation and CV values (25.71% and 26.26% respectively), indicating a greater variability in user opinions. The table shows that physical shopping is more consistent and reliable as the CV value is low (20.32).

Table no. 4 Satisfaction levels of using digital tools

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Digital tools | Highly satisfied | Satisfied | Neutral | Dissatisfied | Highly dissatisfied |
| Self-service checkout counter | 158 (44%) | 133 (37%) | 59 (16%) | 7 (2%) | 4 (1%) |
| Pop up stores | 71(20%) | 167 (46%) | 105 (29%) | 14 (4%) | 4 (1%) |
| Price Scanner | 130 (36%) | 140 (39%) | 86 (24%) | 5 (1%) | 0 |
| In store reviews | 94 (26%) | 133 (37%) | 115 (32%) | 15 (4%) | 4 (1%) |
| Security scanner | 99 (27%) | 132 (37%) | 111 (31%) | 14 (4%) | 5 (1%) |
| Payments (Credit cards or phone apps **(**ApplePay and Samsung-Pay) | 171 (47%) | 126 (35%) | 54 (15%) | 6 (2%) | 4 (1%) |
| Happiness (Loyalty reward) | 114 (32%) | 126 (35%) | 99 (27%) | 16 (4%) | 6 (2%) |
| Checkout (payment) counter | 149 (41%) | 132 (37%) | 66 (18%) | 9 (3%) | 5 (1%) |
| Digital display board | 106 (29%) | 139 (39%) | 102 (28%) | 11 (3%) | 3 (1%) |

The table no.4 evaluates the rating of customer satisfaction with various digital tools used in Lulu Hypermarket. 44% of shoppers are highly satisfied by the usage of Self-service Checkout counter. 47% of the shoppers are highly satisfied by the mode of payments. Only 20% are highly satisfied by the pop up stores among the phygital strategic tools.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Digital tools | Self-service checkout counter | Pop up stores | Price Scanner | In store reviews | Security scanner | Payments | Happiness (Loyalty reward) | Checkout | Digital display board |
| Mean | 4.20 | 3.79 | 4.09 | 3.82 | 3.84 | 4.25 | 3.90 | 4.13 | 3.92 |
| SD | 0.85 | 0.83 | 0.81 | 0.90 | 0.916 | 0.85 | 0.95 | 0.89 | 0.87 |
| CV | 20.46 | 22.08 | 19.87 | 23.62 | 23.82 | 20.00 | 24.44 | 21.65 | 22.34 |

Table no.5 Coefficient of variation of satisfaction level by using digital tools

Table no. 5 explains the coefficient of variation of satisfaction level by using these digital tools. It illustrates customer satisfaction levels regarding the use of digital tools in the retail sector. The CV values are lowest for Price scanner (19.87) and Mode of payments (20). These two are the most consistent and reliable digital tools among the shoppers. While the CV values for Security scanner (23.82) and happiness loyalty reward (24.44) are the highest among all and they are the least consistent and reliable tools.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Digital tools | Definitely  will use | Will  Use | Neutral | Will not  Use | Definitely will  not use |
| Self-service checkout counter | 204 (57%) | 116 (32%) | 31 (8%) | 8 (2%) | 2 (1%) |
| Pop up stores | 127 (35%) | 153 (42%) | 71 (20%) | 7 (2%) | 3 (1%) |
| Price Scanner | 176 (49%) | 123 (34%) | 57 (16%) | 5 (1%) | 0 |
| In store reviews | 123 (34%) | 148 (41%) | 81 (22%) | 7 (2%) | 2 (1%) |
| Security scanner | 155 (43%) | 128 (35%) | 65 (18%) | 12 (3.5%) | 1 (0.5%) |
| Payments (Credit cards or phone apps **(**ApplePay and Samsung-Pay) | 193 (53%) | 114 (31.5%) | 46 (13%) | 7 (2%) | 1 (0.5%) |
| Happiness (Loyalty reward) | 150 (42%) | 132 (37%) | 59 (16%) | 16 (4%) | 4 (1%) |
| Digital display board | 150 (42%) | 126 (35%) | 69 (19%) | 11 (3%) | 5 (1%) |

Table no.6 Likelihood of using the digital tools in future

The table no.6 above illustrates the likelihood of using digital tools in the future. Self-service checkout counter and payments (Credit cards or phone apps (ApplePay and Samsung-Pay) are the most preferred, with 204 (57%) and 139 (53%) respondents, respectively, indicating they would “definitely use” them. The analysis shows that most of the shoppers will use these phygital strategies in future.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Usage in future | Self-service checkout counter | Pop-up stores | Price Scanner | in store reviews | Security scanner | Payments | Happiness (Loyalty reward) | Digital display board |
| Mean | 4.41 | 4.09 | 4.30 | 4.06 | 4.17 | 4.36 | 4.13 | 4.12 |
| SD | 0.78 | 0.83 | 0.78 | 0.83 | 0.86 | 0.79 | 0.91 | 0.91 |
| CV | 17.76 | 20.36 | 18.17 | 20.46 | 20.59 | 18.29 | 22.20 | 22.24 |

Table no.7 Coefficient of variation of likelihood of using the digital tools in future

The table no. 7 provides insights into the potential future use of various digital tools, analyzed through three key metrics. The mean value represents the average user interest in each tool, with self-checkout counters (4.41) and payment systems (4.36) receiving the highest averages. The standard deviation (SD) reflects the variability in user opinions, ranging from 0.78 to 0.91, indicating relatively consistent evaluations with minor differences. Lastly, the coefficient of variation (CV) highlights the stability of ratings in relation to the mean, where tools like loyalty programs (22.20%) and digital boards (22.24%) show slightly higher variability in user preferences. The coefficient of variation values are the least for Self-service checkout counter (17.76) and price scanner (18.17). These two digital tools are the most consistent and reliable tools compared with other digital tools.

**4.1 Impact of Satisfaction of shopping modes in Lulu and influence in future purchase**

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| --- | --- |
| Table no. 8 Reliability Statistics | |
| Cronbach's Alpha | N of Items |
| .723 | 3 |

Reliability measures the consistency of a measure. SPSS version 22.0 was used to develop estimates for the constructs’ reliability. Table shows the estimates of Cronbach’s alpha is 0.723, well above the threshold value of .70 (Hair et al., 2010). Notably, the composite reliability estimate is greater than the threshold value of .70 (Fornell & Larcker, 1981).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table no. 9 Model Summary | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .274a | .075 | .067 | .90428 |
| a. Predictors: (Constant), Click and collect, Physical, Online | | | | |

The model Summary table no.9 provides the R, R2, and adjusted R2 which can be used to determine how well a regression model fits the data. The R value represents the simple correlation between satisfaction of shopping mode and future purchase and is 0.274 which indicates a weak positive degree of correlation. The R2 value (also called the coefficient of determination), is the proportion of variance in the dependent variable that can be explained by the independent variable. The R2 indicates how much the total variation in the dependent variable (future purchase), can be explained by the independent variable, satisfaction of shopping modes. 7.5% of the variation in future purchase in Lulu hypermarket can be predicted due to satisfaction of shopping modes. Thus, satisfaction of shopping modes contributes only 7.5% to future purchase of shoppers. Remaining 92.5% contributes to other factors that influence future purchase. The adjusted *R2* (0.067) gives an idea how well the model generalizes that the value is close to *R2* (0.075). There is a difference of 0.008.

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| --- | --- | --- | --- | --- | --- | --- |
| Table no. 10ANOVAa | | | | | | |
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 23.688 | 3 | 7.896 | 9.656 | .000b |
| Residual | 291.929 | 357 | .818 |  |  |
| Total | 315.618 | 360 |  |  |  |
| a. Dependent Variable: Influence to shop again | | | | | | |
| b. Predictors: (Constant), Click and collect, Physical shopping, Online shopping | | | | | | |

The ANOVA test was performed to identify the statistical significance of the regression model on whether it is a good descriptor for the relationship between the independent (satisfaction) and the dependent variable (future purchase). The independent variable significantly predicts the dependent variable, *F* (3, 360) = 9.656, *p* < .05. The p-value associated with F value (0.000) is less than the alpha level (0.05). Hence it is concluded that the independent variable reliably predict the dependent variable. This means that the independent variable (satisfaction of shopping modes) is significant in explaining the variation in the dependent variable (future purchase). The ANOVA table, proves that the correlation 0.274 is significant. Hence the model is proved to be fit.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table no. 11Coefficientsa | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 2.761 | .265 |  | 10.430 | .000 |
| Physical shopping | .258 | .064 | .232 | 4.041 | .000 |
| Online shopping | .082 | .062 | .083 | 1.306 | .192 |
| Click and collect | .001 | .065 | .001 | .012 | .990 |
| a. Dependent Variable: Influence to shop again | | | | | | |

The coefficients in table no.11 helped to find out the contribution of satisfaction of shopping modes on future purchase. To make the comparison, the Beta standardized coefficients were used. The results indicate that satisfaction of physical shopping (β = 0.258*; p* = 0.000) is a significant predictor of future purchase. Whereas the satisfaction of online shopping and click collect do not influence future purchase as the significance value is more than .05. This result is in line with the findings of Keren and Miranda (2017) proving that customer satisfaction of in-store technology influences the level of customer loyalty in Sweden.

The model equation is:

Y (Future purchase) = 2.761+ 0.258 Satisfaction of Physical shopping (X), where X is satisfaction of physical shopping

Future purchase = 2.761 + 0.258 (Satisfaction of physical shopping)

This estimate explains that that for every one unit change in satisfaction of physical shopping, there is a 0.258 unit change in influencing the future purchase of shoppers in Lulu hypermarket, Nizwa.

**4.2 Impact of satisfaction of phygital strategies on future purchase influence**

|  |  |
| --- | --- |
| Table no.12 Reliability Statistics | |
| Cronbach's Alpha | N of Items |
| .906 | 9 |

Table 12 shows the estimates of Cronbach’s alpha is 0.906, well above the threshold value of .70 (Hair et al., 2010). Notably, the composite reliability estimate is greater than the threshold value of .70 (Fornell & Larcker, 1981). This shows the taken items are reliable.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table no. 13 Model Summary | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .258a | .066 | .043 | .9162 |
| a. Predictors: (Constant), digital board, self-service check out, in store reviews, payments, Pop up stores, Price scanner, happiness loyalty, check-out counter, security scanner | | | | |

The model Summary table no.13 provides the R, R2, and adjusted R2 which can be used to determine how well a regression model fits the data. The R value represents the simple correlation between satisfaction of phygital strategies and future purchase and is 0.258 which indicates a weak positive degree of correlation. The R2 value (also called the coefficient of determination), is the proportion of variance in the dependent variable that can be explained by the independent variable. The R2 indicates how much the total variation in the dependent variable (future purchase), can be explained by the independent variable, satisfaction of phygital strategies. 6.6% of the variation in future purchase in Lulu hypermarket can be predicted due to satisfaction of phygital strategies. Thus, satisfaction of phygital strategies in Lulu hypermarket contributes only 6.6% to future purchase of shoppers. Remaining 93.4% contributes to other factors that influence future purchase. The adjusted *R2* (0.043) gives an idea how well the model generalizes that the value is close to *R2* (0.066). There is a difference of 0.023.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table no. 14ANOVAa | | | | | | |
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 20.988 | 9 | 2.332 | 2.778 | .004b |
| Residual | 294.629 | 351 | .839 |  |  |
| Total | 315.618 | 360 |  |  |  |
| a. Dependent Variable: influence to shop | | | | | | |
| b. Predictors: (Constant), digital board, self-service check out, in store reviews, payments, Pop up stores, Price scanner, happiness loyalty, checkout counter, security scanner | | | | | | |

The ANOVA test was performed to identify the statistical significance of the regression model on whether it is a good descriptor for the relationship between the independent (satisfaction of phygital strategies) and the dependent variable (influence to shop). The independent variable significantly predicts the dependent variable, *F* (9, 351) = 2.332, *p* < .05. The p-value associated with F value (0.004) is less than the alpha level (0.05). Hence it is concluded that the independent variable reliably predict the dependent variable. This means that the independent variable (satisfaction of phygital strategies) is significant in explaining the variation in the dependent variable (influence to shop in purchase). The ANOVA table, proves that the correlation 0.258 is significant. Hence the model is proved to be fit.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table no. 15Coefficientsa | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 2.811 | .316 |  | 8.901 | .000 |
| Self-service checkout | .187 | .069 | .172 | 2.720 | **.007** |
| Pop up | .043 | .076 | .039 | .572 | .568 |
| Price scanners | .072 | .085 | .063 | .848 | .397 |
| In store reviews | -.043 | .081 | -.041 | -.528 | .598 |
| Security scanner | .103 | .089 | .100 | 1.153 | .250 |
| Payments | -.008 | .081 | -.007 | -.094 | .925 |
| Happiness loyalty | -.014 | .074 | -.014 | -.191 | .848 |
| Check-out counter | -.036 | .080 | -.035 | -.457 | .648 |
| Digital Board | .021 | .082 | .020 | .256 | .798 |
| a. Dependent Variable: influence to shop | | | | | | | |

The coefficients in table no.15helped to find out the contribution of satisfaction of phygital strategies on future purchase influence. To make the comparison, the Beta standardized coefficients were used. The results indicate that satisfaction of self-service checkout (β = 0.187*; p* = 0.007) is a significant predictor of future purchase influence. Whereas the satisfaction of other phygital strategies do not influence future purchase as the significance value is more than .05. This result matches with the findings of Fatema and Ali (2013) which stated that self-service check out service positively influences loyalty through customer satisfaction in supermarket chain in Turkey. This finding is also supported by Andrea (2018) that self service check out is one of the main factors that influence omnichannel shopping in Switzerland. This is also in line with the findings of Lazaris et al. (2021) that omnichannel integration positively influences customer satisfaction and loyalty intentions.

The model equation is:

Y (Future purchase influence) = 2.811+ 0.187 Satisfaction of self-service checkout (X), where X is satisfaction of self-service checkout.

Future purchase influence= 2.811 + 0.187 (Satisfaction of self-service checkout counter)

This estimate explains that that for every one unit change in satisfaction of self-service checkout counter, there is a 0.187 unit change in influencing the future purchase of shoppers in Lulu hypermarket, Nizwa.

**4.3 Gender and usage of Phygital strategic tools in Lulu Hypermarket**

Chi-square test is conducted to find out the relationship between gender and the phygital strategies of Lulu hypermarket. 75% of the male shoppers use self-service checkout counter and 62% of the female shoppers use self-service checkout counter. The association is proved to be significant as the p value (0.015) is less than 0.05. Thus it is concluded that males use more of self-service check out counter than female shoppers.

There is a significant association between in store reviews and gender. 53% of the males use in store reviews and 39% of the females refer in store reviews. The gender association is proved to be significant as the p value (0.014) is less than 0.05. Thus it is concluded that male shoppers use more of in store reviews than the female shoppers.

53% of the males use security scanner and 36% of the females use security scanner. The gender association is proved to be significant as the p value (0.002) is less than 0.05. Thus it is concluded that male shoppers use more of security scanner than female shoppers.

There is a significant association between digital display inside the shop and gender. 59% of the males use digital display information and 36% of the females use digital display. The gender association is proved to be significant as the p value (0.000) is less than 0.05. Thus it is concluded that male shoppers use more of digital display information than female shoppers. However, these findings contradict with the findings of Shanta and Gao (2023) which proved that these hedonic factors are more pronounced for female customers than males in China.

The other phygital strategies (pop up stores, price scanner, Usage of credit/debit payments, happiness loyalty) do not have any significant association with gender as their p-value is greater than 0.05.

**4.4 Gender and frequency of usage of Phygital strategic tools in Lulu Hypermarket**

There is no significant relationship between gender of shoppers and the frequency of usage of phygital strategies in Lulu Hypermarket Nizwa (p values > 0.05). Among the phygital strategies taken for this study, gender does not have any association or influence on the frequency of usage of these strategies. Thus gender has no role on the frequency of usage of phygital strategies.

**4.5 Age and usage of Phygital strategic tools in Lulu Hypermarket**

The usage percentage of pop up stores between 20 to 30 years is 54% and those between 30 to 40 years is 36%. The chi-square test proved that there is a significant association between age of shoppers and usage of pop up stores for shopping, as the p-value (0.02) is less than 0.05.

There is no significant relationship between age of shoppers and other phygital strategies (self-service checkout counter, price scanner, in store reviews, security scanner, payments, happiness loyalty reward and digital display board) as the p-values are all greater than 0.05.

**4.6 Age and frequency of usage of Phygital strategic tools in Lulu Hypermarket**

52% of shoppers aged less than 20 years always use self-service checkout counter. 37% of the shoppers aged between 20 and 30 years and 40% of shoppers aged between 30 and 40 years always use self-service checkout counter. The chi-square test proved that there is a significant association between age of shoppers and usage of self-service checkout counter, as the p-value (0.01) is less than 0.05. Thus it is proved that young shoppers use more of self-service checkout counter than the older shoppers in Lulu hypermarket.

31% of shoppers aged less than 20 years always use security scanner. 20% of the shoppers aged between 20 and 30 years and 16% of shoppers aged between 30 and 40 years always use security scanner services. The chi-square test proved that there is a significant association between age of shoppers and usage of security scanner, as the p-value (0.02) is less than 0.05. Thus it is proved that young shoppers use more of security scanner than the older shoppers in Lulu hypermarket.

45% of shoppers aged less than 20 years always use happiness loyalty reward. 23% of the shoppers aged between 20 and 30 years and 12% of shoppers aged between 30 and 40 years always use happiness loyalty reward. The chi-square test proved that there is a significant association between age of shoppers and usage of happiness loyalty reward, as the p-value (0.005) is less than 0.05. Thus it is proved that young shoppers use more of happiness loyalty reward than the older shoppers in Lulu hypermarket.

There is no significant relationship between age of shoppers and other phygital strategies (pop up stores, price scanner, in store reviews, payments, and digital display board) as the p-values are all greater than 0.05.

1. **RECOMMENDATIONS**
2. Lulu Hypermarket should focus on enhancing the in-store shopping experience, as 73% of shoppers prefer it, by improving store ambiance, layout, and customer service. Additionally, seamless integration of "Click and Collect," online shopping via Talabat, and in-store experiences is recommended to cater to the shoppers using all three modes.
3. Click-and-collect services and Talabat internet shopping are less effective and less satisfying. To enhance these options, Lulu should concentrate on optimizing the online purchasing process, guaranteeing quicker delivery and improved platform usability, as well as examining and improving the click-and-collect procedure to make it more effective and user-friendly. Customers' use and happiness may also be raised by educating them about these services through advertisements or easy-to-follow instructions.
4. Customers really appreciate the in-store experience, and to keep customers loyal, Lulu should keep improving this setting by emphasizing product availability, staff help, and convenience.
5. Lulu Hypermarket is continuing to improve and advertise its self-service checkout counters and digital payment systems. The purchasing experience is made faster and more convenient with these features. Pop-up stores, on the other hand, had the lowest degree of customer satisfaction suggesting that their utility, visibility, or relevance to consumers must be improved.
6. Security scanners and loyalty benefits indicates uneven customer experiences. For more consistent functionality, these tools should be improved, either by better maintenance, design, or user manuals.
7. The utilization of loyalty reward schemes and used pop-up stores are less. In order to increase the adoption of these technologies, it is necessary to improve their benefits or increase knowledge of them through user education, advertising, or interface improvements.

**6. PRACTICAL IMPLICATIONS**

This study addressed the pressing need within Oman’s rapidly evolving retail sector to integrate digital and physical elements to adapt to changing consumer preferences and increase customer satisfaction and loyalty. By examining Lulu Hypermarket Nizwa’s approach to phygital retailing, this research provides insights into how combining physical and digital commerce can create a more seamless and satisfying customer experience. The findings of this study will be valuable not only for Lulu Hypermarket but for other retailers seeking to enhance customer loyalty through phygital strategies. This will help retailers better understand which phygital strategies such as online shopping, self-service checkouts, and in-store digital tools are most effective in increasing customer satisfaction. This can guide retailers in adopting approaches that foster customer engagement, enhance trust, and build brand loyalty.

**7. CONCLUSION**

Phygital retail strategies are becoming increasingly important as shoppers embrace the blend of physical and digital experiences. Customers report high satisfaction, especially with features like mobile apps, self-checkout, and digital payments, which enhance convenience. While satisfaction often supports customer loyalty, this link isn't always strong. In-store shopping remains the most preferred mode, while tools like loyalty programs and pop-up stores need improvement. Demographic factors such as age, gender, and shopper type show no significant effect on satisfaction or loyalty, indicating broad appeal. To stay competitive, retailers like Lulu Hypermarket should continue improving both digital and physical services to offer seamless, engaging customer experience. In future, researchers should cover shoppers from 12 retail Lulu outlets in Oman and should cover a wider geographical perspective.

Consent

All authors declare that ‘written informed consent was obtained from the respondents and University for publication of this research study. A copy of the written consent is available for review by the Editorial office/Chief Editor/Editorial Board members of this journal."

Ethical approval

The respondents were informed about the purpose of the study and the consent for participating in survey was informed. They were assured about the confidentiality of data and the purpose of its usage in research only.

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