# Performance Expectancy and Effort Expectancy in Omnichannel Retailing

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## Abstract

**Purpose:** While previous studies mainly focus on one shopping expectancy in the context of e-commerce or m-commerce, this study examines the relationship between consumers' performance and effort expectancy and their shopping intentions in the omnichannel retail environment in which both online and offline shopping channels are utilized concurrently in a single shopping journey. **Research design, data and methodology:** This study measured consumers' performance expectancy, effort expectancy, attitudes, and intentions toward an omnichannel shopping service. A survey was developed using an online survey platform and distributed to U.S. consumers for a 3-week period and 470 usable responses were obtained. The Confirmatory Factor Analysis and Structural Equation Modeling were performed to test the reliability and validity of the measurement model and research model portraying the hypothesized relationships among constructs. **Results:** The results confirm that both performance and effort expectancy from shopping affected consumers' attitudes toward omnichannel shopping. The positive attitudes increased their omnichannel shopping intentions. **Conclusions:** Retailers should promote omnichannel strategies as effective shopping tools to improve consumers' shopping experiences and outcomes. This study suggests that retailers should implement omnichannel strategies that synchronize the retail channels they offer and promote the strategies as effective means to enhance customers' shopping outcomes and experiences.

**Keywords :** Omnichannel Shopping, Performance Expectancy, Effort Expectancy, Consumer Behavior, Retailing

**JEL Classification Code**: L81, M31, M21, D12

## 1. Introduction

Imagine that consumers use various shopping channel options, such as physical stores, e-commerce, and m-commerce, spontaneously on a particular shopping journey. These consumers are considered omnichannel shoppers and different from multichannel shoppers. The main difference between the two is that multichannel shoppers use one channel among other available channels while omnichannel

shoppers incorporate various channels into a single transaction process for an optimal shopping outcome (Piotrowicz & Cuthbertson, 2014). Omnichannel retailing is considered a higher-level business concept than multichannel retailing even though both concepts relate to channel integration and channel choice behavior (Lazaris & Vrechopoulos, 2014). Thus, research cites the seamless and transparent integration of retail channels as a fundamental foundation of creating omnichannel retail environments (Bendoly, 2005; Schoenbachler & Gordon, 2002; Steinfield, Bouwman, & Adelaar, 2002). The consequence of these two different channel strategies is substantial. In the multichannel environment, a retailer may lose its business with consumers due to the lack of channel integration within its entity. Consumers often differentiate between where they obtain shopping information and where they actually make sales transactions (Van Baal & Dach, 2005). An omnichannel retailer, on the other hand, offers consumers various but integrated shopping channels and

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allows them to search information, find deals, and make transactions for a seamless shopping experience. Thus, an omnichannel strategy allows the retailer to sustain its business with customers from the start to the finish in the shopping journey (Sands, Ferraro, & Luxton, 2010).

Retailers have recently begun to recognize the importance of omnichannel shoppers, as they are the fastest growing consumer segment in the retail industry. Consumer research suggests that omnichannel shoppers are more frequent and higher-spending consumers than multichannel shoppers (Sopadjieva, Dholakia, & Benjamin, 2017). They are also innovative consumers with high purchase involvement (Ryu, 2019). While meeting the need of this important and lucrative consumer segment requires immediate attention, research on omnichannel consumers is still in its infancy. To void the gap existing in the current literature, which has mainly focused on shopping expectancy and consumer behavior in the context of online shopping or mobile shopping, this study attempts to understand consumer behaviors in the omnichannel retail environment in which both online and offline shopping channels are utilized concurrently in a single shopping journey. This study defines the omnichannel consumer as an individual who uses both online/mobile shopping channels and offline shopping channels to purchase a product or service on a specific shopping journey. Examples of omnichannel consumer behavior include information search via online/mobile devices and then making a purchase in a physical store or checking products in the physical store and making a purchase through online/mobile devices.

The purpose of this research is to answer the following research questions to shed light on omnichannel behaviors from the consumer-need standpoint:

1. How does consumers' performance expectancy affect their attitude toward omnichannel shopping?

2. How does consumers' effort expectancy affect their attitude toward omnichannel shopping?

3. How does consumers' attitude toward omnichannel shopping affect their intention to engage in such behavior?

## 2. Literature Review

### 2.1. United Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT model serves as a theoretical foundation for research on consumer acceptance of new technology-based systems or services. The model explicates consumers' adoption intentions using four components: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh, Morris, Davis, & Davis,

2003). However, several studies confirm that not all components of the UTAUT model are meaningful in explaining consumer acceptance of new systems or services. For example, several studies confirmed that only performance expectancy and effort expectancy are salient precursors for consumers' adoption intentions of technology- or mobile-based new systems or services (Alraja et al., 2016; Al-Shafi, & Weerakkody, 2010; Juaneda-Ayensa, Mosquera, & Sierra Murillo, 2016; Kiat, Samadi, & Hakimian, 2017). Thus, this study adopts two constructs, performance expectancy and effort expectancy, from the UTAUT model to examine consumers' attitudes and intentions toward omnichannel shopping.

### 2.2. Performance Expectancy

Performance expectancy refers to the level to which an individual believes that adopting a certain service or technology will allow him or her to achieve related tasks successfully (Venkatesh et al., 2003). An underpinning concept of performance expectancy is that if one perceives a new service or technology to be useful, one's attitude toward adopting it would be improved (Dwivedi et al., 2017). Numerous studies confirmed that performance expectancy has a positive and significant impact on individuals' attitudes toward adopting various forms of electronic- and mobile-based services (Dwivedi et al., 2017; Khalilzadeh, Ozturk, & Bilgihan, 2017; Park, Yang, & Lehto, 2007; Pynoo et al., 2011). The positive relationship between performance expectancy and attitudes toward adoption of mobile shopping services with U.S. consumer samples is also validated (Yang, 2010).

In the omnichannel shopping context, performance expectancy is how customers believe that utilizing one retailer's various shopping channels (mobile, online, and physical store) interchangeably on a particular shopping trip can help them accomplish shopping tasks successfully. Aforementioned research findings support the concept those who believe the omnichannel shopping option is an effective way of completing a shopping task will form a more positive attitude toward adopting omnichannel shopping. Thus, this study proposes the following hypothesis:

**H1:** Performance expectancy positively affects consumers' attitudes toward omnichannel shopping.

### 2.3. Effort Expectancy

Effort expectancy refers to the level of ease or complexity an individual perceives to adopting a certain service or technology to complete related tasks (Venkatesh

et al., 2003). This concept is compatible with perceived ease of use (Dwivedi et al., 2017), which is proven to have a positive and significant impact on consumers' attitudes toward adoption of a service or technology in the previous studies (Hung, Chang, & Kuo, 2013; Lu, Huang, & Lo, 2010; Navavongsathian, Vongchavalitkul, & Limsarun, 2020). Subsequently, a positive and significant relationship between effort expectancy and attitude exists when individuals accept electronic- or mobile-based services (Dwivedi et al., 2017).

In the omnichannel shopping environment, consumers can choose online shopping, mobile shopping, and in-store shopping freely. Effort expectancy is how customers believe that shopping through a retailer's various channels interchangeably on a particular shopping trip can help them complete shopping easily and efficiently. This concept is a significant predictor of consumers' positive attitudes toward technology-based retail services (Pramatari & Theotokis, 2009). Thus, this study suggests the following hypothesis:

**H2:** Effort expectancy positively affects consumers' attitudes toward omnichannel shopping.

## 2.4. Omnichannel Shopping Attitudes and Intentions

The general assumption of behavioral intention research using the theories of planned behavior asserts that an individual's positive attitude leads to one's intention to perform a behavior (Ajzen & Fishbein, 1980). This positive relationship was validated across various retail settings and shopping-related consumer behaviors. For example, consumers with favorable attitudes toward mobile-enabled marketing strategies tend to seek shopping information using their mobile phones (Ryu & Murdock, 2013). A positive relationship is also confirmed between consumers' attitudes toward shopping online or via mobile devices and their intentions to shop through respected shopping channels (Shim, Eastlick, Lots, & Warrington, 2001; Yang, 2010). Consumer attitudes toward a retailer or its channel offerings positively impact their omnichannel shopping intentions, such as information search intentions and purchase intentions using the retailer's online and offline channels (Kwon & Lennon, 2009; Seock & Norton, 2007). Additionally, research on consumer acceptance of new services validates the positive and significant relationship between attitude and intention (Dwivedi, et al., 2017; Hung et al., 2013). Thus, this study recommends the following hypothesis:

**H3:** Consumers' attitudes toward omnichannel shopping positively affect their omnichannel shopping intentions.

## 3. Research Methods

### 3.1. Measures

This study was designed to measure consumers' performance expectancy, effort expectancy, attitudes, and intentions toward an omnichannel shopping service. A four-item performance expectancy and four-item effort expectancy scale were adopted from the research on technology acceptance behaviors (Loureiro, Cavallero, Miranda, 2018; Venkatesh et al., 2003). Each consumer attitudes and shopping intentions were assessed with four-item scales adopted from the previous consumer behavior studies (Avila & Ryu, 2015; Ryu & Murdock, 2013; Shi, Wang, Chen, & Zhang, 2020; Yang, 2010). We modified survey wording to reflect the consumers in the omnichannel shopping environment, and used seven-level Likert scales anchoring strongly disagree (1) and strongly agree (7). The survey also collected information about age, gender, income, and race for demographics of study participants.

### 3.2. Data Collection

The survey was developed using a well-established online survey platform. A consumer research firm was hired to distribute an online survey to its consumer panel. The firm distributed the survey to 1,098 U.S. consumers for a 3-week period. Individuals who never purchased products or services using their mobile device were screened out because they did not meet the purpose of this study. Incomplete responses or responses that failed to pass quality-check questions were also excluded. A total of 470 usable responses were obtained for analysis.

Among the study participants, approximately 80% have previously used multiple channels on a shopping journey (n=375). They have also used mobile devices to access location-specific shopping information (n=368), rewards and promotions (n=353) and QR code-embedded shopping data (n=312). Table 1 summarizes the demographic information of the study participants.

### 3.3 Data Analysis

A series of preliminary analyses were run on the collected data using IBM SPSS and Amos 25 to ensure the qualityof measurement scales and a proposed research model. The normal distribution of the measurement items was confirmed, and no significant outlying values were identified. A Varimax rotation factor analysis confirmed that each measurement item was loaded to the corresponding component and four factors emerged as assumed. All factor loadings were above a cutoff value of 0.6 (Matsunaga,2010). The internal consistency of measurement items was

assessed with Cronbach's alpha, and the values confirmed internal reliability of the scales with the range of 0.79 and 0.94. The Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were performed to test the reliability and validity of the measurement model and the research model portraying the hypothesized relationships among constructs (Anderson & Gerbing, 1988). The overall model fit was estimated with Chi-square ($\chi^2$), Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), and Standardized Root Mean Square Residual (SRMR) (Kline, 2005).

## 4. Results

### 4.1. Measurement Model Testing

The confirmatory factor analysis (CFA) was performed to assess the reliability and validity of the measurement model. The fit statistics of the confirmatory factor analysis confirmed that the measurement model met the suggested cutoff values and that factor loadings ranged from 0.61 to 0.92 with $p$-values < 0.001. (Hu & Bentler, 1999; Steiger, 2007). Also, the CFA confirmed a good model fit: $\chi^2$ = 278.34 with 91 $df$ at $p$-value < 0.001; RMSEA of 0.066; GFI of 0.931; CFI of 0.974; NFI of 0.962; and SRMR of 0.032. The composite reliability (CR) ranged from 0.80 to 0.95, and the average variance extracted (AVE) ranged from 0.50 to 0.81. Table 2 and 3 present descriptive statistics of the measurements and the measurement model results, respectively.

### 4.2. Structural Model Testing and Hypotheses Testing

The Structural Equation Modeling (SEM) was used to assess the proposed research model and hypotheses. The overall fit indices confirmed a good model fit: $\chi^2$ = 298.26 with $df$ = 94 at $p$-value < 0.001; RMSEA of 0.068; GFI of 0.926; CFI of 0.972; NFI of 0.960; and SRMR of 0.036.

Performance expectancy has a positive and significant impact on consumers' attitudes toward omnichannel shopping, supporting Hypothesis 1 ($\beta$ = 0.19, $t$-value = 3.57, $p$ < 0.001). This result implies that consumers are more likely to form favorable attitudes toward the omnichannel shopping option when they believe it helps them complete their shopping tasks more effectively. This finding aligns with previous research that confirms a positive and significant association between the performance expectancy and attitudes toward adopting a new shopping service (Yang, 2010).

The relationship between effort expectancy and consumer attitudes toward omnichannel shopping was also positive and significant, supporting Hypothesis 2 ($\beta$ = 0.77, $t$-value = 12.47, $p$ < 0.001). Those who believe the omnichannel shopping option helps them shop more efficiently and conveniently will be more likely to form favorable attitudes toward omnichannel shopping. This finding is congruent with previous research that suggested effort expectancy leads to positive attitudes in the context of adopting new retail services (Pramatari & Theotokis, 2009).

Like many behavioral intention studies that demonstrated the relationship between attitude and intention (Ajzen & Fishbein, 1980; Ryu & Murdock 2013; Shim et al., 2001; Yang, 2010), this research confirms a positive and significant relationship between consumers' attitudes toward omnichannel shopping and their omnichannel shopping intentions. Thus, Hypothesis 3 was supported ($\beta$ = 0.80, $t$-value = 13.54, $p$ < 0.001). This finding implies that the favorable attitude is a precursor to consumers' adoption intention of the omnichannel shopping option. Figure 1 shows the path coefficients and the results of statistical significance of the research model.
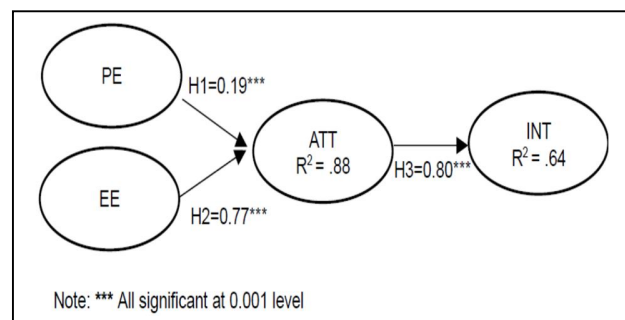


**Figure 1:** Path Coefficients and Statistical Significance of Research Model

## 5. Conclusions

### 5.1. Discussion and Implications

The COVID-19 pandemic has forced the faster transition from offline retail to e-commerce. Retailers need to create a streamlined and seamless omnichannel shopping environment to survive their businesses and prepare to adopt the "ontact" and "untact" economy in the COVID-19 era (Briedis, Kronschnabl, Rodriguez, & Ungerman, 2020). Shifting from the store-based multichannel to online-based omnichannel strategies in the retail industry is inevitable (Verhoef, Kannan, & Inman, 2015). Omnichannel retailing allows consumers to streamline their shopping experiences across all channels or touchpoints (Bendoly, 2005;

Schoenbachler & Gordon, 2002; Steinfield et al., 2002). This study examined consumer attitudes and intentions toward omnichannel shopping from the perspective of shopping expectancy. The findings presented that both performance and effort expectancy are important determinants for consumer engagement in omnichannel shopping. Thus, this study suggests that retailers should implement an omnichannel strategy that synchronizes the retail channels they offer and promote the strategy as an effective tool to enhance their customers' shopping outcomes and experiences (Picot-Coupey, Huré, & Piveteau, 2016; Yim & Han, 2016).

**Table 1:** Demographics of Study Participants

| Category | Gender | | Age | | | | | | Race | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M | F | 18 - 24 | 25 - 29 | 30 - 34 | 35 - 44 | 45 - 54 | 55 or more | White | Black | Hispanic/ Latino | Asian | Native American | Other/ No Answer |
| Frequency | 235 | 235 | 50 | 97 | 105 | 97 | 93 | 28 | 344 | 56 | 32 | 21 | 7 | 10 |
| Percentage | 50 | 50 | 10.6 | 20.6 | 22.3 | 20.6 | 19.8 | 6.0 | 73.2 | 11.9 | 6.8 | 4.5 | 1.5 | 2.1 |

Note: n=470

One way to improve consumers' performance expectancy for optimal shopping outcomes is to integrate shopping information and services across all channels for consistency. Omnichannel consumers often search product information in one channel and make transactions in another channel to achieve better shopping outcomes. For example, consumers often check product availability before visiting the store for purchase. Likewise, consumers can shop online or use mobile devices confidently when they know what to expect from their shopping, such as colors or sizes, with the information obtained at the physical stores. Inconsistent and inaccurate shopping information and services from channel to channel can cause consumers confusion, uncertainty, and dissatisfaction with their shopping experience. Therefore, retailers offering consistent shopping information and services is imperative in the omnichannel retail environment. The information and services should be integrated and consistent across channels in four aspects in the retail supply chain – products, prices, assortments, and promotions – to have omnichannel strategies be successful in enhancing consumers' performance expectancy from shopping. This implication coincides with the previous studies that identified consistency and integration are two important dimensions of omnichannel shopping experiences (Huré, Picot-Coupey, & Ackermann, 2017; Saghiri, Wilding, Mena, & Bourlakis, 2017; Shi et al., 2020).

**Table 2:** Example of a Table Caption

| Constructs | Mean | S.D. | PE | EE | ATT | INT |
|---|---|---|---|---|---|---|
| Performance Expectancy (PE) | 5.31 | 1.25 | 1 | | | |
| Effort Expectancy (EE) | 5.12 | 1.31 | 0.82** | 1 | | |
| Attitude (ATT) | 5.01 | 1.28 | 0.76** | 0.86** | 1 | |
| Omnichannel Shopping Intention (INT) | 4.85 | 1.32 | 0.67** | 0.67** | 0.66** | 1 |

Note:* P<0.05, ** p<0.01, *** p<0.001

Retailers should implement omnichannel strategies that improve consumers' effort expectancy from shopping. The key aspect is streamlining shopping processes to offer seamless shopping experiences across channels (Huré et al., 2017; Saghiri et al., 2017). Consumers try to limit human contacts during the COVID-19 pandemic, and "online purchase – store pickup" and "online purchase – store return" have become a popular fulfilment option. Retailers should allow their customers to practice this fulfilment option without any interruption and complication. As the importance of the mobile device in consumers' daily life is growing, retailers should utilize mobile-enabled marketing to enhance consumers' effort expectancy from shopping. For example, retailers could send out digital coupons to consumers so that they can redeem at the nearby stores. Retailers could also offer mobile-enabled services such as mobile pay or QR code scan for quick link to product information and online purchase which would ease consumer effort for shopping in the omnichannel retail environment. In other words, retailers need to create a

streamlined and fully integrated omnichannel retail strategy in which consumers can complete their shopping using different channels without interruption and excessive efforts. Since social commerce has become a viable shopping option for many consumers (Choi & Yang, 2018), retailers could incorporate social commerce into their omnichannel retail strategies.

**Table 3:** Measurement Model Statistics and Results

| Factors | Items | Factor Loading[a] | Cronbach's α | CR | AVE[c] |
|---|---|---|---|---|---|
| Performance Expectancy | Using various channels offered by a retailer is useful in shopping. | 0.88 | 0.95 | 0.95 | 0.81 |
| | Using various channels offered by a retailer enables me to accomplish shopping more quickly. | 0.90 | | | |
| | Using various channels offered by a retailer increases my shopping productivity. | 0.91 | | | |
| | Using various channels offered by a retailer helps me complete shopping more effectively. | 0.92 | | | |
| Effort Expectancy | Using various channels offered by a retailer is clear and reasonable to me. | 0.90 | 0.94 | 0.94 | 0.79 |
| | Using various channels offered by a retailer is easy for me to be skillful. | 0.89 | | | |
| | Using various channels offered by a retailer is an easy task. | 0.87 | | | |
| | Using various channels offered by a retailer is easy for me. | 0.90 | | | |
| Attitude | Using various channels offered by a retailer meets my shopping needs. | 0.85 | 0.92 | 0.92 | 0.75 |
| | Using various channels offered by a retailer fits well with the way I like to shop. | 0.84 | | | |
| | Using various channels offered by a retailer goes with what I believe shopping should be done. | 0.89 | | | |
| | Using various channels offered by a retailer allows me to have tailored shopping information. | 0.88 | | | |
| Omnichannel Shopping Intention | On a particular shopping situation, I would use various channels offered by a retailer. | 0.70 | 0.79 | 0.80 | 0.50 |
| | On a particular shopping situation, I would purchase a product online and ship it to my home. | 0.61 | | | |
| | On a particular shopping situation, I would search a product online and purchase it at the physical store. | 0.82 | | | |
| | On a particular shopping situation, I would use a mobile phone to pay or get rewards at the physical store. | 0.69 | | | |

Note: [a] All significant at 0.001 level, [b] Composite Reliability, [c] Average Variance Extracted
Model fit: $\chi 2$ = 278.34 (df = 91), p-value < .001; RMSEA = .066; GFI = 0.931; CFI = .974; NFI = .962; SRMR = .032

Academically, this study expands the existing body of literature on the concept of shopping expectancy in the context of omnichannel retailing. With omnichannel shopping becoming a norm of how technology-driven and digitally forward consumers shop, a deeper understanding of their shopping expectation in the omnichannel retail environment is an imperative task for researchers. While the previous studies on shopping expectancy tend to focus on consumer behaviors in the e-commerce or m-commerce context, this study presents that consumers' performance expectancy and effort expectancy from shopping are important variables in determining their intentions to use different channels concurrently.

## 5.2. Limitations and Future Research

This study recognizes research limitations, which provide the directions for future research. One of the limitations is that only performance expectancy and effort expectancy constructs from the UTAUT model were used in the research model. Although these constructs tend to be more salient in predicting consumer intentions of adopting

new services or technologies (Al-Shafi & Weerakkody, 2010), future research could include all constructs from the UTAUT model to investigate consumers' shopping behaviors in the omnichannel retail environment. This study generalized the term omnichannel shopping as using various channels interchangeably on a given shopping journey, which could impact study participants' perceptions and understandings of omnichannel shopping. Future research could provide a more specific omnichannel retail environment such as online search – offline buying or offline search – online buying when collecting the data from consumers.

The previous research proposed theoretically that a retailer's channel integration, which allows consumers to have consistent shopping information and seamless shopping experiences across retail channels, could be a critical element of creating the omnichannel retail environment (Huré et al., 2017; Saghiri et al., 2017). Thus, future research could investigate the application of the advanced technologies such as artificial intelligence (AI) or augmented reality (AR) into the omnichannel shopping environment to address the latest market trends and business opportunities. With growing importance of "ontact" and "untact" shopping in the current retail environment, future research could explore how retailers utilize omnichannel retail strategies to overcome a hostile business climate impacted by the COVID-19 pandemic.

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