TESIS DOCTORAL

EL USO DEL TELÉFONO INTELIGENTE EN LOS PROCESOS DE COMPRA EN EL CONTEXTO OMNICANAL: COMERCIO MÓVIL Y *SHOWROOMING*

Presentada por:

Luis Edwin Chimborazo Azogue

Dirigida por:

Dra. Marta Frasquet Deltoro

Dr. Alejandro Mollá Descals

Dra. María José Miquel Romero

Programa de Doctorado en Marketing – 3137

Departamento de Comercialización e Investigación de Mercados

Valencia, julio de 2022

Esta Tesis doctoral se ha desarrollado en el marco del proyecto de investigación ECO2017-83051-R del Programa Estatal de I+D+i orientada a los Retos de la Sociedad (Agencia Estatal de Investigación. Ministerio de Economía, Industria y Competitividad del Gobierno de España), del grupo de investigación consolidado AICO/2021/144 (Consellería d'Innovació, Universitats, Ciència i Societat Digital. Generalitat Valenciana), y del programa de Acciones Especiales expediente UV-INV-AE-1553911 (Vicerrectorado de Investigación de la Universitat de València).

Agradecimientos

Siempre se ha dicho: mientras más complicados son los procesos para alcanzar los objetivos, sus frutos son más dulces y deliciosos.

En esta oportunidad, quiero agradecer a cada una de las personas que han sido participe de este largo recorrido, y principalmente a Dios, por estar presente en todo momento brindándome: paciencia y sabiduría.

Como soporte fundamental de este arduo camino, quiero manifestar mi más grande reconocimiento a mis directores de tesis, la Dra. Marta Frasquet, la Dra. María José Miquel, y el Dr. Alejandro Mollá, quienes han descubierto mi entusiasmo de investigador. Gracias por compartir sus conocimientos, por guiarme con sus sabias recomendaciones, por motivarme en los momentos más difíciles y, sobre todo, gracias por dedicarle tiempo a mi persona y a mi trabajo, a cualquier hora del día. Gracias por confiar en mí y orientarme hacia la meta esperada.

Asimismo, deseo manifestar mi reconocimiento al Departamento de Comercialización e Investigación de Mercados de la Universidad de Valencia que, mediante su programa de doctorado y sus docentes, me han enseñado en el área científica, permitiéndome asistir a sus clases y obtener todas las herramientas necesarias para aclarar mis dudas.

Además, quiero agradecer en esta tesis a mi familia, a Patricia Villacis, mi esposa, por su gran amor, por estar siempre a mi lado con sus palabras de aliento y esperanza. A mis hijos: José David y María Belén, por ser mi alegría, mi inspiración, mi vida. A mis padres, José y María, por su ayuda. A la Sra. Norma Arguello, por su apoyo incondicional, por los valores y principios que me ha inculcado, con cariño lo llevo en mi corazón y estoy seguro que desde el cielo cuida de mí y festeja este logro.

Finalmente, mi agradecimiento a mis amigos y amigas del Programa de Doctorado en Marketing, que me ayudaron y me motivaron a seguir, especialmente a Tania, Claudia, Norma, Jonathan y Armando, que siempre estuvieron junto a mí.

Gracias a todos.

INDICE GENERAL

RESUMEN DE LA TESIS DOCTORAL

1. Contexto y justificación de la investigación

El teléfono inteligente se ha hecho omnipresente en todas las esferas de la vida de las personas. Actualmente, el 96,6% de los usuarios en todo el mundo tiene un teléfono inteligente y pasa una media de 3,39 horas diarias utilizando sus dispositivos móviles en Internet (We are social y Hootsuite, 2021). En España, el teléfono móvil está presente en la práctica totalidad de los hogares (99,5%) según datos del Instituto Nacional de Estadística (INE, 2021). Además, el teléfono inteligente es el dispositivo más utilizado por los españoles para acceder a Internet, con un 94% de usuarios, frente a un 54% que utilizan el portátil y un 32% el ordenador de sobremesa. Entre las actividades más frecuentemente realizadas en el ámbito online se encuentran las relativas a la comunicación (uso de mensajería instantánea, correo electrónico o videollamada), pero también la búsqueda de información sobre bienes y servicios, que realizan el 74% de los españoles. Los datos muestran como el uso de los teléfonos inteligentes y las tabletas, conocidos como "dispositivos móviles", se ha expandido de forma global, afectando a todas las experiencias y hábitos de los individuos, incluyendo los procesos de compra.

Es precisamente el uso de estos dispositivos móviles durante el proceso de compra lo que abre un nuevo canal para fabricantes y distribuidores, dando lugar al comercio móvil (*m-commerce*); este se define como una extensión del comercio electrónico, donde las actividades comerciales se realizan mediante el uso de los teléfonos inteligentes (Ngai y Gunasekaran, 2007). El comercio móvil presenta ventajas específicas para el consumidor con respecto al comercio electrónico tradicional o la compra a través del ordenador (Perry, Kent y Bonetti, 2019): la ubicuidad, la instantaneidad, y la localización, junto con la interactividad, personalización e identificación, son los atributos principales de los teléfonos inteligentes que afectan al proceso de compra (Shankar et al., 2016; Zhang et al., 2012). Asimismo, el progreso de la tecnología de telecomunicaciones como el lanzamiento de las redes 5G ha permitido llegar a un nivel de conectividad sin precedentes, que potencia las ventajas del uso de los teléfonos inteligentes y aporta funcionalidad y conveniencia a los procesos de compra (Luceri et al., 2022). Por todo ello, el teléfono inteligente se consolida como dispositivo de compra, superando por primera vez el comercio móvil a las compras a través del ordenador según el informe de PricewaterhouseCoopers (PwC, 2021); debido a las restricciones sanitarias y a las normas de distanciamiento social por la pandemia de COVID-19 el uso de los teléfonos inteligentes para la compra ha aumentado a nivel mundial, vinculándose a un 33% de las mismas, frente al 26% de las compras hechas a través del ordenador, o el 18% utilizando las tabletas.

Es así como el comercio móvil se ha convertido en un eje primordial de crecimiento para las empresas minoristas, que no quieren dejar pasar la oportunidad de negocio que presenta este canal (AlFahl, 2018). Se estima que al finalizar este año 2022, el 65,7% de las ventas realizadas a través de Internet (5.542 trillones de dólares) habrá sido comercio móvil (eMarketer, 2022), previéndose una tendencia al alza de este canal en los próximos años en torno al 10% anual. Esta realidad lleva a los minoristas basados en tiendas físicas a redefinir sus estrategias, favoreciendo en sus establecimientos físicos el uso del teléfono móvil, con el fin de estar en condiciones de competir con éxito en un contexto tan dinámico en cuanto a la transformación digital (Omar et al., 2021). La transformación digital no significa, pues, el declive de las tiendas físicas, sino su transformación en espacios de convergencia con los canales digitales. En efecto, si bien en 2020 la brecha del crecimiento entre el gasto en tiendas físicas y en comercio electrónico a nivel mundial llegó al 33,9%, dicha brecha se redujo drásticamente en 2021, quedándose en un 8,1% gracias a la recuperación de las ventas en las tiendas físicas (eMarketer, 2022). Este último dato pone de manifiesto el papel todavía relevante que juegan los establecimientos físicos; de hecho, los consumidores realizan el 41% de las compras en las tiendas físicas, siendo el canal de compra más frecuentemente elegido por los usuarios (PwC, 2021). Esta realidad relativa a la importancia creciente del comercio móvil y la preferencia mantenida por las tiendas físicas es lo que justifica el interés por la investigación sobre el uso del teléfono inteligente para la compra y sus implicaciones, cuando se usa en el entorno de las tiendas físicas, entre las que se incluye el fenómeno de *showrooming* móvil.

El *showrooming* es, en la actualidad, uno de los principales desafíos para los minoristas con presencia física, pues la rentabilidad de los establecimientos físicos se ve perjudicada cuando el comprador utiliza la tienda sólo para informarse y realiza la compra a través del canal online de un competidor. Este contexto es el que motiva la investigación desarrollada en esta Tesis Doctoral cuyo objetivo general ha sido avanzar en la comprensión de los procesos de compra en el contexto omnicanal que implican el uso de teléfonos inteligentes, abordando su uso como dispositivo de compra y de información, así como su participación en la práctica de *showrooming*.

2. Base conceptual: Aspectos clave de la literatura

2.1. Canal móvil y omnicanalidad

En el contexto de esta tesis doctoral, el aspecto más relevante a considerar cuando nos referimos al canal móvil es la convergencia que permite de los canales online y offline (Brynjolfsson et al., 2013; Lamberton y Stephen, 2016). El uso del

dispositivo móvil no solo transforma los procesos de compra ya impactados por el canal Internet, sino que también aumenta su complejidad (Lemon y Verhoef, 2016). Los dispositivos móviles proporcionan una sinergia única entre el establecimiento comercial y los canales online (Piotrowicz y Cuthbertson, 2014). Fuera de la tienda, en fases previas a la compra, los dispositivos móviles se utilizan para la comparación de precios, la búsqueda de tiendas, o la consulta de disponibilidad de productos. Gracias a las herramientas de búsqueda y las posibilidades de geolocalización que ofrece, el *smartphone* se convierte también en un potente estímulo para motivar al consumidor a visitar una tienda física (Fuentes et al., 2017; Kim y Hahn, 2015). Una vez dentro de la tienda, los consumidores pueden usar sus dispositivos móviles con fines de información e investigación, por ejemplo, para fotografiar productos, comparar precios y escanear códigos QR, para compartir contenido en redes sociales, o para pagar (Holmes et al., 2014; Nielsen, 2016). Así pues, el gran potencial del teléfono inteligente reside no en el valor del canal móvil en sí mismo, sino en las posibilidades que ofrece para obtener sinergias de la combinación de canales y puntos de contacto en la interacción con el minorista durante el proceso de compra, tanto fuera como dentro de la tienda, todo lo cual redundará en un valor mayor.

A nivel conceptual, el papel preponderante que adquieren los dispositivos móviles y su impacto en los procesos de compra se relaciona con la transición de la multicanalidad a la omnicanalidad. En efecto, como señalan Verhoef et al. (2015), el canal móvil y las redes sociales son elementos centrales del concepto omnicanal, debido a las sinergias que los dispositivos móviles ofrecen para el uso combinado de canales online y offline. Así, el concepto de omnicanalidad implica la utilización de un mayor número de canales y puntos de contacto y la difuminación de las fronteras naturales entre los canales, permitiendo que el consumidor "cruce" los canales sin dificultad durante el proceso de compra e interactúe con el minorista en distintos puntos de contacto (Brynjolfsson et al., 2013; Verhoef et al., 2015). Tras estas consideraciones, Verhoef et al. (2015) enunciaron la primera definición de omnicanalidad en el contexto académico como: "la gestión sinérgica de los numerosos canales y puntos de contacto con el cliente, de forma que se optimiza la experiencia del cliente a través de todos los canales y el rendimiento de los canales" (p. 176). Neslin (2022) subraya que la coordinación de canales es el elemento clave de la estrategia omnicanal, concebida como un continuo que va desde la aproximación desconectada a la completa, pasando por la coordinación horizontal y vertical. A través de la integración vertical, el minorista permite al comprador continuar en el mismo canal o cambiar de canal de una etapa a otra a medida que avanza en el proceso de compra; sin embargo, solo la integración completa supone el último estadio en

la omnicanalidad que permite al comprador no solo cambiar de canal de una etapa a otra sino también utilizar dos canales en la misma etapa. Así, por ejemplo, el comprador puede utilizar tanto la tienda como el dispositivo móvil en la etapa de búsqueda de información, comportamiento que se relaciona con el *showrooming*, pues es probable que el consumidor compre a través de Internet.

2.2. El comportamiento de showrooming

Así pues, en el contexto omnicanal el uso del teléfono inteligente se vincula de forma clara con el auge de la práctica del *showrooming* (Fiestas y Tuzovic, 2021). El *showrooming* es, junto con el *webrooming*, una de las manifestaciones del comportamiento definido por Verhoef et al. (2007) como compra de investigación (*research shopping*), es decir, obtener información en un canal y comprar en otro. Específicamente, el comportamiento de *showrooming* significa obtener información de los productos en una tienda física y comprar a través de un canal online (Gensler et al., 2017). En un contexto donde las tecnologías y dispositivos móviles están alcanzando un protagonismo sin precedentes, los consumidores, mientras visitan las tiendas físicas, utilizan sus teléfonos inteligentes para acceder a información adicional como reseñas de productos o precios ofrecidos por otros vendedores, y compran online, la mayoría de las veces al vendedor que ofrece el mejor precio (Rapp et al., 2015; Schneider y Zielke, 2020). De hecho, se encontró que el 60,1% de los compradores usan sus teléfonos inteligentes para buscar las mejores ofertas mientras están en la tienda física (IVend Retail, 2018). El *showrooming* móvil, o *showrooming* asistido por dispositivo móvil, significa que el consumidor visita un establecimiento para evaluar un producto y utiliza un dispositivo móvil para obtener información adicional – y con probabilidad, comprar – mientras está en el establecimiento (Viejo-Fernández et al., 2020; Fiestas y Tuzovic, 2021).

Si bien el *showrooming* mejora la experiencia de compra del consumidor (Sit et al., 2018), también se ha convertido en una amenaza para los minoristas con tiendas físicas, que ven como sus tiendas son utilizadas como meros showrooms, en muchos casos, perdiendo la oportunidad de la venta (Frasquet y Miquel-Romero, 2021; Viejo-Fernández et al., 2020). De acuerdo con un estudio de Forrester Consulting (Shopify, 2022), el 53% de los consumidores reconocen que practicarían el *showrooming*, es decir, visitarían una tienda física para informarse, tras lo cual comprarían online. El mismo estudio revela que para el 46% de los minoristas entrevistados el *showrooming* es su prioridad de inversión en cuanto a la gestión del establecimiento. La percepción del *showrooming* como una amenaza a la rentabilidad de las tiendas físicas ha llevado a algunos minoristas a implementar medidas para evitar dicha práctica en sus establecimientos (Fassnacht et al., 2019; Viejo-Fernández et al., 2020). Sin embargo, a la luz del

crecimiento de este comportamiento que evidencian los datos, "tratar de evitar completamente el *showrooming* es como remar contracorriente" (Neslin, 2022, p. 120).

2.3. Líneas de investigación en comercio móvil

La investigación sobre comercio móvil se enfocó, inicialmente y de manera muy puntual, en conceptualizar el término comercio móvil y diferenciarlo del comercio electrónico, destacando sus implicaciones a nivel de mercado y más específicamente las estrategias de marketing de los distribuidores minoristas (p.ej. Balasubramanian et al., 2002). Considerando la vinculación del *smartphone* con el uso de las nuevas tecnologías, el grueso de la investigación pasó rápidamente a centrarse en analizar los factores que determinan la adopción del teléfono inteligente en los comportamientos de compra, tomando como base modelos teóricos relativos a los determinantes de la aceptación de la tecnología (p.ej. Hubert et al., 2017; Ko et al., 2009; Sujatha y Sekkizhar, 2019), línea de trabajo que sigue captando el interés de los investigadores hoy en día. Entre los modelos teóricos más utilizados para entender la adopción y el uso continuado de los dispositivos móviles en el proceso de compra cabe destacar el Modelo de Aceptación de la Tecnología TAM propuesto por Davis (1989) (p.ej. Chen et al., 2018; Liébana-Cabanillas et al., 2017; Sujatha y Sekkizhar, 2019). Junto al modelo TAM, también se ha considerado el modelo UTAUT (Unified Theory of Acceptance and Use of Technology) (Venkatesh et al., 2003) y el modelo UTAUT2 (Venkatesh et al., 2012), así como modelos más generales ligados al comportamiento del consumidor, tales como la Teoría de la Acción Razonada (TRA) (Fishbein y Ajzen, 1975) y la Teoría del Comportamiento Planificado (TPB) (Ajzen y Fishbein, 1980), entre otros.

El meta-análisis desarrollado por Luceri et al. (2022) revisa los factores antecedentes, variables moderadoras y variables resultado del proceso de compra móvil que se han ido analizando en las últimas dos décadas en el contexto del comportamiento de compra móvil. Este trabajo evidencia que los modelos de aceptación de la tecnología son adecuados para predecir la actitud, adopción y uso del comercio móvil. Por su versatilidad, dichos modelos se han aplicado a distintos contextos, como la banca móvil (Shankar y Jebarajakirthy, 2020; Shareef et al., 2018) o las aplicaciones móviles (McLean et al., 2020), a compradores de distintos países (Goi, 2016; Pandey y Chawla, 2019; Rettie, 2005), o a compras de distinto tipo en función del producto (Sun y Chi, 2019). Con el paso del tiempo, la mayoría de los trabajos han complementado estas propuestas teóricas con la consideración de otras variables antecedentes, como la percepción de privacidad (p.ej.Chen et al., 2013) y han ido incluyendo otras variables resultado más allá de la adopción o el uso continuado del comercio móvil, como la lealtad a la marca

(McLean et al., 2020) o la satisfacción con la experiencia (San-Martín et al., 2015), entre otras. Las conclusiones del meta-análisis de Luceri et al. (2022) señalan la validez de los modelos TAM y UTAUT y confirman la importancia de las motivaciones hedónicas para explicar la adopción y uso del comercio móvil.

Entre las futuras líneas de investigación en comercio móvil con las que concluye el trabajo de Luceri et al. (2022) se apunta el análisis del comportamiento del comprador que utiliza el dispositivo móvil en un proceso de compra omnicanal. Esta tesis doctoral sigue esta reorientación de la investigación en comercio móvil, que pone el foco en el uso del teléfono inteligente durante el comportamiento omnicanal. Además, desarrolla la investigación sobre *showrooming*, que en los últimos años se interesa por comprender las implicaciones del uso del dispositivo móvil en el contexto de este comportamiento.

2.4. Líneas de investigación en showrooming

El comportamiento de *showrooming* es objeto de un reciente interés académico. La investigación sobre este comportamiento de uso combinado de canales, como hemos señalado en párrafos precedentes, surge del estudio del comportamiento de *research shopping* (Neslin, 2022; Verhoef et al., 2007). Bajo este prisma, los trabajos se dedican inicialmente a examinar las diferentes motivaciones de elección de canales online y offline para la etapa de búsqueda de información y de compra (Konuş et al., 2008; Schröder y Zaharia, 2008; Verhoef et al., 2007); esta línea de trabajo posteriormente se amplía para abarcar la etapa de postcompra (De Keyser et al., 2015; Sands et al., 2016), así como el uso de otros canales y dispositivos, por ejemplo, el canal móvil (Frasquet et al., 2015).

Desde esta línea de investigación surgen pronto trabajos que se centran en estudiar la elección y cambio de canal entre la fase de búsqueda de información y la de compra, es decir, *webrooming* y *showrooming* (Flavián et al., 2020; Schneider y Zielke, 2020; Viejo-Fernández et al., 2020). Como señalan Lemon y Verhoef (2016), la utilización de dispositivos móviles afecta profundamente al proceso de compra y merece una atención especial. Si bien algunos trabajos han contemplado cómo el uso del móvil afecta a la práctica del *showrooming* (Dahana et al., 2018; Santos y Gonçalves, 2019), sería conveniente, como indican Viejo-Fernández et al. (2020), que la investigación distinguiera claramente el *showrooming* móvil del *showrooming* tradicional, con el fin de enfocarse en el primer tipo, que actualmente es uno de los principales desafíos para los minoristas (Fiestas y Tuzovic, 2021).

La revisión de la literatura resumida en los párrafos precedentes pone de manifiesto una confluencia de ambas líneas de investigación, la línea sobre comercio móvil que apunta a la investigación de las implicaciones del uso de

dispositivos móviles en un contexto omnicanal, y la línea de investigación del comportamiento de *showrooming*, que dirige su interés al *showrooming* móvil. Es en dicho punto de confluencia donde se desarrolla la contribución de esta tesis doctoral, que comienza investigando el comercio móvil, para continuar ahondando en el comportamiento omnicanal de *showrooming* móvil.

2.5.Objetivos y enfoque de la Tesis Doctoral

El objetivo general de esta Tesis Doctoral es ahondar en el conocimiento sobre el papel del teléfono inteligente en la reconfiguración de los procesos de compra en el contexto omnicanal, abordando su uso como dispositivo de compra y de información, así como su participación en la práctica de *showrooming*. De esta forma, pretendemos contribuir a la investigación en marketing al aportar nuevos conocimientos sobre las variables que definen los nuevos procesos de compra omnicanal, y aportar conclusiones de utilidad para las empresas en cuanto a cómo gestionar el canal móvil y su integración con el punto de venta físico.

De forma más específica, la investigación realizada en el marco de la presente Tesis Doctoral persigue los siguientes objetivos:

- Objetivo específico 1: Explicar la intención de utilizar el comercio móvil en un contexto de país en desarrollo a partir del Modelo de Aceptación de la Tecnología (TAM) ampliado con la Teoría Unificada de Aceptación y Uso de Tecnología (UTAUT2).
- Objetivo específico 2: Explicar la intención de *showrooming* móvil utilizando un modelo UTAUT2 ampliado teniendo en cuenta aspectos específicos del uso del *smartphone*.
- Objetivo específico 3: Conocer en qué medida practicar *showrooming* utilizando el móvil es una estrategia de reducción de incertidumbre y cómo contribuye a la generación de contenido en redes sociales por parte del usuario.

Con la finalidad de alcanzar los objetivos de esta Tesis Doctoral, se plantearon tres trabajos de investigación cuyos resultados se han publicado en revistas indexadas. Este enfoque de compendio de artículos ha permitido difundir a la comunidad científica los resultados alcanzados y contribuir a la mejora de la calidad de la investigación, gracias a los procesos de revisión por pares ligados a las publicaciones.

El primer artículo, **“Explaining mobile commerce usage intention based on technology acceptance models in a developing market context”**, fue publicado en el año 2021 en la revista *Market-Tržište* (JCR Emerging Sources Q4; Scopus Q3). Este artículo es una primera aproximación al tema con el fin de conocer los

factores que afectan al uso del teléfono inteligente para la compra. Así, se pretende explicar la intención de compra online a través de los teléfonos inteligentes, el llamado comercio móvil, a través de un Modelo de Aceptación de la Tecnología (TAM) ampliado según la Teoría Unificada de Aceptación y Uso de la Tecnología (UTAUT2), que integra las variables de facilidad de uso percibida, utilidad percibida, influencia social, condiciones facilitadoras y motivación hedónica.

El segundo artículo, **"Understanding mobile *showrooming* based on a technology acceptance and use model"**, fue publicado en 2021 en la revista *Sustainability* (JCR Q2). Este pretende extender los hallazgos del primer artículo de forma que se utiliza asimismo un modelo basado en UTAUT2, pero se intenta explicar no ya la intención de comercio móvil, sino la intención de *showrooming* como un proceso omnicanal en el que el teléfono inteligente desempeña un rol importante al permitir la consulta de información en línea en la propia tienda física. La propuesta que presenta este artículo es el modelo UTAUT2 ampliado con las variables implicación con la compra y conciencia de valor como impulsores de la intención de *showrooming* móvil, y la dependencia del móvil como variable moderadora.

Finalmente, el tercer artículo con título **"Mobile dependency and uncertainty reduction: influence on *showrooming* behaviours and user-generated content creation"**, fue publicado en mayo de 2022 en la revista *International Journal of Retail and Distribution Management* (JCR Q2; Scopus Q1). Este artículo, al igual que el segundo, tiene como eje central el estudio de la intención de *showrooming* móvil, en este caso a través de un modelo basado en la Teoría de la Acción Razonada (TRA) con apoyo en la Teoría de la Dependencia de los Medios y la Teoría de la Reducción de Incertidumbre, y amplía la secuencia de relaciones al comportamiento post-compra de creación de contenido en redes sociales. El objetivo de este trabajo es identificar, más allá de la motivación de obtener el mejor valor, el papel de la dependencia del móvil y las estrategias de reducción de la incertidumbre en la práctica del *showrooming* y su relación con la creación de contenido por el usuario. Este estudio es novedoso por analizar la dependencia del móvil en la práctica del *showrooming* móvil y por contemplar la etapa posterior a la compra, en concreto, la creación de contenido generado por el usuario, en dos categorías de productos, ropa-calzado y electrónica.

3. Metodología de investigación

En el primer artículo, los datos utilizados para testar las hipótesis propuestas provenían de 169 encuestas online válidas, contestadas por estudiantes de grado y postgrado de una universidad de Ecuador entre junio y julio de 2019; para ello, se empleó un muestreo de conveniencia. Este colectivo fue considerado relevante para los propósitos del trabajo porque en Ecuador los jóvenes son el colectivo con mayor tasa de posesión de teléfonos inteligentes, y concretamente los estudiantes los que mayor uso de Internet hacen (INEC, 2018).

Para el segundo y tercer artículo, los datos se recopilaron a través de una encuesta online administrada por un instituto de investigación de mercados en España. La muestra quedó constituida por 659 individuos mayores de 18 años que, en el último año, habían comprado un producto online, de moda o electrónica, a través del teléfono móvil después de haber visitado una tienda física para saber algo del producto o inspeccionarlo. Se buscó que en la muestra hubiera una representación equitativa de la compra de ambas categorías de productos, y que el perfil de los encuestados cumpliera unas cuotas concretas de edad, género, y nivel de estudios, para ser representativa del colectivo objeto de interés. En este caso el trabajo de campo se llevó a cabo en junio de 2021.

Las escalas que conformaron ambos cuestionarios provenían de la literatura revisada, siendo necesario en algunos casos su adaptación al contexto de estudio. Todas las escalas eran multi-item, tipo Likert de 7 puntos. Por ello, la forma de proceder en el análisis de los datos fue la misma en los tres estudios. En primer lugar, se comprobaron las propiedades psicométricas de las escalas de medida a través de un análisis factorial confirmatorio, para después testar las hipótesis de trabajo. En los tres estudios, para testar el modelo de medida, así como el modelo teórico propuesto en cada caso, se aplicó el modelo de mínimos cuadrados parciales PLS-SEM. Esta metodología se consideró adecuada porque permite estimar un modelo con varios constructos sin exigir ningún supuesto de distribución de los datos, y por el enfoque causal-predictivo adoptado en las tres propuestas de estudio.

4. Principales resultados y conclusiones

Al inicio de este documento se ha resaltado que, durante la última década, las mejoras tecnológicas y la popularización del uso de teléfonos inteligentes o *smartphones* han propiciado un fuerte crecimiento del comercio electrónico a través de dispositivos móviles (comercio móvil), conformando así un nuevo canal, el canal móvil. En la medida en que las empresas integran sus canales y

puntos de contacto físicos y digitales, los compradores pueden desarrollar procesos de compra omnicanal; de esta forma, pueden pasar de un canal a otro en etapas sucesivas como la búsqueda y la compra, o incluso utilizar varios canales en la misma etapa del proceso, como ocurriría con el *showrooming* móvil, donde el consumidor típicamente se informaría en una tienda física y en dicho entorno utiliza el móvil para ampliar información y comprar a través de un canal online.

En el contexto de esta Tesis Doctoral, con el objetivo de contribuir a la comprensión de los procesos de compra en el contexto omnicanal que implican la utilización del *smartphone*, se han desarrollado dos encuestas a consumidores online cuyo análisis ha dado lugar a tres artículos publicados en revistas indexadas con tres objetivos específicos.

A continuación, exponemos las conclusiones y contribuciones al avance del conocimiento de marketing sobre los nuevos procesos de compra omnicanal, a partir de cada uno de los tres objetivos específicos identificados.

- **Objetivo específico 1. Explicar la intención de utilizar el comercio móvil en un contexto de país en desarrollo a partir del Modelo de Aceptación de la Tecnología (TAM) ampliado con la Teoría Unificada de Aceptación y Uso de Tecnología (UTAUT2).**

Los modelos teóricos que tratan de explicar la aceptación de la tecnología han sido considerados para justificar la adopción y el uso continuado del comercio móvil sobre todo en países desarrollados. A través de la investigación realizada en la primera publicación vinculada a esta Tesis Doctoral hemos evidenciado que las variables consideradas por dichos modelos no necesariamente juegan un papel determinante en la intención de utilizar el comercio móvil cuando nos referimos a un país en desarrollo. El modelo propuesto es testado con datos de usuarios de comercio móvil en Ecuador, por ser este un mercado caracterizado por tener, de manera comparativa, una menor penetración del comercio móvil pero una mayor tasa de crecimiento, lo que resulta idóneo para la aplicación de un modelo de adopción de tecnología. En dicho contexto, nuestra investigación revela que aunque las variables ligadas al modelo UTAUT2 (Venkatesh et al., 2012) resultan significativas a la hora de explicar la intención de utilizar el comercio móvil, no se puede afirmar lo mismo con respecto a los aspectos sugeridos por el modelo TAM (Davis, 1989).

Para el caso específico del comercio móvil en Ecuador, ni la facilidad de uso del móvil para realizar las compras online, ni la utilidad percibida de dicho uso están relacionadas con la intención de llevar a cabo compras a través del móvil. Aunque

estos resultados puedan parecer sorprendentes, es posible encontrar en la literatura trabajos donde dichas relaciones tampoco resultaron ser significativas (p.ej. Chong, 2013; Chong et al., 2012). La razón que se puede apuntar para justificar estos resultados se vincula a la alta tasa de penetración y uso de los *smartphones* entre el segmento joven de la población de dicho país. El hecho de que sea un dispositivo ampliamente utilizado, por ejemplo, para acceder a las redes sociales o para la comunicación por mensajería, lo convierte en un instrumento habitual cuya utilidad y facilidad de uso queda fuera de toda duda. Por ello, aunque el comercio móvil esté ahora en plena expansión en Ecuador, el uso del teléfono inteligente con utilidades tecnológicamente avanzadas es ya una realidad, no ejerciendo ni la facilidad de uso ni la utilidad percibida del dispositivo un papel significativo en la intención de comprar a través del canal móvil.

Por el contrario, las variables adicionales sugeridas por el modelo UTAUT2 sí que determinan la intención de comercio móvil. El factor más determinante en dicha intención ha resultado ser la motivación hedónica, tal y como ya se había resaltado en investigaciones previas en mercados en desarrollo (p.ej. Madan y Yadav, 2018; Verkijika, 2018). También las condiciones facilitadoras juegan un papel determinante, lo que evidencia el rol que el desarrollo tecnológico y su implementación por parte del distribuidor minorista juegan en la intención del individuo de llevar a cabo compras a través del móvil. Aunque menor, también es significativa la relación entre la influencia social, es decir, los amigos, familiares y en general el contexto social del individuo, y su intención de comprar a través del móvil, relación ya evidenciada en trabajos previos en mercados similares (p.ej. Verkijika, 2018; Wei et al., 2009; Yadav et al., 2016).

Considerando la importancia del conjunto de las variables contempladas en los modelos teóricos utilizados, TAM y UTAUT2, se puede concluir que la compra a través del móvil en el mercado estudiado está más vinculada con el entretenimiento y la diversión que con aspectos propiamente funcionales ligados a la utilidad del dispositivo en sí mismo.

- **Objetivo específico 2. Explicar la intención de *showrooming* móvil utilizando un modelo UTAUT2 ampliado teniendo en cuenta aspectos específicos del uso del *smartphone*.**

El modelo UTAUT2 fue propuesto por Venkatesh et al. (2012) como una mejora del modelo TAM para predecir la aceptación y uso de la tecnología a partir de siete variables: las expectativas de resultado, las expectativas de esfuerzo, la influencia social, las condiciones facilitadoras, la motivación hedónica, el precio/valor y el hábito. Si bien el estudio de dichas variables se puede aplicar a

distintos contextos ligados a la tecnología, como es el comportamiento de *showrooming* a través del móvil, los propios autores plantean la necesidad de adaptar su propuesta según el contexto de análisis. Por ello, la segunda publicación que integra esta Tesis Doctoral contribuye académicamente a la literatura existente hasta el momento al adaptar el modelo UTAUT2 al contexto del *showrooming* móvil, ya que se incluyen variables referentes a este contexto de compra como son la implicación con la compra, la conciencia de valor y la dependencia del dispositivo móvil.

La investigación, esta vez realizada sobre compradores omnicanal en España, evidencia que tres de las variables vinculadas directamente al modelo UTAUT2 no influyen en la intención de realizar *showrooming* móvil. Así, ni la expectativa de resultado, ni la expectativa de esfuerzo, ni las condiciones facilitadoras resultan ser significativas sobre la variable de estudio, la intención de realizar *showrooming* móvil. Probablemente el hecho de que el comprador esté familiarizado con el dispositivo determina que los aspectos más utilitarios del teléfono móvil se den por seguros, no influyendo en la intencionalidad de *showrooming* móvil del usuario. Los resultados son consistentes con investigaciones previas ligadas a la utilidad del modelo UTAUT2 para explicar comportamientos ligados al uso de la tecnología, tanto en lo relativo a las variables que han resultado ser significativas – motivación hedónica e influencia social (p.ej. Chong et al., 2012; Madan y Yadav, 2018; Shaw y Sergueeva, 2019), como para las que no lo han sido (p.ej. Cabrera-Sánchez y Villarejo-Ramos, 2020; Oliveira et al., 2016; Verkijika, 2018).

En relación a las variables que amplían la propuesta del modelo UTAUT2, la variable conciencia de valor ejerce un fuerte impacto positivo en la intención del *showrooming* móvil. Se puede considerar que los individuos con una alta conciencia de valor son "compradores inteligentes" (*smart shoppers*) (Delgado-Ballester et al., 2014), que invierten mucho esfuerzo en el proceso de compra (Camoiras-Rodriguez y Varela, 2020) y desean asumir el menor riesgo (Wang et al., 2018), lo que les impulsa a visitar la tienda para conseguir más información y acaban comprando online para conseguir el mejor ratio coste-beneficio. De hecho, esta idea argumenta también la relevancia que la implicación con la compra juega en la intención de realizar *showrooming* móvil. Aquellos más implicados con la compra invierten más esfuerzo en el proceso de compra, especialmente en la fase de búsqueda de información (Bloch et al., 1986), lo que les conduce a combinar canales en aras a sentirse "compradores inteligentes" (Flavián et al., 2020), llevando a una mayor intención de hacer *showrooming* móvil.

Sorprendentemente, aunque se constata que la dependencia que tenga el individuo respecto del móvil modera el impacto de la conciencia de valor en la intención

de *showrooming* móvil, dicho papel moderador tiene un signo distinto al esperado, tal y como también sucedió en el trabajo de Shaw y Kesharwani (2019). Los análisis realizados evidencian que la relación entre la conciencia de valor y la intención de *showrooming* móvil es menor cuanto mayor es la dependencia del móvil. Este resultado se podría interpretar considerando que es dicha dependencia del móvil, y no en este caso el interés por conseguir un buen ratio coste-beneficio, lo que favorece que se tenga intención de hacer *showrooming* móvil.

- **Objetivo específico 3. Conocer en qué medida practicar *showrooming* utilizando el móvil es una estrategia de reducción de incertidumbre y cómo contribuye a la generación de contenido en redes sociales por parte del usuario.**

Los pocos trabajos existentes centrados en conocer los determinantes de la intención de hacer *showrooming* utilizando un dispositivo móvil, se han desarrollado a partir de modelos de aceptación y uso de la tecnología. Sin embargo, es ya evidente que el *smartphone* es un dispositivo cotidiano para la mayoría de la población, por lo que su uso ya no se consideraría un reto para dicho colectivo; de hecho, el 96,6% de los usuarios de Internet de todo el mundo disponen de un *smartphone* (We are social y Hootsuite, 2021). Entre las acciones que se llevan a cabo a través del móvil, merece especial atención para las empresas la visita a las redes sociales y más concretamente la generación de contenido a partir de sus experiencias de compra (Roma y Aloini, 2019; Singh y Chakrabarti, 2021). Dicho contenido es, sin duda, muy valioso para otros usuarios, ya que les ayuda a reducir el riesgo de compra, especialmente cuando se trata de una compra online, y aún más si la calidad del producto solo se puede constatar con la inspección física del mismo (Dahana et al., 2018). Teniendo en cuenta que el *showrooming* es en sí mismo también una estrategia de reducción de riesgo (Gensler et al., 2017), combinar las teorías de Dependencia de los Medios (Ball-Rokeach y DeFleur, 1976) y de Reducción de Incertidumbre (Berger y Calabrese, 1975) parece una opción adecuada para analizar y entender mejor el *showrooming* móvil.

Con respaldo en la teoría de la Dependencia de los Medios (Ball-Rokeach y DeFleur, 1976) se constata que los usuarios con mayor dependencia del móvil tienen actitudes más positivas hacia la práctica de *showrooming* móvil y generan más contenido en Internet sobre sus experiencias de compra. Sin embargo, esa mayor dependencia no disminuye el riesgo psicológico asociado a comprar online a través del dispositivo. Hablar de dependencia del móvil implica asumir cierta

falta de control en el uso del *smartphone* por parte del individuo (Haslam, 2016), lo que justificaría la falta de significatividad de dicha relación.

De forma similar, la teoría de la Reducción de Incertidumbre (Berger y Calabrese, 1975) permite entender el *showrooming* como una estrategia de reducción de incertidumbre con el propósito de obtener el mejor valor por el dinero pagado. En línea con trabajos previos (Rodríguez-Torrico et al., 2017), la necesidad de tocar del individuo influye enormemente en su actitud hacia el *showrooming* móvil, como también lo hace su conciencia de valor. Estos resultados dan soporte a los argumentos de Gensler et al. (2017) y Fiestas y Tuzovic (2021), quienes sugieren que el *showrooming* no solo es una práctica para conseguir el precio más bajo, sino también un producto de mayor calidad.

En el ámbito genérico del comportamiento del consumidor, la Teoría de la Acción Razonada (Fishbein y Ajzen, 1975) propone que las actitudes son buenas predictoras del comportamiento, y dicha relación queda manifiesta en este trabajo: una mejor actitud hacia el *showrooming* móvil incrementa la intención de hacer *showrooming* móvil. De igual forma se evidencia que el riesgo psicológico de comprar a través del móvil influye negativamente en la actitud hacia el *showrooming* móvil, tal y como Dahana et al. (2018) ya constataron a nivel de *showrooming* en general.

Una contribución importante de esta investigación es el estudio de la relación del *showrooming* móvil con fases posteriores a la compra, aspecto no abordado en la literatura académica. Según los datos obtenidos, aquellos individuos que tienen mayor intención de hacer *showrooming* móvil, también están más dispuestos a generar contenido vinculado a su experiencia de compra en redes sociales, conclusión similar a la obtenida por Kang (2018, 2019) en el contexto de *showrooming* en general.

También es destacable la contribución de este trabajo a nivel de generalización de los resultados, al analizar las relaciones propuestas en dos categorías de producto, ropa-calzado y electrónica de consumo. Se constata, de hecho, que la categoría de producto es un aspecto que puede condicionar las relaciones entre algunas variables. Así, la influencia positiva de la dependencia del móvil sobre la generación de contenido por parte del usuario, y la del riesgo psicológico asociado al uso del móvil en la compra sobre la actitud hacia el *showrooming* móvil es significativa en ambos casos cuando el producto a adquirir es ropa-calzado, no siendo significativa para el caso de electrónica de consumo. Esta diferencia en los resultados en función de la categoría de producto no es de extrañar, si atendemos a los resultados de algunos estudios sobre *showrooming* (Heitz-Spahn, 2013; Gensler et al., 2017), que observaron que la categoría de producto influye en los

canales que se utilizan para la etapa de información y la de compra. La propia naturaleza del producto y la evaluación más objetiva que permiten los productos de electrónica de consumo serían dos de los motivos que se podrían apuntar para justificar tal diferencia.

5. Implicaciones de gestión más relevantes

Los resultados previamente presentados no son solo útiles a nivel académico por el avance en el conocimiento de los hechos estudiados, sino también porque permiten proponer líneas de acción concretas a las empresas vinculadas con el contexto estudiado.

Así, si nos centramos en el ámbito del comercio móvil y su uso en países en desarrollo, como puede ser Ecuador (primer objetivo específico), son varias las sugerencias que la empresa debe considerar en aras a que este nuevo canal le ayude a conseguir el beneficio buscado.

Dado que la motivación hedónica es un aspecto determinante en la intención de utilizar el comercio móvil en dichos mercados, pero también lo son las condiciones facilitadoras, los responsables de marketing online de las empresas que venden al consumidor final deberían considerar de manera especial el diseño de las interfaces de sus plataformas móviles. Hacer uso del humor u ofrecer juegos online ligados a la marca probablemente favorecería el comercio móvil, ya que el individuo asocia el uso del dispositivo móvil con el disfrute. Sin embargo, igual de importante sería la interacción con una plataforma amigable, por lo que un texto fácil de leer, una imagen precisa y clara de los productos ofertados o una descarga rápida de las imágenes serían, entre otros, aspectos que el responsable de la empresa no debería descuidar.

Asimismo, los directivos deberían considerar que la influencia social juega un papel claro sobre la intención de llevar cabo compras online a través del móvil y si se quiere aumentar las compras a través de este dispositivo se podría, por ejemplo, mostrar en sus medios de comunicación ese contexto social del potencial comprador, rodeado de amigos y familiares, interactuando con el móvil para realizar en último término una compra online satisfactoria. De la misma forma, a través de descuentos o promociones se podría fomentar la recomendación de la compra de productos online, animando igualmente a los individuos a compartir sus experiencias de compra móvil en redes sociales, no solo a través de imágenes, sino también de comentarios publicando reseñas.

Si nos centramos en el ámbito más específico de estudio de esta Tesis Doctoral, el *showrooming* móvil en el contexto de países desarrollados (segundo y tercer objetivos específicos), son también varias las acciones que el minorista podría implementar para gestionar el impacto de los *showroomers* que visitan su establecimiento físico, tendentes a capturar la compra de dichos individuos.

Teniendo en cuenta la gran penetración y uso de los teléfonos inteligentes, los minoristas deberían abrirse a la práctica omnicanal y dar prioridad al canal de compra móvil, incluidas las aplicaciones móviles. Dado que el *showroomer* visita el establecimiento físico del minorista, este no debería desaprovechar la oportunidad que representa un potencial cliente y debería tratar de conseguir que el individuo le compre, ya sea en su tienda o a través de su canal online. Una buena integración de los distintos canales del minorista, para que el individuo pueda pasar de uno a otro sin problemas durante su vista al establecimiento, ayudaría a reducir las probabilidades de *showrooming* competitivo en favor del *showrooming* leal. Ofrecer canales móviles que generen confianza, y aplicaciones web bien construidas y amigables, mejoraría la experiencia del consumidor durante su visita al punto de venta, especialmente para aquellos con mayor dependencia del *smartphone*.

Tomando de nuevo en consideración la motivación hedónica que hay detrás del *showrooming* móvil, al igual que ocurría en el caso del comercio móvil en general, los minoristas deberían de fomentar la diversión y el entretenimiento a través de sus puntos de contacto móviles. De igual forma, deberían dar al móvil un papel relevante vinculado al punto de venta físico; el uso de códigos QR para conseguir más información del producto, tecnologías basadas en la localización (como los *i-beacons*) o elementos de realidad virtual accesibles con el móvil enriquecerían la experiencia del comprador, que busca el disfrute al usar su dispositivo móvil. Ofrecer a los *showroomers* comunicaciones personalizadas a través de sus teléfonos inteligentes durante su visita a la tienda, o proponerles acciones de venta cruzada cuando muestren interés por algún producto podría ayudar a favorecer la compra en el punto de venta, evitando que dichos *showroomers* terminen comprando a un competidor.

También la influencia social sobre el *showrooming* móvil sería un aspecto que los minoristas podrían aprovechar; disponer de pantallas en el punto de venta que permitan dar a conocer a los visitantes cuánta gente ha comprado cierto producto, cómo este es valorado, o qué comentarios ha generado en las redes sociales, podría motivar a los *showroomers* a comprar en ese momento en la tienda. Por ello, fomentar que se comparta la experiencia de compra y uso del producto en redes sociales pasa a ser algo relevante, especialmente para el caso de productos de electrónica de consumo, lo que se podría favorecer con acciones específicas de

promoción de ventas. De nuevo, una buena integración de los distintos canales del minorista será, por tanto, condición necesaria para este propósito.

El papel de los empleados cobra especial importancia para los *showroomers* con alta conciencia de valor, por lo que la formación adecuada para tratar con los nuevos clientes omnicanal se convierte en una prioridad. Saber identificar a estos individuos y satisfacer sus necesidades de información, no solo en relación a los productos del minorista en cuestión sino también en relación a la oferta de la competencia podría ayudar a finalizar el proceso de compra en el establecimiento. Para este perfil de compradores, que los precios del minorista sean similares no solo en sus distintos canales sino también respecto a los de sus competidores, será un aspecto clave. Si no fuera posible, ofrecer promociones conjuntas ayudaría a no permitir una comparación de precios tan clara, lo que obligaría al *showroomer* a fijarse más en el valor de la oferta que en la cuestión puramente monetaria. Teniendo en cuenta que no es solo el precio más bajo lo que busca el comprador con alta conciencia de valor, una táctica interesante sería ofrecer un producto distinto al que el consumidor inicialmente estaba buscando, que ofrezca una mejor relación calidad-precio, y que rompa con la comparación directa con el vendedor online competidor.

No menos importante es el papel del personal de ventas a la hora de interactuar con compradores que están altamente implicados con la compra. Acompañarlos en todo el proceso de búsqueda de información de manera profesional, ayudándoles a conseguir esa sensación de comprador inteligente, e incluso animarlos a visitar la app o la web del minorista podría conseguir que el minorista visitado fuera el seleccionado para comprar el producto, ya fuera online o físicamente.

Asimismo, contribuirá a reducir el impacto negativo del *showrooming* una atmósfera de la tienda que muestre de forma atractiva y eficiente una buena variedad y disposición de los productos, para que estos estén accesibles a aquellos que necesitan verlos y tocarlos. Sería aconsejable que los vendedores consideren al *showroomer* como un comprador potencial, y no simplemente como alguien que ha acudido a la tienda para inspeccionar el producto con la intención premeditada de comprar con su móvil a otro vendedor. Por ello, que el propio empleado anime al comprador a inspeccionar el producto y le ofrezca además información adicional puede ser un valor añadido que motive al *showroomer* a seleccionar al minorista visitado para llevar a cabo la compra.

En el caso concreto de la compra de ropa, es especialmente importante que el personal de la tienda asista al *showroomer* en dicho proceso, o bien que el propio canal móvil ofrezca ayuda directa, dado que el riesgo percibido es un factor

determinante en la intención de hacer *showrooming* móvil en esta categoría de producto. Por ello, asegurar la devolución o el cambio del producto puede ser también una buena táctica a implementar para reducir dicho riesgo.

6. Limitaciones de los estudios realizados

La elaboración de esta tesis doctoral no está exenta de limitaciones, algunas de las cuales pueden sugerir futuras líneas de investigación.

En lo que hace referencia al primer estudio, vinculado al análisis de los determinantes de la adopción del comercio móvil por parte de los individuos en un contexto de país en desarrollo, tan solo los estudiantes universitarios de Ecuador fueron considerados. Ello plantea dos limitaciones claras ligadas a la muestra del primer estudio de esta Tesis Doctoral. Por un lado, aunque en Ecuador la compra móvil está en sus etapas iniciales y se le augura un gran potencial de crecimiento, situación ejemplar de un contexto de país en desarrollo, limitar la recogida de datos a un único país no permite recoger la heterogeneidad de los países en desarrollo. Por otro lado, el perfil de la muestra integrada por estudiantes universitarios se aproximaría al perfil del usuario de *smartphone* en Ecuador: joven y con estudios; sin embargo, restringir la captación de la muestra de conveniencia al ámbito universitario limita la generalización de los resultados a otros colectivos del mismo mercado. Asimismo, sin menoscabo de la utilidad del Modelo de Aceptación de la Tecnología utilizado para explicar la intención de comercio móvil, se podrían haber incluido en el mismo variables moderadoras en algunas de las relaciones contempladas.

Las limitaciones vinculadas al segundo y tercer estudio provienen de ámbitos distintos. Por un lado, si bien el estudio del comportamiento de *showrooming* móvil para dos categorías de producto, ropa-calzado y electrónica de consumo, permite establecer matices entre las relaciones analizadas, este enfoque limitado en cuanto al número de categorías no permitiría la generalización para cualquier producto a comprar. La selección de una muestra de *showroomers* permitió analizar con fiabilidad las motivaciones de este colectivo; no obstante, impone limitaciones al excluir a los consumidores que no tienen ninguna experiencia en *showrooming*. Las limitaciones vinculadas a la omisión de potenciales variables explicativas, siempre presentes en cualquier investigación a través de encuesta, por evitar alargar la duración del cuestionario, también son evidentes en esta investigación. En efecto, no se consideró el posible efecto de la calidad de servicio en el punto de venta, ni otros posibles factores de la experiencia en la tienda que podrían motivar la decisión de *showrooming*, como serían la falta de

disponibilidad del producto o encontrar demasiada gente en el punto de venta. En cuanto al comportamiento objeto de estudio, el *showrooming* en un estudio y el *showrooming* móvil en otro, no se contempló la experiencia previa o hábito en cuanto a este comportamiento y cómo esto podría afectar a la influencia de las variables explicativas.

7. Futuras líneas de investigación

Algunas de las limitaciones observadas sugieren oportunidades de investigación futura en el ámbito del uso del *smartphone* para la compra, respecto al comercio móvil y al *showrooming*.

El comercio móvil se encuentra en fase de crecimiento en los países en desarrollo, siendo las condiciones del contexto muy diferentes respecto a las de los países desarrollados; en estos últimos, el avance ha sido más progresivo, pasando por una fase inicial de trasvase del comercio a través de ordenador al comercio móvil, mientras que en los países en desarrollo el comercio móvil supone el despegue del comercio electrónico, puesto que el uso del *smartphone* está ya muy extendido entre la población. Así pues, es necesario seguir investigando en los procesos de compra que implican el uso del *smartphone* en los países en desarrollo, con cautela en cuanto a la traslación directa de los modelos ya contrastados en países desarrollados, y adoptando perspectivas que permitan la atención de las distintas condiciones del contexto. La consideración de variables referentes a la confianza en el establecimiento o la confianza en las marcas presenta oportunidades de investigación por el papel más relevante que están adquiriendo las estrategias de marca en las empresas minoristas.

En relación al *showrooming*, esta Tesis Doctoral ha considerado el comportamiento de *showrooming* en dos categorías de producto, como ejemplo de bienes de búsqueda y bienes de experiencia. Puesto que la estimación de los modelos permite apreciar diferencias en cuanto a las dos categorías observadas, podemos apuntar la necesidad de seguir ampliando la variedad de categorías de producto distintas a las contempladas y estudiar las posibles diferencias en cuanto al *showrooming*. Ello permitiría enriquecer la base conceptual del comportamiento omnicanal, así como proveer conclusiones de interés para los minoristas con surtido especializado o por secciones.

El estudio del comportamiento de *showrooming*, particularmente cuando el *smartphone* está implicado, es un campo todavía emergente que es necesario explorar por el reto que supone para la pervivencia de los minoristas basados en tiendas físicas. En cuanto a las oportunidades de investigación futura, derivadas

de la limitación ligada a las variables contempladas o su medición, proponemos de forma prioritaria las siguientes.

En cuanto a la medición u observación del comportamiento de *showrooming*, futuras investigaciones podrían contemplar el uso de otras aproximaciones, que no descarten métodos exploratorios como la investigación cualitativa ligada a la observación. Asimismo, la recogida de datos a través de métodos experimentales permitiría combatir las limitaciones basadas en la encuesta, centradas en el recuerdo del comportamiento, y ampliar el espectro de las variables situacionales referentes al punto de venta al poder manipular las mismas en el marco del diseño experimental. Por otro lado, sería necesario contemplar la experiencia y la frecuencia en la práctica del *showrooming* y cómo esto impacta en el efecto de los determinantes situacionales y psicográficos del *showrooming*. Finalmente, y también en relación con el propio comportamiento de *showrooming*, resultaría interesante analizar el efecto de la intencionalidad en la conducta de los compradores, pues se puede intuir que algunos compradores visitan un establecimiento con una intención clara de utilizarlo como *showroom*, mientras que otros lo pueden visitar sin dicha intención y finalmente tomar la decisión de comprar online en vez de hacerlo en la tienda.

En cuanto a variables explicativas del *showrooming* que sería interesante analizar en investigaciones futuras, los resultados obtenidos en esta Tesis Doctoral permiten apuntar las siguientes líneas de investigación. El efecto de la dependencia del dispositivo obtuvo resultados que es necesario seguir investigando, tal vez de forma conjunta a diversos usos que se le puede dar al *smartphone* en el punto de venta. El comportamiento de *showrooming* se ha asociado en la investigación previa a la obtención de un ahorro en precio. No obstante, nuestros resultados apuntan que la obtención de un mejor valor o ratio calidad-precio sería un factor relevante. Es necesario, pues, seguir investigando sobre la influencia del precio y de la calidad en la decisión de *showrooming*, para obtener resultados que aporten luz sobre qué aspectos debe priorizar el minorista en tienda física, si el precio, la amplitud del surtido o la calidad del servicio. En este sentido, también se sugiere estudiar cómo el minorista puede mejorar la experiencia de compra en el establecimiento con el fin de gestionar el reto del *showrooming*; las investigaciones futuras podrían analizar la efectividad de ofrecer un surtido único y atractivo, una atención de calidad, así como una integración efectiva de los canales online y offline.

8. Referencias bibliográficas

Ajzen, I. y Fishbein, M. (1980), "Understanding attitudes and predicting social behaviour", *Prentice-Hall*, Englewood Cliffs, NJ.

AlFahl, H. (2018), "Mobile commerce adoption", *In Mobile Commerce: Concepts, Methodologies, Tools, and Applications*, IGI Global, PA, pp. 820–848.

Balasubramanian, S., Peterson, R.A. y Jarvenpaa, S.L. (2002), "Exploring the implications of M-commerce for markets and marketing", *Journal of the Academy of Marketing Science*, Vol. 30 No. 4, pp. 348–361.

Ball-Rokeach, S.J. y DeFleur, M.L. (1976), "A dependency model of mass-media effects.", *Communication Research*, Vol. 3 No. 1, pp. 3–21.

Berger, C.R. y Calabrese, R.J. (1975), "Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication", *Human Communication Research*, Vol. 1 No. 2, pp. 99–112.

Bloch, P.H., Sherrell, D.L. y Ridgway, N.M. (1986), "Consumer Search: An extended framework", *Journal of Consumer Research*, Vol. 13 No. 1, p. 119.

Brynjolfsson, E., Hu, Y.J. y Rahman, M.S. (2013), "Competing in the age of omnichannel retailing", *MIT Sloan Management Review*, Vol. 54 No. 4, pp. 23–29.

Cabrera-Sánchez, J.P. y Villarejo-Ramos, Á.F. (2020), "Acceptance and use of big data techniques in services companies", *Journal of Retailing and Consumer Services*, Vol. 52, p. 101888.

Camoiras-Rodriguez, Z. y Varela, C. (2020), "The influence of consumer personality traits on mobile shopping intention", *Spanish Journal of Marketing*, Vol. 24 No. 3, pp. 331–353.

Chen, J.Q., Zhang, R. y Lee, J. (2013), "A Cross-Culture Empirical Study of M-commerce Privacy Concerns", *Journal of Internet Commerce*, Vol. 12 No. 4, pp. 348–364.

Chen, Y.M., Hsu, T.H. y Lu, Y.J. (2018), "Impact of fl ow on mobile shopping intention", *Journal of Retailing and Consumer Services*, Vol. 41, pp. 281–287.

Chong, A.Y.L. (2013), "A two-staged SEM-neural network approach for understanding and predicting the determinants of m-commerce adoption", *Expert Systems with Applications*, Vol. 40 No. 4, pp. 1240–1247.

Chong, A.Y.L., Chan, F.T.S. y Ooi, K.B. (2012), "Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia", *Decision Support Systems*, Vol. 53 No. 1, pp. 34–43.

Dahana, W.D., Shin, H.J. y Katsumata, S. (2018), "Influence of individual characteristics on whether and how much consumers engage in showrooming behavior", *Electronic Commerce Research*, Springer US, Vol. 18 No. 4, pp. 665–692.

Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, pp. 319–340.

Delgado-Ballester, E., Hernandez-Espallardo, M. y Rodriguez-Orejuela, A. (2014), "Store image influences in consumers' perceptions of store brands: The moderating role of value consciousness", *European Journal of Marketing*, Vol. 48 No. 9, pp. 1850–1869.

eMarketer. (2022), "Global Ecommerce Forecast 2022".

Fassnacht, M., Beatty, S.E. y Szajna, M. (2019), "Combating the negative effects of showrooming: Successful salesperson tactics for converting showroomers into buyers", *Journal of Business Research*, Vol. 102, pp. 131–139.

Fiestas, J.C. y Tuzovic, S. (2021), "Mobile-assisted showroomers: Understanding their purchase journey and personalities", *Journal of Retailing and Consumer Services*, Vol. 58, p. 102280.

Fishbein, M. y Ajzen, I. (1975), *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*, Reading, MA: Addison-Wesley.

Flavián, C., Gurrea, R. y Orús, C. (2020), "Combining channels to make smart purchases: The role of webrooming and showrooming", *Journal of Retailing and Consumer Services*, Vol. 52, p. 101923.

Frasquet, M. y Miquel-Romero, M.-J. (2021), "Competitive (versus loyal) showrooming: An application of the push-pull-mooring framework", *Journal of Retailing and Consumer Services*, Vol. 62, p. 102639.

Frasquet, M., Mollá, A. y Ruiz, E. (2015), "Identifying patterns in channel usage across the search, purchase and post-sales stages of shopping", *Electronic Commerce Research and Applications*, Vol. 14 No. 6, pp. 654–665.

Fuentes, C., Bäckström, K. y Svingstedt, A. (2017), "Smartphones and the reconfiguration of retailscapes: Stores, shopping, and digitalization", *Journal of Retailing and Consumer Services*, Vol. 39, pp. 270–278.

Gensler, S., Neslin, S.A. y Verhoef, P.C. (2017), "The showrooming phenomenon: It's more than just about price", *Journal of Interactive Marketing*, Vol. 38, pp. 29–43.

Goi, C.L. (2016), "M-commerce: perception of consumers in Malaysia", *Journal of Internet Banking and Commerce*, Vol. 21 No. Special Issue 5.

Haslam, N. (2016), "Concept Creep: Psychology's expanding concepts of harm

and pathology", *Psychological Inquiry*, Vol. 27 No. 1, pp. 1–17.

Heitz-spahn, S. (2013), "Cross-channel free-riding consumer behavior in a multichannel environment : An investigation of shopping motives , sociodemographics and product categories", *Journal of Retailing and Consumer Services*, Vol. 20 No. 6, pp. 570–578.

Holmes, A., Byrne, A. y Rowley, J. (2014), "Mobile shopping behaviour: Insights into attitudes, shopping process involvement and location", *International Journal of Retail and Distribution Management*, Vol. 42 No. 1, pp. 25–39.

Hubert, M., Blut, M., Brock, C., Backhaus, C. y Eberhardt, T. (2017), "Acceptance of smartphone-based mobile shopping: mobile benefits, customer characteristics, perceived risks, and the impact of application context", *Psychology and Marketing*, Vol. 34 No. 2, pp. 175–194.

INE. (2021), "Encuesta sobre equipamiento y uso de tecnologías de información y comunicación en los hogares", Vol. 5 No. 1, pp. 1–20.

INEC. (2018), "Instituto nacional de estadisticas y censos", available at: https://www.ecuadorencifras.gob.ec/tecnologias-de-la-informacion-y-comunicacion-tic/.

IVend Retail. (2018), *Global Path to Purchase Report*, available at: https://support.ivend.com/userportal?id=doc_view&%0Adoc=KB0011242 (accessed on 4 May 2021).

Kang, J.Y.M. (2018), "Showrooming, webrooming, and user-generated content creation in the omnichannel era", *Journal of Internet Commerce*, Vol. 17 No. 2, pp. 145–169.

Kang, J.Y.M. (2019), "What drives omnichannel shopping behaviors?: Fashion lifestyle of social-local-mobile consumers", *Journal of Fashion Marketing and Management*, Vol. 23 No. 2, pp. 224–238.

De Keyser, A., Schepers, J. y Konuş, U. (2015), "Multichannel customer segmentation: Does the after-sales channel matter? A replication and extension", *International Journal of Research in Marketing*, Vol. 32 No. 4, pp. 453–456.

Kim, J. y Hahn, K.H.Y. (2015), "The effects of self-monitoring tendency on young adult consumers' mobile dependency", *Computers in Human Behavior*, Vol. 50 No. 1, pp. 169–176.

Ko, E., Kim, E.Y. y Lee, E.K. (2009), "Modeling consumer adoption of mobile shopping for fashion products in Korea", *Psychology & Marketing*, Vol. 26 No. 7, pp. 669–687.

Konuş, U., Verhoef, P.C. y Neslin, S.A. (2008), "Multichannel shopper segments and their covariates", *Journal of Retailing*, Vol. 84 No. 4, pp. 398–413.

Lamberton, C. y Stephen, A.T. (2016), "A thematic exploration of digital, social media, and mobile marketing: Research evolution from 2000 to 2015 and an agenda for future inquiry", *Journal of Marketing*, Vol. 80 No. 6, pp. 146–172.

Lemon, K.N. y Verhoef, P.C. (2016), "Understanding customer experience throughout the customer journey", *Journal of Marketing*, Vol. 80 No. 6, pp. 69–96.

Liébana-Cabanillas, F., Marinkovic´, V. y Kalinic, Z. (2017), "A SEM-neural network approach for predicting antecedents of m-commerce acceptance", *International Journal of Information Management*, Vol. 37 No. 2, pp. 14–24.

Luceri, B., Bijmolt, T.T., Bellini, S. y Aiolfi, S. (2022), "What drives consumers to shop on mobile devices? Insights from a Meta-Analysis", *Journal of Retailing*, Vol. 98 No. 1, pp. 178–196.

Madan, K. y Yadav, R. (2018), "Understanding and predicting antecedents of mobile shopping adoption", *Asia Pacific Journal of Marketing and Logistics*, Vol. 30 No. 1, pp. 139–162.

McLean, G., Osei-Frimpong, K., Al-Nabhani, K. y Marriott, H. (2020), "Examining consumer attitudes towards retailers' m-commerce mobile applications – An initial adoption vs. continuous use perspective", *Journal of Business Research*, Vol. 106, pp. 139–157.

Neslin, S.A. (2022), "The omnichannel continuum: Integrating online and offline channels along the customer journey", *Journal of Retailing*, Vol. 98 No. 1, pp. 111–132.

Ngai, E.W.T. y Gunasekaran, A. (2007), "A review for mobile commerce research and applications", *Decision Support Systems*, Vol. 43 No. 1, pp. 3–15.

Nielsen. (2016), "Shop til they drop..or at least until their thumbs hurt: Getting to know mobile shoppers", Recuperado 1 Mayo 2017.

Oliveira, T., Thomas, M., Baptista, G. y Campos, F. (2016), "Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology", *Computers in Human Behavior*, Vol. 61, pp. 404–414.

Omar, S., Mohsen, K., Tsimonis, G., Oozeerally, A. y Hsu, J.H. (2021), "M-commerce: The nexus between mobile shopping service quality and loyalty", *Journal of Retailing and Consumer Services*, Vol. 60, p. 102468.

Pandey, S. y Chawla, D. (2019), "Engaging m-commerce adopters in India: Exploring the two ends of the adoption continuum across four m-commerce categories", *Journal of Enterprise Information Management*, Vol. 32 No. 1, pp. 191–210.

Perry, P., Kent, A. y Bonetti, F. (2019), "The use of mobile technologies in physical stores: The case of fashion retailing.", *Exploring Omnichannel Retailing*, pp. 169–195.

Piotrowicz, W. y Cuthbertson, R. (2014), "Introduction to the special issue information technology in retail: Toward omnichannel retailing", *International Journal of Electronic Commerce*, Vol. 18 No. 4, pp. 5–16.

PwC. (2021), *Global Consumer Insights Pulse Survey*, available at: https://www.pwc.es/es/retail-consumo/assets/global-consumer-marzo-2021.pdf. Last access Octubre 10th, 2021.

Rapp, A., Baker, T.L., Bachrach, D.G., Ogilvie, J. y Skinner, L. (2015), "Perceived customer showrooming behavior and the effect on retail salesperson self-efficacy and performance", *Journal of Retailing*, Vol. 91 No. 2, pp. 358–369.

Rettie, R. (2005), "Adoption and Usage of M-Commerce: a Cross-Cultural Comparison of Hong Kong and the United Kingdom.", *Journal of Electronic Commerce Research*, Vol. 6 No. 3, pp. 210–224.

Rodríguez-Torrico, P., San José Cabezudo, R. y San-Martín, S. (2017), "Tell me what they are like and I will tell you where they buy. An analysis of omnichannel consumer behavior", *Computers in Human Behavior*, Vol. 68, pp. 465–471.

Roma, P. y Aloini, D. (2019), "How does brand-related user-generated content differ across social media? Evidence reloaded", *Journal of Business Research*, Vol. 96, pp. 322–339.

San-Martín, S., Prodanova, J. y Jiménez, N. (2015), "The impact of age in the generation of satisfaction and WOM in mobile shopping", *Journal of Retailing and Consumer Services*, Vol. 23, pp. 1–8.

Sands, S., Ferraro, C., Campbell, C. y Pallant, J. (2016), "Segmenting multichannel consumers across search, purchase and after-sales", *Journal of Retailing and Consumer Services*, Vol. 33, pp. 62–71.

Santos, S. y Gonçalves, H.M. (2019), "Multichannel consumer behaviors in the mobile environment: Using fsQCA and discriminant analysis to understand webrooming motivations", *Journal of Business Research*, Vol. 101, pp. 757–766.

Schneider, P.J. y Zielke, S. (2020), "Searching offline and buying online – An analysis of showrooming forms and segments", *Journal of Retailing and Consumer Services*, Vol. 52, p. 101919.

Schröder, H. y Zaharia, S. (2008), "Linking multi-channel customer behavior with shopping motives: An empirical investigation of a German retailer", *Journal of Retailing and Consumer Services*, Vol. 15 No. 6, pp. 452–468.

Shankar, A. y Jebarajakirthy, C. (2020), "How do electronic word of mouth practices contribute to mobile banking adoption ?", *Journal of Retailing and Consumer Services*, Vol. 52, p. 101920.

Shankar, V., Kleijnen, M., Ramanathan, S., Rizley, R., Holland, S. y Morrissey, S. (2016), "Mobile shopper marketing: Key issues, current insights, and future research avenues", *Journal of Interactive Marketing*, Vol. 34, pp. 37–48.

Shareef, A.M., Baabdullah, A., Dutta, S., Kumar, V. y Dwivedi, Y.K. (2018), "Consumer adoption of mobile banking services : An empirical examination of factors according to adoption stages", *Journal of Retailing and Consumer Services*, Vol. 43, pp. 54–67.

Shaw, B. y Kesharwani, A. (2019), "Moderating effect of smartphone addiction on mobile wallet payment adoption", *Journal of Internet Commerce*, Vol. 18 No. 3, pp. 291–309.

Shaw, N. y Sergueeva, K. (2019), "The non-monetary benefits of mobile commerce: Extending UTAUT2 with perceived value", *International Journal of Information Management*, Vol. 45, pp. 44–55.

Shopify. (2022), "The Future of Commerce Trend Report 2022", available at: https://www.shopify.com/research/future-of-commerce.

Singh, H. y Chakrabarti, S. (2021), "Defining the relationship between consumers and retailers through user-generated content: insights from the research literature", *International Journal of Retail and Distribution Management*, Vol. 49 No. 1, pp. 41–60.

Sit, J.K., Hoang, A. y Inversini, A. (2018), "Showrooming and retail opportunities: A qualitative investigation via a consumer-experience lens", *Journal of Retailing and Consumer Services*, Vol. 40, pp. 163–174.

Sujatha, R. y Sekkizhar, J. (2019), "Determinants of m-commerce adoption in India using technology acceptance model infused with innovation diffusion theory", *Journal of Management Research*, Vol. 19 No. 3, pp. 193–204.

Sun, J. y Chi, T. (2019), "Investigating the adoption of apparel m-commerce in the US market", *International Journal of Clothing Science and Technology*, Vol. 31 No. 4, pp. 544–563.

Venkatesh, V., Morris, M.G., Davis, G.B. y Davis, F.D. (2003), "User acceptance of information technology: Toward a unified view", *MIS Quarterly*, Vol. 27 No. 3, pp. 425–478.

Venkatesh, V., Thong, J.Y.L. y Xu, X. (2012), "Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology", *MIS Quarterly*, Vol. 36 No. 1, pp. 157–178.

Verhoef, P.C., Kannan, P.K. y Inman, J.J. (2015), "From multi-channel retailing

to omni-channel retailing. introduction to the special issue on multi-channel retailing.", *Journal of Retailing*, Vol. 91 No. 2, pp. 174–181.

Verhoef, P.C., Neslin, S.A. y Vroomen, B. (2007), "Multichannel customer management: Understanding the research-shopper phenomenon", *International Journal of Research in Marketing*, Vol. 24 No. 2, pp. 129–148.

Verkijika, S.F. (2018), "Factors influencing the adoption of mobile commerce applications in Cameroon", *Telematics and Informatics*, Vol. 35 No. 6, pp. 1665–1674.

Viejo-Fernández, N., Sanzo-Pérez, M.J. y Vázquez-Casielles, R. (2020), "Is showrooming really so terrible? start understanding showroomers", *Journal of Retailing and Consumer Services*, Vol. 54, p. 102048.

Wang, W., He, H., Sahadev, S. y Song, W. (2018), "U.K. consumers' perceived risk of buying products from emerging economies: A moderated mediation model", *Journal of Consumer Behaviour*, Vol. 17 No. 3, pp. 326–339.

We are social y Hootsuite. (2021), "Digital 2021. Global overview report", New York: We Are Social, available at: https://datareportal.com/reports/digital-2021-global-overview-report.

Wei, T.T., Marthandan, G., Yee-Loong Chong, A., Ooi, K. y Arumugam, S. (2009), "What drives Malaysian m-commerce adoption? An empirical analysis", *Industrial Management & Data Systems*, Vol. 109 No. 3, pp. 370–388.

Yadav, R., Sharma, S.K. y Tarhini, A. (2016), "A multi-analytical approach to understand and predict the mobile commerce adoption", *Journal of Enterprise Information Management*, Vol. 29 No. 2, pp. 222–237.

Zhang, L., Zhu, J. y Liu, Q. (2012), "A meta-analysis of mobile commerce adoption and the moderating effect of culture", *Computers in Human Behavior*, Vol. 28 No. 5, pp. 1902–1911.

ANEXO I.

Artículo 1. Explicación de la intención de uso del comercio móvil a partir de modelos de aceptación de la tecnología en un contexto de mercado en desarrollo

Explaining mobile commerce usage intention based on technology acceptance models in a developing market context.

Autores:

Luis Edwin Chimborazo Azogue

Dra. Marta Frasquet Deltoro

Dr. Alejandro Mollá Descals

Revista: Market-Tržište Croacia

Año 2021, Volumen 33, Número. 1

https://doi.org/10.22598/mt/2021.33.1.25

,

Indicadores de calidad

1. **Journal Citation Reports 2021.** Emerging Sources Citation Index (ESCI). 2021 Journal Citation Indicator (JCI)=0.09, Rank by Journal Citation Indicator (JCI) 271/295 (Q4) Category Business.
2. **SCImago Journal Rank 2021.** SJR (2021)=0.17; 167/203 (Q4) in Marketing.
3. **Scopus 2021**. CiteScore 2021=0.6; 181/260 (Q3) in Economics, Econometrics and Finance.

EXPLAINING MOBILE COMMERCE USAGE INTENTION BASED ON TECHNOLOGY ACCEPTANCE MODELS IN A DEVELOPING MARKET CONTEXT

OBJAŠNJENJE NAMJERE KORIŠTENJA MOBILNE TRGOVINE NA TEMELJU MODELA PRIHVAĆANJA TEHNOLOGIJE (TAM) U OKVIRU TRŽIŠTA U RAZVOJU

Market-Tržište
Vol. 33, No. 1, 2021, pp. 25-40
UDK 004.738.5:621.395.721.5:339
DOI http://dx.doi.org/10.22598/mt/2021.33.1.25
Preliminary communication

Luis Edwin Chimborazo[a], Marta Frasquet[b], Alejandro Mollá[c]
[a]University of Valencia, Marketing Department, Av Tarongers s/n, 46022 Valencia, SPAIN, e-mail: luischim@alumni.uv.es
[b]University of Valencia, Marketing Department, Av Tarongers s/n, 46022 Valencia, SPAIN, e-mail: marta.frasquet@uv.es
[c]University of Valencia, Marketing Department, Av Tarongers s/n, 46022 Valencia, SPAIN, e-mail: alejandro.molla@uv.es

Abstract

Purpose – This paper aims to explain the intention to use mobile phones for shopping based on the technology acceptance model (TAM) and the unified theory of acceptance and use of technology (UTAUT2) model in a developing country context, characterized by the mobile channel's high growth rates. The research model analyzes perceived usefulness, perceived ease of use, social influence, facilitating conditions, and hedonic motivation on m-commerce usage intention.

Design/Methodology/Approach – Data for the research were collected through a survey among mobile commerce users in Ecuador. We tested the model through partial least squares structural equations modeling (PLS-SEM).

Findings and implications – The results showed that social influence, facilitating conditions, and hedonic motivation are significant determinants of the intention to use mobile commerce in a developing market context, while perceived usefulness and perceived ease of use

Sažetak

Svrha – Radom se nastoji objasniti namjera korištenja mobilnih telefona za kupovinu temeljem modela TAM i UTAUT2 u okviru zemlje u razvoju za koju su karakteristične visoke stope rasta mobilnih kanala. Istraživački model analizira percipiranu korisnost, lakoću korištenja, društveni utjecaj, uvjete i hedonističku motivaciju namjere korištenja mobilne trgovine.

Metodološki pristup – Podatci su prikupljeni anketiranjem korisnika mobilne trgovine u Ekvadoru. Model je testiran modeliranjem strukturnih jednadžbi metodom parcijalnih najmanjih kvadrata (PLS-SEM).

Rezultati i implikacije – Rezultati su pokazali da su društveni utjecaj, uvjeti i hedonistička motivacija značajne odrednice namjere korištenja mobilne trgovine u okviru tržišta u razvoju, a percipirana korisnost i percipirana lakoća korištenja nisu. Glavni doprinos rada jest pokazati da kada se TAM model proširi uključivanjem varijabli modela UTAUT2 koji se preciznije odnose na mobilno okruženje, utjecaj varijabli jednostavnosti

are not. This paper's main contribution consists in showing that, when the TAM model is expanded by including variables of the UTAUT2 model relating more specifically to the mobile technology, the influence of the ease-of-use and usefulness variables is not significant. Companies could develop mobile interfaces that are pleasant and stimulating, rather than utilitarian, since hedonic motivation is the variable with the greatest influence on m-commerce intention, and the one that emphasizes the social aspect of m-commerce.

Limitations – The sample included individuals from a single country who were recruited from a university.

Originality – The study focuses on m-commerce usage in a Latin American country, based on a combined TAM-UTAUT2 model that includes variables capturing the technological and social aspects of m-commerce.

Keywords – TAM model, UTAUT2 model, mobile commerce, developing market

uporabe i korisnosti nije značajan. Menadžeri bi mogli razviti mobilna sučelja koja su ugodna i poticajna, a ne utilitaristička, jer je hedonistička motivacija varijabla koja najviše utječe na namjeru m-trgovine i ističe njezin društveni aspekt.

Ograničenja – U uzorak su uključeni ispitanici iz samo jedne zemlje s jednog sveučilišta.

Doprinos – Autori proučavaju korištenje m-trgovine u latinoameričkoj zemlji na temelju kombiniranog TAM-UTAUT2 modela koji uključuje varijable koje obuhvaćaju tehnološke i društvene aspekte m-trgovine.

Ključne riječi – TAM model, UTAUT2 model, mobilna trgovina, tržište u razvoju

1. INTRODUCTION

The increasing possession of smartphones around the globe has brought about significant transformations in society and the economy, with the growth of mobile commerce (m-commerce) being one of them (Anwar, Thongpapanl & Ashraf, 2020). Mobile phones offer great potential as marketing channels, especially in emerging markets (Aslam, Ham & Arif, 2017). According to the PwC Global Survey (PwC, 2019), mobile sales have doubled since 2015, reaching 24% of consumers in 2019 and, for the first time, surpassing the PC channel.

Mobile commerce can be understood as an extension of e-commerce where commercial transactions are conducted through a mobile device using a wireless network (Chhonker, Verma & Kar, 2017; Zhang, Zhu & Liu, 2012). However, m-commerce should be considered a new channel for commercial transactions, since it integrates additional capabilities that allow retailers to provide specific services to mobile users (Chhonker et al., 2017; Kleijnen, de Ruyter & Wetzels, 2007; Ström, Vendel & Bredican, 2014). M-commerce offers advantages to users, such as the ability to customize and access its platforms at any time and place (Chong, Chan & Ooi, 2012; Thakur & Srivastava, 2013). Research has also shown that users encounter technical limitations when using smartphones for shopping (Wang, Malthouse & Krishnamurthi, 2015; Zhou, 2013). However, recent advances in connectivity and smartphone usability are eliminating users' reluctance to use m-commerce.

A literature review on m-commerce revealed the need for further research of the manner in which mobile devices influence the buying process (Choi, 2018; Shankar, Kleijnen, Ramanathan, Rizley, Holland & Morrissey, 2016). Numerous studies have predicted the intentions of consumers to make purchases through mobile devices. However, there is insufficient knowledge of the factors affecting m-commerce usage in developing countries. Developing countries show surging rates of smartphone penetration that trigger rapid changes in consumer behavior. The development of the mobile channel is an opportunity for domestic enterprises investing in this channel to gain customer loyalty and compete with global players (Ntsafack Dongmo, Kala Damdjoug & Fosso Wamba, 2020). Among developing regions, Latin America is the fastest-growing m-commerce market worldwide, ahead of Asia and Africa (eMarketer, 2019). This paper focuses on Ecuador, where smartphone possession rose from 53.9% in 2014 to 75.3% in 2019. Sales through mobile devices reached USD 221.3 in 2019, growing at a yearly rate of 48% since 2014. More growth is expected in the coming years, with mobile phones being the fastest-growing retail channel in Ecuador (Euromonitor, 2020).

A number of studies on m-commerce usage in developing countries have been published in recent years. Most research (e.g., Anwar et al., 2020; Assarut & Eiamkanchanalai, 2015; Chong et al., 2012; Madan & Yadav, 2018; Thakur & Srivastava, 2013; Wei, Marthandan, Chong, Ooi & Arumugam, 2009; Yadav, Sharma & Tarhini, 2016) has focused on Asian markets, with Middle East (Alalwan, Dwivedi, Rana, Lal & Williams, 2015; Aslam et al., 2017; Faqih & Jaradat, 2015; Tarhini, Alalwan, Shammout & Al-Badi, 2019) and African markets receiving some attention (Ntsafack Dongmo et al., 2020; Verkijika, 2018). Despite its size and substantial m-commerce growth, the Latin American region has been less studied; however, some exceptions include a study conducted by Jiménez San-Martin and Azuela (2016) on the Mexican market and that by Marinao-Artigas and Barajas-Portas (2020). The present study attempts to fill the research gap on m-commerce usage in developing countries by testing a model based on technology acceptance (TAM) and the unified theory of acceptance and use of technology (UTAUT2) (Davis, 1989; Venkatesh, Thong & Xu, 2012) in Ecuador. Our research proposal includes the key TAM variables of perceived usefulness and perceived ease of use, and three variables proposed by the UTAUT2, namely, social influence, facilitating

conditions, and hedonic motivation, in line with the recommendation of Lu (2014) to expand the TAM by taking into consideration the specific context of m-commerce through smartphones. Thus, we aim to empirically identify the factors influencing the intention to use m-commerce in Ecuador, where the mobile channel shows high growth potential. This paper contributes to the literature by analyzing m-commerce usage in developing countries with high growth rates, and does so through a model which includes the variables of technology adoption models that are more relevant in the context of smartphone usage.

This paper is structured as follows: The introduction is followed by a literature review of the literature. Then, the research hypotheses are justified, and the research model of m-commerce usage intention is presented. The methodology used to collect and analyze the data is described, followed by an analysis of the results. Finally, the main conclusions of the study are presented, highlighting the implications and limitations of the research and identifying lines for future research.

2. LITERATURE REVIEW

M-commerce has been defined as a monetary transaction conducted through a mobile communications network (Okazaki, 2005). Smartphones are seen as a marketing channel that consumers can use anywhere and are, therefore, an extension of a store or brand in people's pockets. Compared to e-commerce, m-commerce presents new opportunities due to its benefits of mobility, savings in terms of time and money, comfort, convenience, and accessibility (Wei et al., 2009; Zhang, Chen & Lee, 2013). At the same time, the use of mobile devices offers companies advantages such as cost reductions, real-time tracking of customers' activities and the ability to influence people through contextual offers adapted to their mobile devices (Larivière, Joosten, Malthouse, van Birgelen, Aksoy, Kunz & Huang, 2013). Thus, m-commerce constitutes a new marketing channel that allows consumers a new way of interacting with retailers, brands, and other consumers at any time and in any place (Andrews, Goehring, Hui, Pancras & Thornswood, 2016; Shankar, Venkatesh, Hofacker & Naik, 2010).

Research on the adoption or use of m-commerce by consumers continues to arouse great interest with a view to clarifying the factors that prompt consumers to shop or not to shop using their smartphones. In this regard, special mention should be made of the studies that have applied technology acceptance theories or models, such as TAM (Davis, 1989), UTAUT (Venkatesh, Morris, Davis & Davis, 2003), or innovation diffusion theory (IDT) (Rogers, 1983). A summary of the studies applying TAMs to explain the adoption or use of m-commerce by consumers is presented in Table 1.

TABLE 1: Synthesis of empirical m-commerce studies based on TAMs

Author(s) (year)	Underlying theories	Variables employed	Context
Bhatti (2007)	TAM, TPB, TRA, DOI	perceived usefulness ease of use personal innovativeness	United Arab Emirates
Wei et al. (2009)	TAM	perceived usefulness perceived ease of use social influence trust perceived cost	China
Yang (2010)	UTAUT2	social influence facilitating conditions attitude utilitarian performance expectancy hedonic performance expectancy effort expectancy	United States of America (USA)
Zhang et al. (2012)	TAM, TRA	perceived usefulness perceived ease of use innovativeness perceived cost attitude trust perceived risk perceived enjoyment	Meta-analysis

Author(s) (year)	Under-lying theories	Variables employed	Context
Chong et al. (2012)	TAM, DOI	perceived usefulness perceived ease of use social influence trust cost variety of services	China and Malaysia
Chong (2013)	TAM	perceived usefulness perceived ease of use perceived enjoyment trust cost	China
Thakur and Srivastava (2013)	TAM, TAR	perceived usefulness perceived ease of use social influence facilitating conditions	India
Yang and Forney (2013)	UTAUT	facilitating conditions utilitarian performance expectancy hedonic performance expectancy social influence	USA
Lu (2014)	TAM	perceived usefulness perceived ease of use social influence	USA
Faqih and Jaradat (2015)	TAM	perceived usefulness perceived ease of use subjective norm	Jordan
Yadav, Sharma, and Tarhini (2016)	TAM, TPB, IDT	perceived usefulness perceived ease of use social influence perceived cost perceived trust	India
Marin-kovic and Kalinic (2017)	TAM	perceived usefulness social influence trust mobility perceived enjoyment customization	Serbia
Blaise et al. (2018)	UTAUT	social influence facilitating conditions performance expectancy effort expectancy	USA
Choi (2018)	TAM	perceived usefulness ease of use service ubiquity location-based service user control	Korea
Madan and Yadav (2018)	UTAUT	hedonic motivation perceived critical mass perceived risk facilitating conditions perceived regulatory support cost	India
Verkijika (2018)	UTAUT2	performance expectancy effort expectancy social influence facilitating conditions hedonic motivation price value perceived risk perceived trust	Camer-oon
Shaw and Sergueeva (2019)	UTAUT2	perceived value social influence facilitating conditions hedonic motivation habit effort expectancy	Canada

Note: TAM=technology acceptance model; TRA=theory of reasoned action; TPB=theory of planned behavior; DOI=innovation diffusion theory; TAR=technology adoption readiness; IDT=innovation diffusion theory; UTAUT=unified theory of acceptance and use of technology.

One of the theoretical frameworks used in e-commerce research is the TAM model, proposed by Davis (1989) to better understand the adoption and continued use of a technology. TAM builds on the theory of reasoned action (TRA) by supposing that perceived usefulness and perceived ease of use are significant determinants of the use of a specific system or technology (Davis, Bagozzi & Warshaw, 1989). The findings based on TAM to predict the intention to use a mobile phone for shopping support the importance of TAM's core variables, namely perceived usefulness and perceived ease of use. However, most studies include additional variables, together with the two original ones. Usefulness and ease of use are primary determinants, according to the results obtained by Choi (2018), who also found that the ubiquity of location-based services and user control contributed to a greater use of mobile phones for shopping. Marinkovic

and Kalinic (2017) found that usefulness and ease of use are essential factors in the intention to use m-commerce in Serbia, together with social influence, trust, mobility, perceived enjoyment, and the moderating variable of customization. Other researchers reported that variables such as social influence, trust, perceived cost, and connectivity exert a positive influence on the use of m-commerce in China (Chong et al., 2012; Wei et al., 2009). Therefore, to achieve a better understanding, it is necessary to expand the TAM, explicitly considering the context of smartphone-based m-commerce (Lu, 2014). At this point, it is worthwhile considering the UTAUT model, which includes the following variables: performance expectancy, effort expectancy, social influence, and facilitating conditions. The authors of this model showed its superiority to the TAM and other user acceptance models (Venkatesh et al., 2003). Several studies in the m-commerce context have opted for the UTAUT model, validating the strength of its explanatory variables in the intention to use m-commerce (Blaise, Halloran & Muchnick, 2018). For instance, Yang and Forney (2013) concluded that facilitating conditions include the main driver motivating consumers to conduct mobile shopping.

The UTAUT2 model is an extension of the UTAUT model incorporating the hedonic motivation variable (Venkatesh et al., 2012). The UTAUT2 model postulates that an element of enjoyment related to m-commerce is associated with greater use of it (Shaw & Sergueeva, 2019). Users make emotional decisions when deciding whether or not to use their mobile devices [for shopping] (Marinkovic & Kalinic, 2017). Thus, hedonic motivation was revealed as a determining element in m-commerce usage intention (Yang, 2010). Using the UTAUT2 model, Shaw and Sergueeva (2019) identified hedonic motivation and perceived value as the predominant variables in the intention to use m-commerce. Yang (2010) reported that social influence, facilitating conditions, effort expectancy, attitude, utilitarian performance expectancy, and hedonic performance are significant predictors in the m-commerce usage intention.

As a conclusion of the literature review on consumer adoption or use of e-commerce, it can be observed that models based on extensions of the TAM are popular both in developed and developing markets. A smaller number of papers have adopted the UTAUT and UTAUT2 models, and only Verkijika (2018) has applied UTUAT2 to a developing market context. To the best of our knowledge, no study has modeled m-commerce adoption or use integrating the TAM and UTAUT2 variables that are most suitable for the mobile shopping context in a developing market.

3. HYPOTHESES AND RESEARCH MODEL

The TAM model provided the initial framework for our research model with its two key variables: perceived usefulness and perceived ease of use. Additionally, the extended UTAUT2 model based on the original UTAUT model was considered with its social influence, facilitating conditions, and hedonic motivation variables, which seem to be particularly suited to the mobile environment. The individual variables and the proposed logic underpinning each research hypothesis are defined below.

Perceived usefulness

Perceived usefulness was defined by Davis (1989, p. 320) as the "degree to which a person believes that using a particular system would enhance his or her job performance." Perceived usefulness has been found to significantly affect both the attitude towards technology and the intention to use (Davis et al., 1989; Venkatesh et al., 2003). Perceived usefulness in the adoption of mobile Internet focuses on the achievement of tasks and reflects an individual's desire to participate in an activity due to external rewards (Kim, Chan & Gupta, 2007). Likewise, the review of the literature on mobile shopping (see Table 1) revealed that perceived usefulness is one of the variables more frequently considered by researchers to explain the adoption or use of m-commerce (Marinkovic & Kalinic, 2017). The

main advantage of m-commerce over e-commerce via PC and cable connection is its ability to offer the service ubiquitously. Thus, as argued by Chong (2013), consumers will only use m-commerce if they find it more useful than e-commerce. Therefore, perceived usefulness is considered an important determinant of the intention to use m-commerce (Chong, 2013). Based on the above arguments, the first research hypothesis is proposed:

H1: Perceived usefulness positively influences m-commerce usage intention.

Perceived ease of use

Perceived ease of use refers to the lack of effort required to use a technological system (Davis, 1989). Perceived ease of use is related to the innate characteristics of information technology, and its effect varies depending on whether the context is goal-oriented or hedonic (Davis, 1989; van der Heijden, 2004). Research revealed that perceived ease of use is not just an essential element in the adoption of technology; rather, it also affects the use of mobile devices for shopping (Choi, 2018). As argued by Assarut and Eiamkanchanalai (2015) and Wei and others (2009), consumers need to gain confidence and perceive the mobile channel as being easy to use before they are ready to use it for shopping. Thus, perceived ease of use is likely to have a positive influence on the consumers' intention to adopt m-commerce (Chong et al., 2012). Consequently, the following hypothesis was proposed:

H2: Perceived ease of use positively influences m-commerce usage intention.

Relationship between ease of use and perceived usefulness

According to the TAM, perceived ease of use is a determinant of perceived usefulness; it may be claimed that systems that are easier to use ultimately become more useful (Davis, 1989). Ease of use has been identified as a predictive factor of perceived usefulness in mobile phone use (Lu, 2014). The perceived ease of use of mobile shopping technology has a key influence on perceived usefulness because consumers are able to interact easily on m-commerce sites if they can understand their potential value better (Choi, 2018; Chong et al., 2012). Following this line of argument, the following hypothesis is proposed:

H3: Perceived ease of use has a positive effect on the perceived usefulness of m-commerce.

Social influence

Social influence is defined as the degree to which the beliefs and opinions of others affect an individual's decision to adopt a new technological system (Venkatesh et al., 2003). Social influence is generated by different factors, such as informal influence, maintenance of social image, and critical mass (Wang & Wang, 2010). For young consumers, image plays an important role in the decision to use a new device. To strengthen participation among group members, the user tends to adapt to the expectations of others (Bhatti, 2007).

Social influence in the context of m-commerce has been identified as a key variable for predicting m-commerce intention (Chong et al., 2012; Wei et al., 2009). Mobile devices are highly sensitive to social influence, since they are present in interactions in social environments with friends and family, which can influence the intention to use and adopt mobile technology (Blaise et al., 2018). In the m-commerce context, users are easily swayed by social influence and set new trends in m-commerce (Yadav et al., 2016). Therefore, we formulated the following hypothesis:

H4: Social influence positively influences m-commerce usage intention.

Facilitating conditions

In the use of a technological system, factors such as conceptualized knowledge, technical resources, and other opportunities facilitate the tasks to be performed (Venkatesh, 2000). Facilitating conditions refer to the "degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system" (Venkatesh et al., 2003, p. 453). Facili-

tating conditions provide the external resources required to achieve the performance of a particular behavior easily (Ajzen, 1991). Likewise, facilitating conditions coupled with behavioral intention are the factors influencing user behavior, according to the UTAUT model (Venkatesh et al., 2003). Therefore, facilitating conditions enable decisions to be taken in the behavioral roles of persons in information systems (Dwivedi, Rana, Chen & Williams, 2011).

The mobile phone itself could be considered a facilitating factor, since m-commerce is a voluntary activity performed to obtain specific benefits or services. A smartphone and a wireless network would allow this objective to be achieved easily when it comes to making purchases (Venkatesh et al., 2012). Indeed, it has been reported that facilitating conditions significantly influence the intention to use m-commerce and mobile applications (Blaise et al., 2018; Thakur & Srivastava, 2013). Facilitating conditions also directly influence behavioral intention where consumers have a mobile phone with the Internet connection, a direct interface to explore mobile sites, and adequate knowledge to make purchases (Yang & Forney, 2013). Therefore, the following hypothesis has been proposed:

H5: Facilitating conditions positively influence m-commerce usage intention.

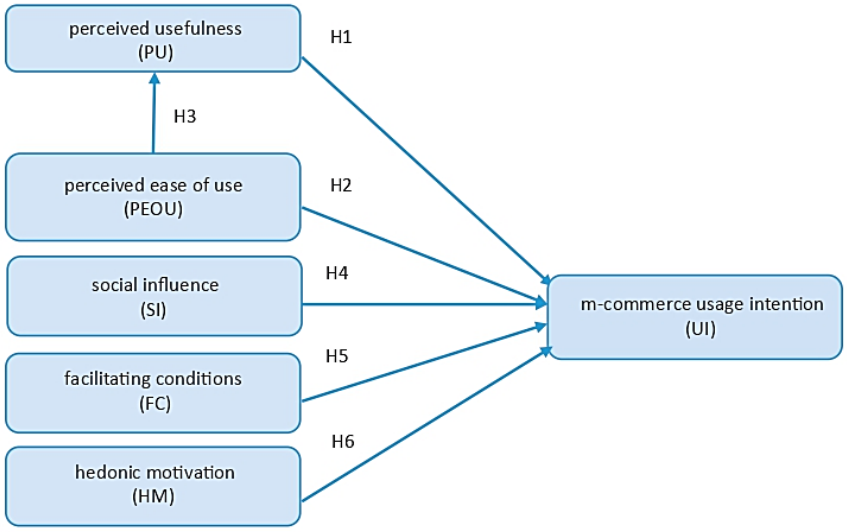
Hedonic motivation

Hedonic motivation is an intrinsic motivation that referring to the enjoyment a consumer derives from using a technology (Venkatesh et al., 2012). Theoretically, hedonic motivation has been described as an influential variable in the intention to adopt technology in information systems (Venkatesh et al., 2012). A direct impact of hedonic motivation on the intention to use technology has also been demonstrated (Venkatesh et al., 2012). Hedonic motivation also acts as a motivation for creativity and innovativeness in the context of mobile channels, stimulating their use (Assarut & Eiamkanchanalai, 2015; van der Heijden, 2004). Applying the UTAUT2 model to the m-commerce context, Madan and Yadav (2018) and Shaw and Sergueeva (2019) concluded that hedonic motivation has a significant impact on the intention to adopt m-commerce. In this regard, in a study seeking to explain mobile user engagement, Kim, Kim, and Wachter (2013) found that the hedonic motivation of consumers, namely the "fun and excitement" aspect, positively influences satisfaction with and engagement in the use of the smartphone. Extending this argument, it could be concluded that a consumer who enjoys using a mobile device for shopping will be more engaged in the activity and, therefore, more likely to use their device for shopping. Thus, hedonic motivation in the context of m-commerce is expected to be a strong determinant; when users perceive entertainment in the functions of mobile shopping, they are more prone to adopt and use mobile shopping (Madan & Yadav, 2018; Yang & Forney, 2013). Hence, it follows that:

H6: Hedonic motivation positively influences m-commerce usage intention.

In conclusion, the proposed research model (see Figure 1) suggests that the intention to use a mobile device for shopping depends on perceived usefulness, perceived ease of use, social influence, facilitating conditions, and hedonic motivation.

FIGURE 1: Research model of m-commerce usage



4. METHODOLOGY

The constructs studied in this research were measured based on existing literature in order to guarantee the validity of content (see Appendix). All the items were measured using a 5-point Likert-type scales, where 1 = "strongly disagree" and 5 = "strongly agree". Some items were adapted to the m-commerce context. The instrument was pre-tested on ten students in the area of interest, giving rise to slight modifications in the wording of certain items.

The data were collected through a survey among undergraduate and postgraduate students of an Ecuadorian university, who came from both urban and rural areas. University student surveys are standard practice in marketing research. This population was also considered to be of interest for the purposes of this study because university students are one of the most important markets for m-commerce (Choi, Hwang & McMillan, 2008; Jurisic & Azevedo, 2011). Moreover, in Ecuador, the highest rate of smartphone possession is found among persons aged between 16 and 24 years (63.2%) and 25 and 34 years (70.2%), with Internet use being greater in urban areas and educational institutions (INEC, 2018).

The fieldwork was carried out during the months of June and July 2019. One of the researchers visited several classes and invited the students to answer the questionnaire using the link posted on his Facebook page. The students were informed about the main objective of the study, and the ethics of data collection and analysis. Of the 271 students contacted, 254 responded to the invitation. The final useful sample included 169 individuals who met the requirement of mobile technology use for shopping, established as a filter question.

With regard to the socio-demographic profile of respondents, the sample consisted of 61.5% women and 38.5% men, of whom 53.3% were between 18 and 24 years old, 27.2% between 25 and 34 years old, 16.6% between 35 and 44 years old, and 3% over 45 years old. In terms of income, 63.3% of respondents had between USD 394 and USD 500 in monthly income, 16% between USD 501 and USD 700, 8.9% between USD 701 and USD 900, and 11.8% over USD 900.

MARKET TRŽIŠTE

The socio-demographic profile shows a higher percentage of older respondents than the average student profile because the questionnaire was answered not only by undergraduate students, but also by executives taking post-graduate programs as part-time students.

The partial least squares structural equation modeling (PLS-SEM) method was used to evaluate the model using the SmartPLS software. PLS is a particularly suitable approach in marketing research for the study of causal models with constructs that have multiple indicators and dimensions (Hair, Hult, Ringle & Sarstedt, 2016).

5. RESULTS

SmartPLS software was used, firstly, to estimate the measurement model and evaluate the reliability and validity of the measurement constructs (see Table 2). All item loadings in the corresponding constructs were greater than 0.7 (Henseler, Ringle & Sinkovics, 2009). Cronbach's alpha value for all the constructs exceeded the cut-off level of 0.70 (Nunnally, 1978), or, in the case of the social influence variable, was very close to reaching it (0.68). Composite reliability was higher than 0.8 and average variance extracted (AVE) exceeded 0.6 for every construct (Henseler et al., 2009).

TABLE 2: Construct reliability and validity

Construct	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Perceived usefulness (PU)	0.864	0.907	0.710
Perceived ease of use (PEOU)	0.849	0.898	0.689
Social influence (SI)	0.683	0.817	0.605
Facilitating conditions (FC)	0.763	0.858	0.671
Hedonic motivation (HM)	0.937	0.959	0.888
Usage intention (UI)	0.895	0.923	0.705

Following Henseler, Ringle and Sarstedt (2015), we evaluated discriminant validity according to the heterotrait and monotrait (HTMT) correlations, which are more sensitive than the Fornell-Larcker criterion. Therefore, we calculated the HTMT ratio for the correlations and cross-correlations between constructs (see Table 3). We took 5,000 sub-samples and observed the confidence intervals. Since 0.85% of the HTMT ratio was not exceeded, discriminant validity was confirmed (Hair, Ringle & Sarstedt, 2011).

TABLE 3: HTMT ratio of correlations

	PU	PEOU	SI	FC	HM	UI
PU						
PEOU	0.718					
SI	0.150	0.262				
FC	0.599	0.807	0.310			
HM	0.442	0.587	0.275	0.669		
UI	0.467	0.493	0.369	0.658	0.706	

Table 4 contains the results of the structural model test, in which the path coefficients, the t-test, the R^2 value, and predictive relevance Q^2 were examined. The hypotheses were contrasted by verifying the level of significance of the path coefficients (p) between the latent variables and the dependent variables. Social influence, facilitating conditions, and hedonic motivation accounted for 51.9% of the intention to use a mobile phone to purchase products and services. Of the six relationships analyzed, four were found to be significant for $p < 0.05$. Perceived ease of use was significantly and positively related to perceived usefulness ($\beta = 0.645$, $p = 0.000$). Therefore, H3 was accepted. Similarly, social influence was positively related to usage intention ($\beta = 0.141$, $p = 0.009$), hence H4 was accepted. Since the relationship between facilitating conditions and usage intention was significant ($\beta = 0.312$, $p = 0.001$), H5 was also accepted. Similarly, H6 was accepted because the relationship between hedonic motivation and usage intention was positive and significant ($\beta = 0.438$, $p = 0.000$).

However, no significant relationship was observed between perceived ease of use and the intention to use a mobile phone for shopping (H1), nor was the relationship between perceived usefulness and usage intention significant for $p < 0.01$ ($\beta = 0.156$, $p = 0.065$), although it was likely to be significant for $p < 0.1$ (H2).

TABLE 4: Significance of model paths

Hypothesis	Path	Original sample (O)	T statistic (O/STER R)	P-value	Significance
H1	perceived usefulness -> usage intention	0.156	1.843	0.065	
H2	perceived ease of use -> usage intention	-0.131	1.103	0.270	
H3	perceived ease of use -> perceived usefulness	0.645	10.979	0.000	***
H4	social influence -> usage intention	0.141	2.606	0.009	**
H5	facilitating conditions -> usage intention	0.312	3.358	0.001	***
H6	hedonic motivation -> usage intention	0.438	5.697	0.000	***

R^2 (usage intention) = 0.519; R^2 (perceived usefulness) = 0.417
Q^2 (usage intention) = 0.327; Q^2 (perceived usefulness) = 0.269
*** $p < 0.01$; ** $p < 0.05$

6. DISCUSSION AND CONCLUSION

This paper contributes to the literature on m-commerce based on TAMs while offering practical knowledge that may be used by companies in developing countries to improve mobile channel adoption. Studies on the adoption of m-commerce in developing countries are still limited and need to be further elaborated in a context of high growth rates and changing consumer behavior (Euromonitor, 2020). This study tested a model based on TAM and UTAUT2 to explain m-commerce usage intention in Ecuador. The results showed that social influence, facilitating conditions, and hedonic motivation play an important role in the intention to use m-commerce. An interesting result of this study was that perceived ease of use and perceived usefulness were not significantly related with the intention to use m-commerce. This finding does not confirm the TAM postulates accepted in previous m-commerce studies (Choi, 2018; Faqih & Jaradat, 2015; Venkatesh et al., 2003). However, findings concerning the impact of usefulness have been mixed; some authors found that the relationship between perceived usefulness and perceived ease of use and the intention to adopt m-commerce was non-significant in the Chinese market (Chong, 2013; Chong et al., 2012). The non-acceptance of the hypotheses concerning the key variables of the TAM model (H1 and H2) can be explained by rapid technological change and the fact that smartphones are increasingly popular among young people who use them to interact on social media in their free time (Chong, 2013). Thus, in the context of a developing country such as Ecuador, where m-commerce has exploded following a surge in smartphone possession rates, ease of use and perceived usefulness are not relevant. A later adoption of m-commerce would imply advances in smartphone capabilities and improvements made by companies to their mobile channel interface.

Social influence was one of the factors shown to positively influence the usage of m-commerce. This finding is consistent with the results published in previous studies and highlights the strong influence of family and groups of friends on the adoption of m-commerce in developing markets (Verkijika, 2018; Wei et al., 2009; Yadav et al., 2016). Our results showed that young people are likely to be influenced by their social

circle when it comes to a preference for m-commerce. Facilitating conditions also had a significant influence on the use of m-commerce. This confirms the limited evidence of the influence of this variable in developing markets (Madan & Yadav, 2018; Verkijika, 2018). Thus, m-commerce should expand as Internet access conditions improve and individuals acquire the necessary resources and support. Finally, the results revealed that the factor with the strongest positive impact on m-commerce usage intention is hedonic motivation, as reported in the small number of studies that have tested this variable in developing markets (Madan & Yadav, 2018; Verkijika, 2018). Together with the reference to social influence, this result confirms that mobile shopping is associated with leisure and enjoyment rather than with usefulness. Therefore, the main contribution of this paper is in showing empirically that, in a developing market, when the TAM model is expanded by including variables of the UTAUT2 model relating more specifically to the mobile technology, the influence of the ease-of-use and usefulness variables is not significant, while social influence, facilitating conditions, and hedonic motivation are revelant.

The results of this paper present interesting management implications. Since hedonic motivation is the variable with the most substantial influence on the intention to use m-commerce, online marketers should focus their efforts on developing interfaces that convey pleasant and stimulating sensations rather than those suggesting routine or obligation. Humor and games could even be used to engage more directly with that enjoyment-driven motivation when using a mobile phone for shopping. Thus, companies could benefit from communicating the fun aspects associated with using their mobile solutions. However, online sellers should not forget that mobile shopping also requires facilitating conditions. Companies should focus on developing user-friendly interfaces that allow for easy text reading, a clear view of products, and fast loading of photographs. As outlined by Madan and Yadav (2016), older consumers may need additional assistance and support to facilitate the use of the mobile channel for shopping.

The results also showed that social influence is positively related to the intention to use a smartphone for online shopping. Online sellers should be aware that the social groups their consumers are interacting with exert a certain amount of social pressure for those consumers to behave in a particular way. Companies could use images reflecting social interaction in their communications, as well as encourage m-commerce recommendation actions through, for example, promotions or discounts. Online sellers could leverage their customers' social media usage, encouraging them to share their experiences and post product reviews.

This study is not without limitations. The data were collected in Ecuador, a country in which mobile shopping is in its initial stage. Although the interest in the data reported stems partly from the fact that these were obtained in a developing country with a high potential for m-commerce, future research could focus on the respondents in other developing and emerging countries. Our sample was recruited among undergraduate and postgraduate university students. The results of this study should be interpreted bearing in mind that smartphone usage is more common among younger and more educated adults in developing countries (INEC, 2018).

The fact that the study's expectations regarding the influence of perceived ease of use and perceived usefulness variables on mobile shopping intention were not fulfilled opens up opportunities for further research to corroborate the significance of the key variables of the TAM model by using a model to explore m-commerce in developing markets with high growth rates. Another possible line of research is to investigate the influence of other variables such as trust or perceived risk in m-commerce usage in developing markets.

Acknowledgment

This work was supported by the Spanish Ministry of Science, Innovation and Universities, Spanish State Research Agency under Grant ECO 2017-83051-R.

References

1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211.
2. Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., Lal, B., & Williams, M. D. (2015). Consumer adoption of Internet banking in Jordan: Examining the role of hedonic motivation, habit, self-efficacy and trust. *Journal of Financial Services Marketing*, *20*(2), 145-157.
3. Andrews, M., Goehring, J., Hui, S., Pancras, J., & Thornswood, L. (2016). Mobile promotions: A framework and research priorities. *Journal of Interactive Marketing*, *34*, 15-24.
4. Anwar, A., Thongpapanl, N., & Ashraf, A. R. (2020). Strategic imperatives of mobile commerce in developing countries: the influence of consumer innovativeness, ubiquity, perceived value, risk, and cost on usage. *Journal of Strategic Marketing*, doi: 10.1080/0965254X.2020.1786847
5. Aslam, W., Ham, M., & Arif, I. (2017). Consumer Behavioral Intentions Towards Mobile Payment Services: an Empirical Analysis in Pakistan. *Market*, *29*(2), 161-176.
6. Assarut, R., & Eiamkanchanalai, S. (2015). Consumption values, personal characteristics and behavioral intentions in mobile shopping adoption. *Market*, *27*(1), 21-41.
7. Bhatti, T. (2007). Exploring factors influencing the adoption of mobile commerce. *Journal of Internet Banking and Commerce*, *12*(3), 1-13.
8. Blaise, R., Halloran, M., & Muchnick, M. (2018). Mobile commerce competitive advantage: A quantitative study of variables that predict m-commerce purchase intentions. *Journal of Internet Commerce*, *17*(2), 96-114.
9. Chhonker, M. S., Verma, D., & Kar, A. K. (2017). Review of technology adoption frameworks in mobile commerce. *Procedia Computer Science*, *122*, 888-895.
10. Choi, S. (2018). What promotes smartphone-based mobile commerce? Mobile-specific and self-service characteristics. *Internet Research*, *28*(1), 105-122.
11. Choi, Y. K., Hwang, J., & McMillan, S. J. (2008). Gearing up for mobile advertising: a cross-cultural examination of key factors that drive mobile messages home to consumers. *Psychology and Marketing*, *25*(8), 756-768.
12. Chong, A. Y.-L. (2013). A two-staged SEM-neural network approach for understanding and predicting the determinants of m-commerce adoption. *Expert Systems with Applications*, *40*(4), 1240-1247.
13. Chong, A. Y.-L., Chan, F. T. S., & Ooi, K.-B. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support Systems*, *53*(1), 34-43.
14. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *13*(3), 319-340.
15. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, *35*(8), 982-1003.
16. Dwivedi, Y. K., Rana, N. P., Chen, H., & Williams, M. D. (2011). A Meta-analysis of the Unified Theory of Acceptance and Use of Technology (UTAUT). In M. N. A. G. K. K. I. S. N. Blinn (Ed.), *Governance and Sustainability in Information Systems. Managing the Transfer and Diffusion of IT: IFIP WG 8.6 International Working Conference* (pp. 155-170). London: Springer.
17. eMarketer (2019). *Latin America e-commerce 2019.* Retrieved from https://www.emarketer.com/content/latin-america-ecommerce-2019
18. Euromonitor (2020). *Mobile e-commerce in Ecuador.* Retrieved from https://www.portal.euromonitor.com/portal/Analysis/Tab
19. Faqih, K. M., & Jaradat, M. I. R. M. (2015). Assessing the moderating effect of gender differences and individualism-collectivism at individual-level on the adoption of mobile commerce technology: TAM3 perspective. *Journal of Retailing and Consumer Services, 22*, 37-52.

20. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139-151.
21. Hair, J., Hult, T., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Los Angeles: SAGE.
22. Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115-135.
23. Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, *20*, 277-319.
24. INEC. (2018). *Instituto nacional de estadisticas y censos,* Ecuador.
25. Jiménez, N., San-Martin, S., & Azuela, J. I. (2016). Trust and satisfaction: the keys to client loyalty in mobile commerce. *Academia Revista Latinoamericana de Administración*, *29*(4), 485-510.
26. Jurisic, B., & Azevedo, A. (2011). Building customer-brand relationships in the mobile communications market: The role of brand tribalism and brand reputation. *Journal of Brand Management, 18*(4), 349-366.
27. Kim, H.-W., Chan, H. C., & Gupta, S. (2007). Value-based adoption of mobile internet: An empirical investigation. *Decision Support Systems*, *43*(1), 111-126.
28. Kim, Y. H., Kim, D. J., & Wachter, K. (2013). A study of mobile user engagement (MoEN): Engagement motivations, perceived value, satisfaction, and continued engagement intention. *Decision Support Systems*, *56*, 361-370.
29. Kleijnen, M., de Ruyter, K., & Wetzels, M. (2007). An assessment of value creation in mobile service delivery and the moderating role of time consciousness. *Journal of Retailing*, *83*(1), 33-46.
30. Larivière, B., Joosten, H., Malthouse, E. C., van Birgelen, M., Aksoy, P., Kunz, W. H., & Huang, M. (2013). Value fusion: The blending of consumer and firm value in the distinct context of mobile technologies and social media. *Journal of Service Management*, *24*(3), 268-293.
31. Lu, J. (2014). Are personal innovativeness and social influence critical to continue with mobile commerce? *Internet Research*, *24*(2), 134-159.
32. Madan, K., & Yadav, R. (2018). Understanding and predicting antecedents of mobile shopping adoption. *Asia Pacific Journal of Marketing and Logistics*, *30*(1), 139-162.
33. Marinao-Artigas, E., & Barajas-Portas, K. (2020). Precedents of the satisfaction of mobile shoppers. A cross-country analysis. *Electronic Commerce Research and Applications*, *39*(1), 100919.
34. Marinkovic, V., & Kalinic, Z. (2017). Antecedents of customer satisfaction in mobile commerce. *Online Information Review*, *41*(2), 138-154.
35. Ntsafack Dongmo, F.W., Kala Damdjoug, J.R, & Fosso Wamba, S. (2020). Mobile Commerce Adoption in a Developing Country: Driving Factors in the Case of Cameroon. In *ICT for an Inclusive World* (pp. 275-288). Cham: Springer.
36. Nunnally, J. C. (1978). *Psychometric theory*. New York, NY: McGraw-Hill.
37. Okazaki, S. (2005). New perspectives on m-commerce research. *Journal of Electronic Commerce Research*, *6*(3), 160-164.
38. PwC. (2019). *Global consumer insights survey 2019: It's time for a consumer-centred metric: Introducing 'return on experience.' Retrieved from https://www.pwc.com/ee/et/publications/pub/Consumer-Insight-Survey-2019-report.pdf*
39. Rogers, E. (1983). *Diffusion of innovations*. New York, NY: The Free Press.
40. Shankar, V., Kleijnen, M., Ramanathan, S., Rizley, R., Holland, S., & Morrissey, S. (2016). Mobile shopper marketing: Key issues, current insights, and future research avenues. *Journal of Interactive Marketing*, *34*, 37-48.

41. Shankar, V., Venkatesh, A., Hofacker, C., & Naik, P. (2010). Mobile marketing in the retailing environment: Current insights and future research avenues. *Journal of Interactive Marketing*, *24*(2), 111-120.
42. Shaw, N., & Sergueeva, K. (2019). The non-monetary benefits of mobile commerce: Extending UTAUT2 with perceived value. *International Journal of Information Management*, *45*, 44-55.
43. Ström, R., Vendel, M., & Bredican, J. (2014). Mobile marketing: A literature review on its value for consumers and retailers. *Journal of Retailing and Consumer Services*, *21*(6), 1001-1012.
44. Tarhini, A., Alalwan, A. A., Shammout, A. B., & Al-Badi, A. (2019). An analysis of the factors affecting mobile commerce adoption in developing countries. *Review of International Business and Strategy*, *29*(3), 157-179.
45. Thakur, R., & Srivastava, M. (2013). Customer usage intention of mobile commerce in India: an empirical study. *Journal of Indian Business Research*, *5*(1), 52-72.
46. van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly*, *28*(4), 695-704.
47. Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research*, *11*(4), 342-365.
48. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), 425-478.
49. Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, *36*(1), 157-178.
50. Verkijika, S. F. (2018). Factors influencing the adoption of mobile commerce applications in Cameroon. *Telematics and Informatics*, *35*(6), 1665-1674.
51. Wang, H.-Y., & Wang, S.-H. (2010). User acceptance of mobile internet based on the unified theory of acceptance and use of technology: Investigating the determinants and gender differences. *Social Behavior and Personality: An International Journal*, *38*(3), 415-426.
52. Wang, R. J-H., Malthouse, E. C., & Krishnamurthi, L. (2015). On the go: How mobile shopping affects customer purchase behavior. *Journal of Retailing*, *91*(2), 217-234.
53. Wei, T.T., Marthandan, G., Chong, A.Y.L., Ooi, K.B, & Arumugam, S. (2009). What drives Malaysian m-commerce adoption? An empirical analysis. *Industrial Management & Data Systems*, *109*(3), 370-388.
54. Yadav, R., Sharma, S. K., & Tarhini, A. (2016). A multi-analytical approach to understand and predict the mobile commerce adoption. *Journal of Enterprise Information Management*, *29*(2), 222-237.
55. Yang, K. (2010). Determinants of US consumer mobile shopping services adoption: Implications for designing mobile shopping services. *Journal of Consumer Marketing*, *27*(3), 262-270.
56. Yang, K., & Forney, J. C. (2013). The moderating role of consumer technology anxiety in mobile shopping adoption: Differential effects of facilitating conditions and social influences. *Journal of Electronic Commerce Research*, *14*(4), 334-347.
57. Zhang, L., Zhu, J., & Liu, Q. (2012). A meta-analysis of mobile commerce adoption and the moderating effect of culture. *Computers in Human Behavior*, *28*(5), 1902-1911.
58. Zhang, R., Chen, J. Q., & Lee, C. J. (2013). Mobile commerce and consumer privacy concerns. *Journal of Computer Information Systems*, *53*(4), 31-38.
59. Zhou, T. (2013). An empirical examination of the determinants of mobile purchase. *Personal and Ubiquitous Computing*, *17*(1), 187-195.

MARKET TRŽIŠTE

Appendix: Measurement scales

Constructs/items	Authors
Perceived usefulness Using the mobile phone to make purchases would be beneficial for me. The advantages of using the mobile phone to make purchases outweigh its disadvantages. In general, making purchases through the mobile phone is advantageous. Using the mobile phone would allow me to make my purchases faster.	Choi (2018) Venkatesh, Morris, Davis & Davis (2003)
Perceived ease of use The way to use the mobile phone for purchases is clear and understandable. Using the mobile phone for purchases does not require much mental effort. It seems to me that it is easy to trade through the mobile phone. One can easily make purchases using the mobile phone.	Choi (2018)
Social influence My family and friends influence my decision to use my mobile phone to make purchases. The media (television, radio, newspapers) influence my decision to use my mobile phone for purchases. I think I would be more prepared to make purchases through the mobile phone if people from my social circle did.	Marinkovic & Kalinic (2017)
Facilitating conditions My mobile phone allows me to easily access shopping websites. Given the resources, opportunities, and knowledge necessary for purchases through the mobile phone, it would be easy for me to use such a system. I have the knowledge necessary for purchases through the mobile phone.	Yang (2010)
Hedonic motivation Using the mobile phone for purchases is fun. I enjoy using the mobile phone when I have to buy something. Using the mobile phone to make a purchase is very entertaining.	Venkatesh, Thong & Xu (2012)
Usage intention I believe that, in the future, my use of the mobile phone for purchases will increase. I intend to use the mobile phone to buy things in the future. I would recommend using the mobile phone for buying to my family or friends. Whenever possible, I will try to use the mobile phone to make purchases. I intend to frequently use the mobile phone to make purchases.	Shaw & Sergueeva (2019)

ANEXO II.

Artículo 2. Comprensión del *showrooming* móvil a partir de un Modelo de Uso y Aceptación de Tecnología

Understanding mobile *showrooming* based on a technology acceptance and use model

Autores:

Luis Edwin Chimborazo Azogue

Dra. Marta Frasquet Deltoro

Dr. Alejandro Mollá Descals

Dra. María José Miquel Romero

Revista: Sustainability

Año 2021, Volumen. 13, Número. 13.

https://doi.org/10.3390/su13137288

Indicadores de calidad

1. **Journal Citation Reports 2021.** Social Sciences Citation Index (SSCI). 2021 Journal Impact Factor (JIF): 3,889; 2021 Journal Citation Indicator (JCI)=0,64. Rank by Journal Impact Factor 133/279 (Q2) Category Environmental Sciences, 57/127 (Q2) Category Environmental Studies. Rank by Journal Citation Indicator (JCI) 157/324 (Q2) Category Environmental Sciences, 97/169 (Q3) Category Environmental Studies.
2. **SCImago Journal Rank 2021.** SJR (2021)=0.66; 1337/7435 (Q1) in Social Sciences.
3. **Scopus 2021.** CiteScore 2021=5.0; 99/747 (Q1) in Social Sciences.

sustainability

MDPI

Article

Understanding Mobile Showrooming Based on a Technology Acceptance and Use Model

Luis-Edwin Chimborazo-Azogue, Marta Frasquet *, Alejandro Molla-Descals and Maria-Jose Miquel-Romero

Department of Marketing, University of Valencia, 46022 Valencia, Spain; luischim@alumni.uv.es (L.-E.C.-A.); alejandro.molla@uv.es (A.M.-D.); maria.j.miquel@uv.es (M.-J.M.-R.)
* Correspondence: marta.frasquet@uv.es; Tel.: +34-963-828-929

Abstract: Showrooming is an increasingly popular behaviour in the omnichannel era. The purpose of this paper is to understand the consumer intention to showroom through a technology acceptance and use model based on UTAUT2 that includes value consciousness and purchase involvement as drivers of showrooming intention and mobile dependency as a moderator. Data collected via a survey answered by 659 showroomers were analysed using Partial Least Squares (PLS). Results show that value consciousness, purchase involvement, hedonic motivation and social influence explain mobile showrooming intention and mobile dependency moderates the impact of value consciousness on mobile showrooming intention. Our results offer suggestions for multichannel retailers to deal with showroomers visiting their stores to try to turn them into buyers.

Keywords: showrooming; smartphone; UTAUT2; value consciousness; purchase involvement; mobile dependence

Citation: Chimborazo-Azogue, L.-E.; Frasquet, M.; Molla-Descals, A.; Miquel-Romero, M.-J. Understanding Mobile Showrooming Based on a Technology Acceptance and Use Model. *Sustainability* **2021**, *13*, 7288. https://doi.org/10.3390/su13137288

Academic Editor: Francisco José Liébana-Cabanillas

Received: 2 June 2021
Accepted: 24 June 2021
Published: 29 June 2021

1. Introduction

The transition to omnichannel has contributed to blurring the frontiers between channels [1], allowing shoppers to interact with sellers through several channels and touchpoints during their shopping journey [2]. Retailers have increased channel integration, facilitating consumer cross-channel behaviours such as webrooming and showrooming [3,4]. Webrooming, i.e., search online and then purchase in-store, is the most common behaviour [5]; however, as channel synergies build up, showrooming, i.e., examine products in-store and then purchase online, is growing steadily [6]. According to iVend Retail [7] 91.4% of consumers globally exhibit the behaviour of webrooming, while 83.8% engage in showrooming.

The increasing possession of smartphones contributes to showrooming growth as customers search on their mobile for the best offer while they are in the store [8,9]. Of shoppers, 60.1% use their smartphones when visiting physical stores, mostly to search for the best prices [7]. As a result, showrooming has become a severe threat to store-based retailers that see their financial performance impacted negatively by this behaviour [10]. This is because most showroomers use a high-service retailer to get information about a product that they end up buying online from a competing retailer offering lower prices [11].

Due to the strong impact of showrooming, research interest is quickly developing. Initial research concern focused on retailer tactics to combat the adverse effects of showrooming on sales and salesperson motivation [9,10,12]. A growing research line investigates showrooming from the consumer perspective (e.g., [13–15]). Despite the increased use of smartphones to engage in showrooming, research focusing on mobile showrooming's specific drivers is particularly scarce. By addressing this research gap, this paper contributes to fill the need for further knowledge of the drivers of mobile-assisted showrooming [2,11].

Mobile devices have significant implications for consumer behaviour that have not been investigated. To this end, technology acceptance and use models that integrate

users' perceptions about a new technological system seem to be relevant [16,17]. As reported by Sahu et al. (2021) [18], a few studies have analysed showrooming using models such as TAM (Technology Acceptance Model), TPB (Theory of Planned Behaviour) or UTAUT (Unified Theory of Acceptance and Use of Technology); however, to the best of our knowledge, mobile showrooming has not been studied applying a UTAUT2 model. This model seems appropriate since it includes utilitarian and hedonic motivations for the use of smartphones, however, it needs to be further adapted to the context of shopping and mobile showrooming.

This paper aims to explain mobile showrooming intention using an extended UTAUT2 model that integrates purchase involvement and consumer value consciousness as drivers and mobile dependency as a moderating factor. This contributes to understanding mobile showrooming by including two types of drivers, those related to the mobile device and those related to the purchase context.

This paper is structured as follows. The following section revises the relevant literature on showrooming and then the theoretical framework and hypotheses are presented. The methodology section details the procedure of data collection, which is followed by the analysis of results. The last part includes the conclusions, implications, the study's limitations and future research lines.

2. Literature Review

The transition from multi- to omni-channel management implies offering customers a higher number of channels—where mobile plays a key role—that are coordinated and integrated to provide customers with a seamless shopping experience [16,19]. Goraya et al. (2020) [4] demonstrate that increased channel integration in the omnichannel context drives cross-shopping behaviours such as webrooming and showrooming. The challenge for researchers is to understand how consumers combine offline and online channels across different purchase stages [19,20].

Webrooming and showrooming are two manifestations of "research shopping", a term coined by Verhoef et al. (2007) [21] that refers to searching channel A and purchasing in channel B. Despite this common base, showrooming and webrooming build on different consumer motivations [14,22] and impact retailers in quite different ways, suggesting the need to analyse these two behaviours separately.

Online channels have advantages to get information quickly and conveniently, allowing to compare several competing offers instantly; however, they could present some drawbacks in the purchase stage related to online shopping perceived risks and not allowing immediate possession. As a result, webrooming grew very quickly [21], being yet the most frequent behaviour [5]; it combines the benefits of online channels to gather and compare information and those of offline channels to reduce purchase risks and obtain immediate possession. Like a mirror of webrooming, showrooming involves searching for product information in offline channels and purchasing online [19]. For the showroomer, offline channels in the search stage offer the benefits of examining the product physically and getting customer service from sales personnel [23], while online channels would be chosen to purchase because of price advantages or wider assortments [14].

As drivers of showrooming, the literature has contemplated several variables. Those related to the individual are the most frequently analysed. Price consciousness and the goal of saving money have been confirmed to drive showrooming [11,13,24]. Some papers take the perspective of analysing the perceived benefits and costs of showrooming [8,23]. Besides price benefits, the search for convenience in the shopping process is a relevant consumer motivation for showrooming [14,23]. More recent papers analyse the relationship of showrooming with smart shopping perceptions [5], sensory stimulation in the stores [15], or retailer loyalty [11].

Smartphones are increasingly used in the shopping process, contributing to the complexity of customer journeys [20]. The mobile channel has specific attributes that set it apart from the PC channel [25]. Ubiquity is a central property of the smartphone that

strongly affects the shopping process as it gives the consumer unrestricted access to the Internet. Moreover, connectivity, which is further enhanced by 4G networks and in-store free-wifi, allows customers to control the shopping process by accessing other information sources [26]. Furthermore, geo-localisation technologies involving smartphones provide a local dimension to shopping [15]. Due to these properties, mobile channels contribute to the convergence of online and offline channels as they allow unique synergies between the physical store and the online channel [27].

3. Research Model and Hypotheses

Our research model is based on UTAUT2 [28], which is an evolution from the original UTAUT model [29] that integrates seven variables as predictors of technology acceptance and use: performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price/value, and habit. As Venkatesh et al. (2012) [28] suggest, UTAUT2 needs to be tested in different technologies, identifying the factors that make it applicable to a different consumer technology context. Accordingly, our model aims to tailor UTAUT2 to a consumer shopping technology use context, as the original model was designed for workplace technology. Bearing in mind that we do not seek to explain the mere use of the smartphone but showrooming behaviour using a smartphone, we add three new variables to UTAUT2 to use it in the mobile showrooming context: purchase involvement, value-consciousness, and mobile dependency (see Figure 1).

By adding purchase involvement, we integrate a situational factor that refers to the specific context of using mobile technology for showrooming. Verhoef et al. (2007) [21] also suggested that the level of involvement and task requirements could affect research shopping mechanisms for specific purchases. The contextual adaptation suggested by Venkatesh et al. (2012) [28] is further accomplished by the consideration of value-consciousness and mobile dependency. In contrast to the price/value factor in the original UTUAT2, which refers to the monetary costs of using the technology related to its perceived benefits. This variable was not included in our model since we are trying to explain mobile-assisted showrooming, whose monetary cost is not explicit, but it is included in the costs of owning a smartphone for other purposes. In contrast, we include a construct with a similar meaning but related to shopping behaviour. Value-consciousness is a consumer trait related to finding a good trade-off between price and quality. Price consciousness has been tested as a driver of showrooming by quite a few papers [30], but value-consciousness, to the best of our knowledge, has not been assessed. Analysing value consciousness seems relevant as the qualitative study of Kokho Sit et al. (2018) [31] suggested that both price and non-price factors could drive showrooming behaviour. The original UTAUT2 included the habit of using the technology as a direct driver; keeping this same variable would mean to measure the habit of mobile showrooming, which could be misleading in the context of non-rutinary purchases. We believe a more intense use of the mobile would not drive more purchases but would affect the relationships of other variables in the model, that is, it would be a moderator. Considering that dependency is a psychological state that develops from habit but becomes a soft addiction [32], mobile dependency is added into the model as a moderator of the relationship between value-consciousness and mobile showrooming intention. The increased use of smartphones and the possibility of using them in-store is believed to have fostered showrooming [9]. Our model attempts to analyse the role of being more dependent on the mobile device in the relevance of value consciousness on showrooming intention.

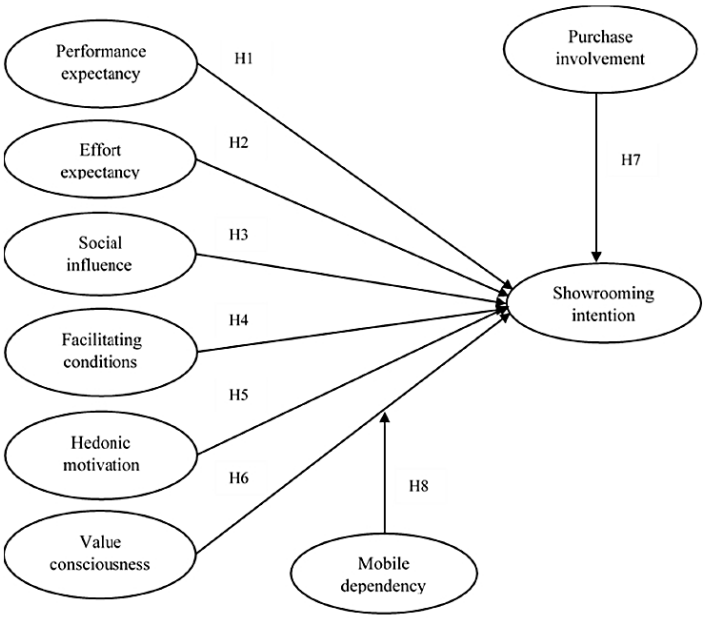


Figure 1. Research model on mobile showrooming.

3.1. Performance Expectancy

The UTAUT model suggested by Venkatesh et al. (2003) [29] included performance expectancy as a variable that captures the functionality of technology to achieve the desired outcomes of the task in which it is used. This construct has its roots in the usefulness variable of TAM [33], in the concept of extrinsic motivation [34], and the comparative advantage considered in the innovation diffusion theory [35]. It has consistently been shown to strongly influence the intention to adopt or use a technology [28]. The studies trying to explain the use of mobile devices for shopping have confirmed the predictor power of performance expectancy [36].

Performance expectancy in the mobile showrooming context would capture the perceived usefulness of the smartphone in a shopping process that includes a visit to a physical retailer. As a shopping process is typically initiated to obtain specific outcomes, the usefulness of the technological device employed to shop would play an important role [37]. Furthermore, compared to e-commerce, m-commerce allows users to complete their tasks using a wireless connection, acting as an external reward to use smartphones for shopping [38]. The role of performance expectancy in predicting behavioural intentions has been confirmed as a driver of purchase intentions in omnichannel stores [16]. Thus, mobile showrooming intention would increase as the shopper perceives that using the smartphone contributes to achieving the goals of the shopping journey easily. Thus, we formulate our first hypothesis.

Hypothesis 1 (H1). Performance expectancy positively influences mobile showrooming intention.

3.2. Effort Expectancy

Effort expectancy is defined as the extent to which consumers believe technology is easy to use [29], in close similarity with the perceived ease of use in TAM [33]. Research

revealed that perceived ease of use is not only a strong predictor of mobile technology adoption but it also affects its usage continuance [37]. As customers typically use the smartphone without assistance, ease of use would influence the intention to showroom using the mobile device. Furthermore, Verhoef et al. (2007) [21] found that perceived attributes of the channels related to search and purchase efforts explain the combined use of online and offline channels for search and purchase. Effort expectancy has been demonstrated to be a strong predictor of purchasing intentions in an omnichannel context [16]. Moreover, there is evidence that mobile shopping's ease of use positively influences mobile shopping intention [39]. Based on the above arguments, we state the following hypothesis.

Hypothesis 2 (H2). Effort expectancy positively influences mobile showrooming intention.

3.3. Social Influence

Social influence captures the extent to which a user is influenced by social norms to use a technological system [29,40]. Social influence in the context of m-commerce was identified as a key variable for predicting m-commerce intention [41,42]. The usage and adoption of mobile devices are very sensitive to social influence, since they are present in interactions in social environments with friends and family [43]. Shoppers receive social influence as they observe, perceive or anticipate the decisions made by others using the smartphone [44]. Furthermore, when using a smartphone for shopping, users are significantly exposed to peer influence when interacting in digital social networks [45]. Based on the theory of planned behaviour, some studies have proved the social influence of subjective norms in channel switching intentions [46] and showrooming [47]. Thus, when a consumer is affected by his/her social network to use the smartphone for shopping, his mobile showrooming intention would be higher.

Hypothesis 3 (H3). Social influence positively influences mobile showrooming intention.

3.4. Facilitating Conditions

Facilitating conditions refer to "the degree to which an individual believes that an organisational and technical infrastructure exists to support use of the system" [29] (p. 453). They provide the external resources required to easily achieve the performance of a particular behaviour [40], thus in showrooming behaviours the use of the smartphone can add convenience to the shopping process. Consumers may perceive different levels of facilitating conditions to use a smartphone depending on technology generations, mobile devices' features and network carriers, which, in turn, will affect the intentions to use the device [29]. Facilitating conditions have a positive influence on the intention to use a smartphone for shopping [43,48,49]. Extending these findings to a showrooming context, we believe that facilitating conditions related to the use of the smartphone for shopping will influence mobile showrooming intention. Thus, we posit:

Hypothesis 4 (H4). Facilitating conditions positively influence mobile showrooming intention.

3.5. Hedonic Motivation

Literature on shopper behaviour holds that shopping provides both utilitarian and hedonic shopping value [50]. These motivations are still valid in online and mobile shopping environments [51]. In these contexts, hedonic motivation captures the fun, enjoyment and entertainment derived from technology use [28]. In a study focused on explaining mobile user engagement, Kim et al. (2013) [52] found that hedonic motivation, integrating the fun and excitement of using the mobile, explained consumer engagement with smartphone use. Extending this argument to the shopping context, it could be expected that a consumer who enjoys using a smartphone will be more engaged in using this device and, therefore, more likely to use the mobile for shopping. Applying the

UTAUT2 model to explain mobile commerce intention, Madan and Yadav (2018) and Shaw and Sergueeva (2019) [53,54] concluded that hedonic motivation was a strong determinant of consumers' m-commerce intentions. Shoppers with high hedonic motivation tend to like shopping and are willing to invest more time searching and purchasing across channels [55]. Those consumers who enjoy shopping through the smartphone will be more likely to use the device throughout the shopping process and are more likely to engage in mobile showrooming. Accordingly:

Hypothesis 5 (H5). Hedonic motivation positively influences mobile showrooming intention.

3.6. Value Consciousness

Showrooming has consistently been related to the motivation of finding lower prices online [5]. The literature has confirmed that price-consciousness is an individual psychographic factor that positively affects the attitude and intentions of showrooming [30,56]. In a qualitative study, Fiestas and Tuzovic (2021) [2] argued that getting the best value is a benefit sought by showroomers. Value-consciousness refers to a concern for paying a reduced price, subject to some level of quality [57]. A value-conscious consumer would tend to be a smart shopper that pays attention not only to price but also to quality [58]. The deep concern with the benefit–cost ratio would take value-conscious individuals to put more effort into the search stage to obtain the best value [39]. Likewise, it can also be expected that value-conscious shoppers would be more likely to visit a physical store to gather product information before making the decision to purchase online finally. Although the influence of value consciousness on showrooming has not been analysed, we find additional support to our hypothesis in the findings of Gensler et al. (2017) [23] related to the effects of perceived gains in quality and price perceptions by showrooming behaviour.

Hypothesis 6 (H6). Value consciousness positively influences mobile showrooming intention.

3.7. Purchase Involvement

Involvement refers to an individual's motivation to process information about an issue [59]. In turn, a highly involved individual would not bother to put more mental and physical effort into the purchasing process [60]. Consumer involvement may refer to the products or the purchase decision. A higher product involvement will lead the consumer to analyse in more detail product attributes and brand differences, whereas a higher purchase involvement would lead the consumer to search for more information and visit more shops [61]. Thus, purchase involvement captures the relevance of the purchase decision based on the consumer's inherent needs, values, and interests [61]. In a high involvement purchase, the shopper would undertake a careful decision process where greater attention is put on information search before buying [62]. Flavián et al. (2020) [5] argue that combining channels during the purchase process (webrooming and showrooming) leads consumers to smart shopping perceptions. To achieve the right outcome of the shopping process, showroomers may visit a store to collect additional information before buying online [13,63].

Hypothesis 7 (H7). Purchase involvement positively influences mobile showrooming intention.

3.8. Mobile Dependency as a Moderator of the Relationship between Value Consciousness and Mobile Showrooming Intention

Consumers become dependent on their smartphones when they regard them as a necessity, being constantly engaged in their use and unwilling to part from them [64]. Mobile dependency would be related to the consumer desire to be connected continuously [65]. Internet dependency has been shown to affect purchase intentions [66]. Consumers in-

creasingly use smartphones in the information search phase to compare prices in online stores and physical stores when using, for example, mobile apps that allow barcode or QR code scanning [67]. The smartphone enables not only price comparison but also access to detailed product information and user-generated reviews [68]. The findings of Daurer et al. (2015) [67] show that smartphones are used to compare price and product quality, suggesting the importance of the mobile search for value-conscious consumers. Thus, we expect that when consumers are more mobile dependent, the effect of value consciousness on mobile showrooming intention is higher as they will be more likely to access price and product information online.

Hypothesis 8 (H8). Mobile dependency strengthens the relationship between value consciousness and mobile showrooming intention.

4. Methodology

To test the research model depicted in Figure 1, data were collected via an online survey managed by a professional market research firm in Spain. Respondents had to be over eighteen and had to have bought a product through a smartphone after visiting a physical store to get information about the product; that is, our population was defined as mobile showroomers. The final valid sample was comprised of 659 individuals, and it had a balanced composition regarding age, gender and education. This sample already excludes responses with missing data or unfinished questionnaires. Only six outliers were identified and eliminated from the original sample. The final sample size is considered appropriate given its balanced composition and the quality controls applied by the professional market research firm. Thus, the sample can be considered representative of the population to be analysed. Thus, 49.6% of the sample were women, and 50.4% were men; regarding age, 31% were between 23 and 35 years old, 48.6% between 36 and 55 and 13.1% between 56 and 65; finally, 58.1% of the respondents had a university degree.

The scales to measure the constructs of the research model were taken from literature and, if necessary, adapted to the current topic (see Appendix A). All the scales were 7-point multi-item scales and were measured as reflective constructs, as the original authors suggest. A pretest checked that they were adequately adapted and understood. Appendix A shows the mean values and standard deviations for each item.

Partial Least Squares Modelling (PLS-SEM) through Smart PLS 3.3.3 software was chosen to test the research model. This approach is suitable considering the predictive nature of the study [69]. Furthermore, it can simultaneously test the measurement model (i.e., assess the psychometric properties of the scales) and the structural model (i.e., test the hypotheses).

5. Results

The first step was the evaluation of the measurement model (see Table 1). The confirmatory factor analysis showed that, for all the items, the standardised loading on its respective factor was significant and higher than 0.7 [70]. For each construct, the Cronbach's alpha value surpassed the threshold of 0.7, which is considered acceptable [71]. Composite reliability (CR) and average variance extracted (AVE) reached the values that the literature suggests as the minimum threshold (0.8 and 0.6, respectively) [72].

Table 1. Construct reliability and validity.

Construct	Loading	*t*	Cronbach's Alpha	Composite Reliability	AVE
Performance expectancy			0.871	0.921	0.795
PE1	0.861	51.444			
PE2	0.899	74.559			
PE3	0.914	93.209			
Effort expectancy			0.875	0.923	0.800
EE1	0.858	38.407			
EE2	0.923	87.642			
EE3	0.901	67.400			
Social influence			0.892	0.931	0.818
SI1	0.881	12.099			
SI2	0.947	15.455			
SI3	0.884	12.852			
Facilitating conditions			0.834	0.889	0.667
FC1	0.796	36.655			
FC2	0.831	50.560			
FC3	0.851	45.189			
FC4	0.787	33.278			
Hedonic motivation			0.917	0.947	0.857
HM1	0.910	81.327			
HM2	0.941	152.866			
HM3	0.925	68.908			
Value consciousness			0.861	0.905	0.705
VC1	0.840	37.613			
VC2	0.815	32.490			
VC3	0.836	39.487			
VC4	0.867	66.090			
Purchase involvement			0.876	0.923	0.801
PI1	0.880	58.805			
PI2	0.898	59.262			
PI3	0.906	100.833			
Mobile showrooming intention			0.860	0.915	0.782
MSI1	0.848	34.548			
MSI2	0.891	82.858			
MSI3	0.912	121.304			
Mobile dependency			0.851	0.899	0.691
MD1	0.757	30.147			
MD2	0.853	48.329			
MD3	0.885	79.859			
MD4	0.825	44.197			

AVE = Average variance extracted.

Discriminant validity was evidenced using two criteria. First, we observed that the square root of AVE for every construct exceeded the correlation among other constructs [70]. On the other hand, we checked that the Heterotrait–Monotrait (HTMT) ratios between constructs were lower than 0.90 [73] (see Table 2).

Table 2. Discriminant validity.

	PE	EE	SI	FC	HM	VC	PI	MD	MSI
PE	**0.892**	0.540	0.227	0.704	0.717	0.417	0.347	0.631	0.432
EE	0.618	**0.894**	0.093	0.567	0.534	0.517	0.316	0.435	0.351
SI	0.248	0.096	**0.904**	0.185	0.337	−0.117	0.051	0.224	0.102
FC	0.828	0.658	0.245	**0.817**	0.668	0.524	0.386	0.646	0.499
HM	0.803	0.594	0.371	0.768	**0.926**	0.295	0.374	0.585	0.398
VC	0.478	0.595	0.142	0.605	0.329	**0.840**	0.442	0.393	0.618
PI	0.395	0.360	0.067	0.446	0.413	0.507	**0.895**	0.321	0.427
MD	0.727	0.489	0.280	0.756	0.660	0.435	0.361	**0.831**	0.434
MSI	0.498	0.404	0.107	0.584	0.445	0.718	0.490	0.498	**0.884**

Note: FC = facilitating conditions, SI = Social influence, HM = Hedonic motivation, PI = Purchase involvement, EE = Effort expectancy, PE = Performance expectancy, VC = Value consciousness, MSI = Mobile showrooming intention. The diagonal values in bold indicate the square root of the average variance extracted (AVE). The scores below the diagonal indicate the heterotrait–monotrait (HTMT) ratio. The scores above the diagonal indicate inter-construct correlations.

Additionally, Harman's single-factor test was applied to check common method bias [74]. With that purpose, exploratory factor analysis was performed and the unrotated factor solution examined; five factors with an eigenvalue greater than 1 emerged, accounting altogether for 69.37% of the variance, and the first factor for just 39.70%. Those results suggested that the common method variance, if existed, was not a prevalent issue.

The second step was the assessment of the structural model (see Table 3) for hypothesis testing. At this stage, collinearity was initially examined to make sure that it would not influence the results. In all cases, the variance inflation factor (VIF) values were lower than 3 (ranging between 1.213 and 2.841), which is considered an ideal threshold and suggests no collinearity issues [75]. Following Hair et al.'s (2017) [73] suggestion, we performed bootstrapping with 5000 random samples using the replacement method to generate standard errors and t-statistic values. The R2 value shows the power of the model to explain showrooming intention. It was 0.473, surpassing the minimum threshold of 0.10 [76]. Additionally, using blindfolding, Q2 was calculated to be 0.362, which being higher than 0, supported the model predictive capability [75]. In fact, it can be considered to have high predictive relevance, as the Q2 value is higher than 0.35 [77].

Table 3. Hypotheses testing.

		Main Effects Only		Main and Moderating Effects	
		β	*t*-Value	β	*t*-Value
H1	Performance expectancy -> Mobile showrooming intention	0.027	0.454 ^{ns}	0.011	0.171 ^{ns}
H2	Effort expectancy -> Mobile showrooming intention	−0.121	2.560 *	−0.105	2.399 *
H3	Social influence -> Mobile showrooming intention	0.089	2.908 **	0.094	2.611 **
H4	Facilitating conditions -> Showrooming intention	0.085	1.522 ^{ns}	0.086	1.540 ^{ns}
H5	Hedonic motivation -> Mobile showrooming intention	0.104	2.017 *	0.106	2.094 *
H6	Value consciousness -> Mobile showrooming intention	0.514	10.587 ***	0.498	9.497 ***
H7	Purchase involvement -> Mobile showrooming intention	0.123	3.133 **	0.132	3.480 ***
	Mobile dependency-> Mobile showrooming intention	0.091	1.820 ^{ns}	0.090	1.946 ^{ns}
H8	Value consciousness * Mobile dependency -> Mobile showrooming intention			−0.074	2.024 *
	Mobile showrooming intention	R^2: 0.473 Q^2: 0.362		R^2: 0.480 Q^2: 0.364	

^{ns} not significant; *** p <0.001; ** p <0.01; * p <0.05.

For testing the hypotheses regarding the drivers of mobile showrooming intention, the significance of each path coefficient was considered. Results presented in Table 3 reveal that, initially, five hypotheses are supported. Value consciousness (H6) appears to be the most influential antecedent of showrooming intention (β = 0.514), followed by purchase involvement (H7, β = 0.123), hedonic motivation (H5, β = 0.104), and social influence

(H3, β = 0.089). The analysis shows that performance expectancy (H1) and facilitating conditions (H4) do not significantly influence mobile showrooming intention. In contrast, effort expectancy (H2) affects mobile showrooming in the opposite direction to the one hypothesised (β = −0.121). It was surprising that the relationship between effort expectancy and mobile showrooming intention was negative, whereas the correlation between both constructs was positive (see Table 2). That could suggest a suppression effect, e.g., value consciousness increased the regression coefficient between effort expectancy and mobile showrooming intention when included in the equation [78]. Following MacKinnon et al.'s (2000) [79] procedure, value consciousness was identified as a suppressor variable. When value consciousness is eliminated from the model, the predictive capacity of the model is reduced (Q2 = 0.246), and the influence of effort expectancy on mobile showrooming intention becomes positive although not significant (β = 0.041; *t*-value = 0.755, sig. >0.05). Accordingly, we reject H2 as effort expectancy does not influence the dependent variable.

Finally, we tested the moderating effect of mobile dependency on the relationship between value consciousness and mobile showrooming intention. Following Hair et al.'s (2019) [80] suggestion to moderator analysis, the two-stage approach was used, as it outperforms all other methods. We first calculated the main effects of the PLS path model to obtain construct scores of value consciousness (independent variable) and mobile dependency (moderator variable), and then run the interaction terms and the latent variable scores for value consciousness and mobile dependency on the latent variable scores.

Table 3 shows that mobile dependency attenuates the relationship between value consciousness and mobile showrooming intention (H8, β = −0.074), which does not allow to accept H8, as the effect is in the opposite direction to the one expected. Although we only hypothesised a moderating effect of mobile dependency and not a direct effect, the two-stage approach results also allow observing that such direct effect is non-significant.

6. Discussion and Conclusions

The current omnichannel context provides customers with multiple channels and touchpoints that increase the complexity of the customer journey. Cross-channel behaviours such as webrooming and showrooming have become popular. Specifically, showrooming appears as a threat to store-based retailers, as showroomers visit the physical store to gather information on the product they will buy online, probably from a competing retailer [10,11]. Considering the relevant role smartphones play in showrooming [2,5,9], this paper focused on identifying mobile showrooming intention's specific drivers. With that purpose, a modified UTAUT2 model is employed to capture the importance of smartphones as technology in mobile showrooming intention; the model is extended by adding purchase involvement and consumer value consciousness to offer a broader understanding of the phenomenon with the addition of situational and individual drivers. Finally, mobile dependency is analysed as a moderating factor.

From a theoretical perspective, our research contributes to the existing omnichannel literature in three ways. First, by applying UTAUT2 to explain showrooming intention; second, by focusing on mobile showrooming, as most of the existing research does not refer to the specific implications of mobile devices. Third, by expanding UTAUT2 with situational variables (purchase involvement) and personality traits and characteristics (value consciousness and mobile dependency), giving a fuller picture of the variables influencing mobile showrooming intention.

Four main conclusions are derived from our study. First, the relevant role of smartphones as a device to perform showrooming behaviours. From the five variables analysed of the UTAUT2 model, our results do not support the role of three of them, appearing as non-significant drivers. According to our data, performance expectancy, effort expectancy and facilitating conditions of the smartphone as a shopping device do not play any role in mobile showrooming intention. These results could suggest that mobile showroomers are familiar with using the device. Therefore, the utilitarian variables related to ease of use, usefulness and convenience of the smartphone are not driving them to participate in

mobile showrooming. These results are consistent with Verkijika (2018) [81] in the mobile commerce applications context, who did not find a significant effect of effort expectancy or performance expectancy. Several recent studies have also supported the lack of relevance of effort expectancy in the intention to adopt specific technologies such as mobile payment [82], social networks [83], or Big Data services [84]. Our results suggest that the only drivers of the original UTAUT2 model that influence mobile showrooming intention are hedonic motivation followed by social influence. These results align with those in the m-commerce context [41,42,53,54,81].

The second conclusion refers to the role that value consciousness plays in mobile showrooming intention. Among the seven variables analysed, value consciousness is the one that exerts the most substantial influence. Value-conscious individuals are smart shoppers [58] that put great effort into the search stage looking for the best value [39] and take less risk in their decision making [85]. Consistently, they tend to visit the store and purchase online to achieve the best benefit–cost ratio. This reasoning leads to the third conclusion, which shows the relevance of the purchase involvement in the intention of carrying out mobile showrooming. A high purchase involvement pushes the individual to put extra effort in the search stage [62] and combine channels to feel like a smarter shopper [5], resulting in higher mobile showrooming intention.

The last conclusion applies to the relationship of the individual with the smartphone. Although mobile dependency moderates the relationship between value consciousness and mobile showrooming intention, the moderation effect is contrary to what it was expected. The stronger the mobile dependency, the weaker the relationship between value consciousness and mobile showrooming intention, i.e., it does not strengthen but attenuates the relationship. This unexpected influence of mobile dependency is in line with the results of other studies that also expected a positive impact of this moderating variable [86]. Although more research is needed to understand and justify the sign of this moderating effect, a possible explanation suggests that those individuals who are highly dependent on their smartphones are predisposed to use them for many different tasks [64]; thus, it could be the habit or dependence on the device what motivates its use for purchasing online, and not the interest of looking for the best benefit–cost ratio once visited the store.

6.1. Practical Implications

The findings of this study suggest actions that multichannel retailers can implement to deal with mobile showroomers visiting their physical stores. First of all, showrooming is strongly linked to the increased use of smartphones that allow hyper-connectivity and facilitate cross-shopping behaviours. To address the challenges of mobile showrooming, retailers should embrace omnichannel practices and prioritise the mobile channel and smartphones applications. Instead of rejecting showroomers in the stores, retailers should implement tactics to persuade them to buy in the physical store, or drive those customers with a clear preference towards online purchase to do it from their online store instead of the competitor's.

More specifically, to take advantage of the impact of hedonic motivation on mobile showrooming intention, retailers should promote mobile marketing actions that engage store patrons through fun and entertainment. Retailers should improve the in-store shopping experience through an engaging environment where the smartphone plays a relevant role. Through QR codes, location-based technologies such as i-beacons, or virtual reality headsets, the retailer could offer a richer experience to those who enjoy mobile shopping. Based on the type of product, extra valuable information on the product, cross-selling and up-selling proposals, or customised communications, could be activated in the store to drive mobile showroomers to buy from the retailer, either at the store or through their online channels. These actions could also be particularly effective for mobile dependent showroomers, as those shoppers are always ready to use their smartphones and would easily engage with these retailer's actions.

Retailers should also take advantage of the effect that social influence has on mobile showrooming intention. For example, digital screens providing information about how many people bought specific items, how they rated the purchase, or their product reviews on social media, could encourage mobile showroomers to buy from the retailer. Additionally, loyalty actions could be implemented with those sharing information through social media after making a purchase in the physical store; consumers could be given a reward (i.e., points to be exchanged for discounts, gifts, or participation in raffles or special events) when sharing in social media a picture showing the store's shopping bag.

Salespeople play a key role to influence showroomers in the physical store. Considering how much an individual's value consciousness affects mobile showrooming intention, salespeople should be trained to correctly identify showroomers and effectively present them with an attractive offer. Salespeople should not only have a perfect knowledge of the retailer's prices and promotions in offline and online channels, but also be aware of competitors' offers available online in order to offer a richer experience to the value-conscious showroomer. In addition, retail managers should train salespeople to view interactions with showroomers as opportunities to build profitable relationships even if they do not purchase from them on a specific occasion. This would decrease the feelings of failure and frustration that could damage the salespeople's overall performance.

Furthermore, salespeople should be trained specifically to interact with shoppers highly involved with the purchase. The salesperson has to prove to showroomers that the retailer's offer is the best option by providing valuable information about product attributes, performance or warranties. The high service quality provided by the salesperson could influence the individual's decision to buy at the physical store, even using the individual's smartphone. Staff could also assist them in that process by inviting them to check the retailer's website or app. All the suggested actions may discourage mobile showroomers to leave the store without purchasing and encourage them to buy at the store or through the retailer's online channels.

6.2. Limitations and Further Research

This paper has some limitations that suggest future research avenues on the topic. We just considered mobile showrooming in two categories, fashion and electronics. Future research could also consider different product categories in two different approaches; on one hand, analysing whether the same results apply to different product categories, as not all products are equally easy to buy online as they involve different symbolic and experiential attributes; on the other hand, considering the moderating role of product characteristics on the analysed relationships. Moreover, the initial aim of the behaviour was not considered, i.e., if mobile showrooming was intentional or unintentional. Perhaps the lack of assortment in the physical store pushed the individual to purchase online, or maybe a crowded store, among others. Future research could analyse the proposed theoretical model considering the intentionality of the behaviour.

This study did not analyse the moderating effects of age, gender and experience suggested in the original UTAUT2 model. Although this omission could have a lesser impact on our study because our sample is drawn from a strictly defined population of mobile showroomers, future research could analyse the potential impact of those variables. Finally, the moderating effect of mobile dependency on the relationship between value consciousness and mobile showrooming intention needs further analysis, since the influence resulted to be in the opposite direction to the one expected.

Author Contributions: Conceptualisation, M.F., A.M.-D. and M.-J.M.-R.; methodology, M.F., A.M.-D. and M.-J.M.-R.; software, L.-E.C.-A. and M.-J.M.-R.; validation, L.-E.C.-A. and M.-J.M.-R.; formal analysis, L.-E.C.-A. and M.-J.M.-R.; investigation, M.F., A.M.-D. and M.-J.M.-R.; resources, M.F. and A.M.-D.; data curation, M.F. and M.-J.M.-R.; writing—original draft preparation, L.-E.C.-A., M.F., A.M.-D. and M.-J.M.-R.; writing—review and editing, L.-E.C.-A., M.F., A.M.-D. and M.-J.M.-R.; visualisation, M.F., A.M.-D.; supervision, M.F., A.M.-D.; project administration, M.F. and A.M.-D.;

funding acquisition, M.F. and A.M.-D. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Spanish Research Agency. Ministry of Economy, Industry and Competitiveness's R&D Program (Project ECO2017-83051-R).

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data is not publicly available.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

Appendix A

Table A1. Construct measures and descriptives.

Contruct/Items	Authors	Mean	SD
Facilitating conditions			
The smartphone, compared to the PC, allows me to get access to what I want wherever I am.	[28]	5.96	1.11
For shopping purposes, having a smartphone is like having both a mobile phone and a PC together.		5.79	1.21
Buying through the smartphone, instead of doing it through the PC, saves me time.		5.38	1.40
Buying through the smartphone, instead of through the PC, requires less effort.		5.38	1.38
Social influence			
My family and friends influence my decision to use the smartphone for shopping.	[28]	4.16	1.88
The media (TV, radio, newspapers) influence my decision to use the smartphone for shopping.		4.05	1.79
I think I would use the smartphone more for shopping if people close to me did.		4.01	1.80
Hedonic motivation			
Shopping through the smartphone is fun.	[28]	5.36	1.36
Shopping through the smartphone is enjoyable.		5.11	1.40
Shopping through the smartphone is very entertaining.		5.25	1.39
Purchase involvement			
How would you rate the purchase you made?	[87]	5.60	1.17
Important . . . . . Unimportant		5.52	1.18
Relevant . . . .Irrelevant		5.50	1.17
Means a lot to me . . . . . Means nothing to me			
Effort expectancy			
It has been easy for me to develop the skills needed for shopping through the smartphone.	[28]	5.50	1.32
My interaction with online shopping sites through the smartphone is clear and understandable.		5.54	1.25
It is easy to become skillful at using online shopping websites through the smartphone.		5.64	1.19
Performance expectancy			
I find shopping through the smartphone is useful in my daily life.	[28]	5.58	1.19
Using the smartphone for shopping helps me to accomplish things more quickly.		5.46	1.29
Shopping through the smartphone increases my shopping efficiency.		5.46	1.27

Table A1. *Cont.*

Contruct/Items	Authors	Mean	SD
Value consciousness			
When shopping, I am equally concerned about low prices and product quality.	[58]	6.05	1.10
When shopping, I compare the prices to be sure I get the best value for my money.		5.93	1.18
When shopping, I try to maximise the quality I get for the money I can spend.		5.94	1.24
When I buy products, I like to be sure that I am getting my money's worth.		5.98	1.14
Mobile dependency			
In my day to day, usage of the smartphone is high.	[32]	6.16	1.10
I feel lost when my smartphone is not with me.		5.22	1.45
I use the smartphone for everything.		5.40	1.39
I am totally dependent on my smartphone.		5.09	1.52
Showrooming intention			
It is likely that in the future I will shop again in this way.	[47]	5.89	1.13
When I have to purchase this kind of product again, I will do it in the same way.		5.57	1.12
I have the intention to continue shopping this way.		5.68	1.13

References

1. Brynjolfsson, B.E.; Hu, Y.J.; Rahman, M.S. Competing in the Age of Omnichannel Retailing. *MIT Sloan Manag. Rev.* **2013**, *54*, 23–29.
2. Fiestas, J.C.; Tuzovic, S. Mobile-assisted showroomers: Understanding their purchase journey and personalities. *J. Retail. Consum. Serv.* **2021**, *58*, 102280. [CrossRef]
3. Chiu, H.C.; Hsieh, Y.C.; Roan, J.; Tseng, K.J.; Hsieh, J.K. The challenge for multichannel services: Cross-channel free-riding behavior. *Electron. Commer. Res. Appl.* **2011**, *10*, 268–277. [CrossRef]
4. Goraya, M.A.S.; Zhu, J.; Akram, M.S.; Shareef, M.A.; Malik, A.; Bhatti, Z.A. The impact of channel integration on consumers' channel preferences: Do showrooming and webrooming behaviors matter? *J. Retail. Consum. Serv.* **2020**, 102130. [CrossRef]
5. Flavián, C.; Gurrea, R.; Orús, C. Combining channels to make smart purchases: The role of webrooming and showrooming. *J. Retail. Consum. Serv.* **2020**, *52*. [CrossRef]
6. Barwitz, N.; Maas, P. Understanding the Omnichannel Customer Journey: Determinants of Interaction Choice. *J. Interact. Mark.* **2018**, *43*, 116–133. [CrossRef]
7. iVend Retail. Global Path to Purchase Report. 2018. Available online: https://support.ivend.com/userportal?id=doc_view&doc=KB0011242 (accessed on 4 May 2021).
8. Kim, B.; Park, M.J. An Examination of the Effect of Consumer Personal Traits on Show Rooming Behavior: The Effect of Product Type. *J. Internet Commer.* **2019**, *18*, 24–44. [CrossRef]
9. Rapp, A.; Baker, T.L.; Bachrach, D.G.; Ogilvie, J.; Beitelspacher, L.S. Perceived customer showrooming behavior and the effect on retail salesperson self-efficacy and performance. *J. Retail.* **2015**, *91*, 358–369. [CrossRef]
10. Fassnacht, M.; Beatty, S.E.; Szajna, M. Combating the negative effects of showrooming: Successful salesperson tactics for converting showroomers into buyers. *J. Bus. Res.* **2019**, *102*, 131–139. [CrossRef]
11. Schneider, P.J.; Zielke, S. Searching offline and buying online–An analysis of showrooming forms and segments. *J. Retail. Consum. Serv.* **2020**, *52*. [CrossRef]
12. Mehra, A.; Kumar, S.; Raju, J.S. Competitive strategies for brick-and-mortar stores to counter 'showrooming'. *Manag. Sci.* **2018**, *64*, 3076–3090. [CrossRef]
13. Dahana, W.D.; Shin, H.J.; Katsumata, S. Influence of individual characteristics on whether and how much consumers engage in showrooming behavior. *Electron. Commer. Res.* **2018**, *18*, 665–692. [CrossRef]
14. Kang, J.Y.M. Showrooming, Webrooming, and User-Generated Content Creation in the Omnichannel Era. *J. Internet Commer.* **2018**, *17*, 145–169. [CrossRef]
15. Viejo-Fernández, N.; Sanzo-Pérez, M.J.; Vázquez-Casielles, R. Is showrooming really so terrible? start understanding showroomers. *J. Retail. Consum. Serv.* **2020**, *54*. [CrossRef]
16. Juaneda-Ayensa, E.; Mosquera, A.; Murillo, Y.S. Omnichannel customer behavior: Key drivers of technology acceptance and use and their effects on purchase intention. *Front. Psychol.* **2016**, *7*, 1–11. [CrossRef]
17. Escobar-Rodríguez, T.; Carvajal-Trujillo, E. Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. *Tour. Manag.* **2014**, *43*, 70–88. [CrossRef]
18. Sahu, K.C.; Naved Khan, M.; Das Gupta, K. Determinants of webrooming and showrooming behavior: A systematic literature review. *J. Internet Commer.* **2021**, *20*, 137–166. [CrossRef]
19. Verhoef, P.C.; Kannan, P.K.; Inman, J.J. From Multi-Channel Retailing to Omni-Channel Retailing Introduction to the Special Issue on Multi-Channel Retailing. *J. Retail.* **2015**, *91*, 174–181. [CrossRef]
20. Lemon, K.N.; Verhoef, P.C. Understanding Customer Experience Throughout the Customer Journey. *J. Mark.* **2016**, *80*, 69–96. [CrossRef]

21. Verhoef, P.C.; Neslin, S.A.; Vroomen, B. Multichannel customer management: Understanding the research-shopper phenomenon. *Int. J. Res. Mark.* **2007**, *24*, 129–148. [CrossRef]
22. Flavián, C.; Gurrea, R.; Orús, C. Feeling Confident and Smart with Webrooming: Understanding the Consumer's Path to Satisfaction. *J. Interact. Mark.* **2019**, *47*, 1–15. [CrossRef]
23. Gensler, S.; Neslin, S.A.; Verhoef, P.C. The Showrooming Phenomenon: It's More than Just About Price. *J. Interact. Mark.* **2017**, *38*, 29–43. [CrossRef]
24. Arora, S.; Sahney, S. Antecedents to consumers' showrooming behaviour: An integrated TAM-TPB framework. *J. Consum. Mark.* **2018**, *35*, 438–450. [CrossRef]
25. Perry, A.; Kent, P.; Bonetti, F. The use of mobile technologies in physical stores: The case of fashion retailing. In *Exploring Omnichannel Retailing*; Piotrowicz, W., Cuthbertson, R., Eds.; Springer: Cham, Switzerland, 2019; pp. 169–195.
26. Santos, S.; Gonçalves, H.M. Multichannel consumer behaviors in the mobile environment: Using fsQCA and discriminant analysis to understand webrooming motivations. *J. Bus. Res.* **2019**, *101*, 757–766. [CrossRef]
27. Lamberton, C.; Stephen, A.T. A thematic exploration of digital, social media, and mobile marketing: Research evolution from 2000 to 2015 and an agenda for future inquiry. *J. Mark.* **2016**, *80*, 146–172. [CrossRef]
28. Venkatesh, V.; Thong, J.Y.L.; Xu, X. Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Q.* **2012**, *36*, 157–178. [CrossRef]
29. Venkatesh, V.; Morris, M.G.; Davis, G.B.; Davis, F.D. User acceptance of information technology: Toward a unified view. *MIS Q.* **2003**, *27*, 425–478. [CrossRef]
30. Burns, D.J.; Gupta, P.B.; Bihn, H.C.; Hutchins, J. Showrooming: An Exploratory Empirical Investigation of Students' Attitudes and Behavior. *Inf. Syst. Manag.* **2018**, *35*, 294–307. [CrossRef]
31. Kokho Sit, J.; Hoang, A.; Inversini, A. Showrooming and retail opportunities: A qualitative investigation via a consumer-experience lens. *J. Retail. Consum. Serv.* **2018**, *40*, 163–174. [CrossRef]
32. Wang, C.; Lee, M.K.; Hua, Z. A theory of social media dependence: Evidence from microblog users. *Decis. Support. Syst.* **2015**, *69*, 40–49. [CrossRef]
33. Davis, F.D. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Q.* **1989**, *13*, 319–340. [CrossRef]
34. Vallerand, R.J. Toward a hierarchical model of intrinsic and extrinsic motivation. In *Advances in Experimental Social Psychology*; Zanna, M.P., Ed.; Academic Press: Cambridge, MA, USA, 1997; Volumn 29, pp. 271–360.
35. Rogers, E. *Diffusion of Innovations*; The Free Press: New York, NY, USA, 1983.
36. Marinkovic, V.; Kalinic, Z. Antecedents of customer satisfaction in mobile commerce. *Online Inf. Rev.* **2017**, *41*, 138–154. [CrossRef]
37. Choi, S. What promotes smartphone-based mobile commerce? Mobile-specific and self-service characteristics. *Internet Res.* **2018**, *28*, 105–122. [CrossRef]
38. Yadav, R.; Sharma, S.K.; Tarhini, A. A multi-analytical approach to understand and predict the mobile commerce adoption. *J. Enterp. Inf. Manag.* **2016**, *29*, 222–237. [CrossRef]
39. Camoiras-Rodriguez, Z.; Varela, C. The influence of consumer personality traits on mobile shopping intention. *Spanish J. Mark.* **2020**, *24*, 331–353. [CrossRef]
40. Ajzen, I. The theory of planned behavior. *Organ. Behav. Hum. Decis. Process.* **1991**, *50*, 179–211. [CrossRef]
41. Chong, A.Y.L.; Chan, F.T.S.; Ooi, K.B. Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decis. Support Syst.* **2012**, *53*, 34–43. [CrossRef]
42. Tsu Wei, T.; Marthandan, G.; Yee-Loong Chong, A.; Ooi, K.; Arumugam, S. What drives Malaysian m-commerce adoption? An empirical analysis. *Ind. Manag. Data Syst.* **2009**, *109*, 370–388. [CrossRef]
43. Blaise, R.; Halloran, M.; Muchnick, M. Mobile commerce competitive advantage: A quantitative study of variables that predict m-commerce purchase intentions. *J. Internet Commer.* **2018**, *17*, 96–114. [CrossRef]
44. Norazah Mohd, S. Students' dependence on smart phones. *Campus Wide Inf. Syst.* **2013**, *30*, 124–134. [CrossRef]
45. Lu, J. Are personal innovativeness and social influence critical to continue with mobile commerce. *Internet Res.* **2014**, *24*, 134–159. [CrossRef]
46. Pookulangara, S.; Hawley, J.; Xiao, G. Explaining consumers' channel-switching behavior using the theory of planned behavior. *J. Retail. Consum. Serv.* **2011**, *18*, 311–321. [CrossRef]
47. Rejón-Guardia, F.; Luna-Nevarez, C. 'Showrooming' in Consumer Electronics Retailing: An Empirical Study. *J. Internet Commer.* **2017**, *16*, 174–201. [CrossRef]
48. Thakur, R.; Srivastava, M. Customer usage intention of mobile commerce in India: An empirical study. *J. Indian Bus. Res.* **2013**, *5*, 52–72. [CrossRef]
49. Chong, A.Y.L. Mobile commerce usage activities: The roles of demographic and motivation variables. *Technol. Forecast. Soc. Chang.* **2013**, *80*, 1350–1359. [CrossRef]
50. Babin, B.J.; Darden, W.R.; Griffin, M. Work and/or Fun: Measuring hedonic and utilitarian shopping value. *J. Consum. Res.* **1994**, *20*, 644–657. [CrossRef]
51. Picot-Coupey, K.; Krey, N.; Huré, E.; Ackermann, C.L. Still work and/or fun? Corroboration of the hedonic and utilitarian shopping value scale. *J. Bus. Res.* **2021**, *126*, 578–590. [CrossRef]

52. Kim, Y.H.; Kim, D.J.; Wachter, K. A study of mobile user engagement (MoEN): Engagement motivations, perceived value, satisfaction, and continued engagement intention. *Decis. Support Syst.* **2013**, *56*, 361–370. [CrossRef]
53. Madan, K.; Yadav, R. Understanding and predicting antecedents of mobile shopping adoption. *Asia Pacific J. Mark. Logist.* **2018**, *30*, 139–162. [CrossRef]
54. Shaw, N.; Sergueeva, K. The non-monetary benefits of mobile commerce: Extending UTAUT2 with perceived value. *Int. J. Inf. Manag.* **2019**, *45*, 44–55. [CrossRef]
55. Konuş, U.; Verhoef, P.C.; Neslin, S.A. Multichannel Shopper Segments and Their Covariates. *J. Retail.* **2008**, *84*, 398–413. [CrossRef]
56. Arora, S.; Singha, K.; Sahney, S. Understanding consumer's showrooming behaviour: Extending the theory of planned behaviour. *Asia Pacific J. Mark. Logist.* **2017**, *29*, 409–431. [CrossRef]
57. Lichtenstein, D.R.; Ridgway, N.M.; Netemeyer, R.G. Price Perceptions and Consumer Shopping Behavior: A Field Study. *J. Mark. Res.* **1993**, *30*, 234. [CrossRef]
58. Delgado-Ballester, E.; Hernandez-Espallardo, M.; Rodriguez-Orejuela, A. Store image influences in consumers' perceptions of store brands: The moderating role of value consciousness. *Eur. J. Mark.* **2014**, *48*, 1850–1869. [CrossRef]
59. Balabanis, G.; Reynolds, N.L. Consumer attitudes towards multi-channel retailers ' Web sites : The role of involvement, brand attitude, internet knowledge and visit duration. *J. Bus.* **2001**, *18*, 105–131.
60. Laaksonen, P. *Consumer Involvement: Concepts and Research*; Van Nostrand Reinhold: London, UK, 1994.
61. Zaichkowsky, J.L. Conceptualizing involvement. *J. Advert.* **1986**, *15*, 4–34. [CrossRef]
62. Bloch, P.H.; Sherrell, D.L.; Ridgway, N.M. Consumer Search: An Extended Framework. *J. Consum. Res.* **1986**, *13*, 119. [CrossRef]
63. Arora, S.; Sahney, S. Examining consumers' webrooming behavior: An integrated approach. *Mark. Intell. Plan.* **2019**, *37*, 339–354. [CrossRef]
64. Hooi Ting, D.; Fong Lim, S.; Siuly Patanmacia, T.; Gie Low, C.; Chuan Ker, G. Dependency on smartphone and the impact on purchase behaviour. *Young Consum.* **2011**, *12*, 193–203. [CrossRef]
65. Bellini, S.; Aiolfi, S. Impulse buying behavior: The mobile revolution. *Int. J. Retail. Distrib. Manag.* **2019**, *48*, 1–17. [CrossRef]
66. Mafé, C.R.; Blas, S.S. Explaining Internet dependency: An exploratory study of future purchase intention of Spanish Internet users. *Internet Res.* **2006**, *16*, 380–397. [CrossRef]
67. Daurer, S.; Molitor, D.; Spann, M.; Manchanda, P. *Consumer Search Behavior on the Mobile Internet: An Empirical Analysis*; Ross School of Business: Ann Arbor, MI, USA, 2015.
68. Flavián, C.; Gurrea, R.; Orús, C. Choice confidence in the webrooming purchase process: The impact of online positive reviews and the motivation to touch. *J. Consum. Behav.* **2016**, *15*, 459–476. [CrossRef]
69. Chin, W.W. How to write up and report PLS analyses. In *Handbook of Partial Least Squares: Concepts, Methods and Applications in Marketing and Related Fields*; Vinzi, V.E., Chin, W.W., Henseler, J., Wang, H., Eds.; Springer: Berlin, Heidelberg, 2010; pp. 655–690.
70. Fornell, C.; Larcker, D.F. Structural equation models with unobservable variables and measurement error: Algebra and statistics. *J. Mark. Res.* **1981**, *18*, 382–388. [CrossRef]
71. Nunnally, J.C. *Psychometric Theory*; McGraw-Hill: New York, NY, USA, 1978.
72. Henseler, J.; Ringle, C.M.; Sinkovics, R.R. The use of partial least squares path modeling in international marketing. *Adv. Int. Mark.* **2009**, *20*, 277–319.
73. Hair, M.; Hult, J.F.J.; Ringle, G.T.M.; Sarstedt, C. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2nd ed.; Sage Publications: Thousand Oaks, CA, USA, 2017.
74. Podsakoff, P.M.; Mackenzie, S.B.; Lee, J.; Podsakoff, N.P. Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *J. Appl. Psychol.* **2003**, *88*, 879–903. [CrossRef]
75. Hair, J.F.; Risher, J.J.; Sarstedt, M.; Ringle, C.M. When to use and how to report the results of PLS-SEM. *Eur. Bus. Rev.* **2019**, *31*, 2–24. [CrossRef]
76. Falk, R.F.; Miller, N.B. *A Premier for Soft Modelling*; University of Akron Press: Akron, OH, USA, 1992.
77. Fornell, C.; Cha, J. Partial least squares. In *Advanced Methods of Market Research*; Bagozzi, R., Ed.; Blackwell: Cambridge, UK, 1994; pp. 52–87.
78. Cheung, G.W.; Lau, R.S. Testing mediation and suppression effects of latent variables: Bootstrapping with structural equation models. *Organ. Res. Methods* **2008**, *11*, 296–325. [CrossRef]
79. MacKinnon, D.P.; Krull, J.L.; Lockwood, C.M. Equivalence of the mediation, confounding and suppression effect. *Prev. Sci.* **2000**, *1*, 173–181. [CrossRef]
80. Hair, J.F.; Sarstedt, M.; Ringle, C.M. Rethinking some of the rethinking of partial least squares. *Eur. J. Mark.* **2019**, *53*, 566–584. [CrossRef]
81. Verkijika, S.F. Factors influencing the adoption of mobile commerce applications in Cameroon. *Telemat. Inform.* **2018**, *35*, 1665–1674. [CrossRef]
82. Oliveira, T.; Thomas, M.; Baptista, G.; Campos, F. Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Comput. Human Behav.* **2019**, *61*, 404–414. [CrossRef]
83. Herrero, A.; San Martín, H.; Garcia-De los Salmones, M.M. Explaining the adoption of social networks sites for sharing user-generated content: A revision of the UTAUT2. *Comput. Hum. Behav.* **2017**, *71*, 209–217. [CrossRef]
84. Cabrera-Sánchez, J.P.; Villarejo-Ramos, A.F. Acceptance and use of big data techniques in services companies. *J. Retail. Consum. Serv.* **2020**, *52*, 101888. [CrossRef]

85. Wang, W.; He, H.; Sahadev, S.; Song, W. U.K. consumers' perceived risk of buying products from emerging economies: A moderated mediation model. *J. Consum. Behav.* **2018**, *17*, 326–339. [CrossRef]
86. Shaw, B.; Kesharwani, A. Moderating Effect of Smartphone Addiction on Mobile Wallet Payment Adoption. *J. Internet Commer.* **2019**, *18*, 291–309. [CrossRef]
87. Zaichkowsky, J.L. The personal involvement inventory: Reduction, revision, and application to advertising. *J. Advert.* **1994**, *23*, 59–70. [CrossRef]

ANEXO III.

Artículo 3. Dependencia del móvil y reducción de la incertidumbre: influencia en los comportamientos de *showrooming* y en la creación de contenido por el usuario

Mobile dependency and uncertainty reduction: influence on *showrooming* behaviours and user-generated content creation

Autores:

Luis Edwin Chimborazo Azogue

Dra. Marta Frasquet Deltoro

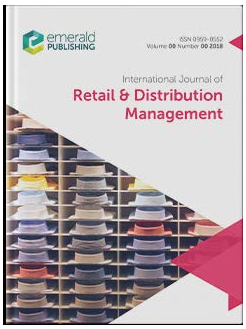
Dr. Alejandro Mollá Descals

Dra. María José Miquel Romero

Revista: International Journal of Retail and Distribution Management

Año 2022, disponible online desde 19 mayo 2022

https://doi.org/10.1108/IJRDM-10-2021-0487



Indicadores de calidad

1. **Journal Citation Reports 2021.** Social Sciences Citation Index (SSCI). 2021 Journal Impact Factor (JIF): 4,743; 2021 Journal Citation Indicator (JCI)=0,96. Rank by Journal Impact Factor 82/154 (Q3) Category Business, 109/226 (Q2) Category Management. Rank by Journal Citation Indicator (JCI) 92/295 (Q2) Category Business, 135/391 Category Management.
2. **SCImago Journal Rank 2021.** SJR (2021)=0.964; 80/434 (Q1) in Business and International Management, 62/203 (Q2) in Marketing, 26/129 (Q1) in Tourism, Leisure and Hospitality Management.
3. **Scopus 2021**. CiteScore 2021=6.1; 46/195 (Q1) in Business, Management and Accounting.

Mobile dependency and uncertainty reduction: influence on showrooming behaviours and user-generated content creation[1]

Luis Edwin Chimborazo-Azogue
Alejandro Mollá-Descals
Maria-Jose Miquel-Romero[2]
Marta Frasquet

Marketing Department, University of Valencia, Valencia, Spain

Keywords: mobile showrooming, mobile dependency, psychological risk, need for touch

Abstract

Purpose: The expanded use of mobile devices for shopping has made mobile showrooming a frequent practice among omnichannel shoppers. This paper aims to shed light on the role of mobile dependency and uncertainty reduction strategies beyond the motivation of getting the best value for money in showrooming behaviours and user-generated content creation.

Design/methodology/approach: Data were collected by means of a questionnaire answered by 659 shoppers in two product categories: clothing and consumer electronics. Our research model was tested through partial least squares (PLS).

Findings: Our results suggest that mobile showrooming attitude is positively affected by mobile dependency, value consciousness, and need for touch, and negatively impacted by perceived risk of mobile shopping. Our findings also reveal that showrooming behaviour stimulates user-generated content creation, which is also linked to mobile dependency in the clothing category.

[1] Funding: This research was funded by the Spanish State Research Agency–Spanish Ministry of Economy and Competitiveness [Grant ECO 2017-83051-R], Generalitat Valenciana [Grant AICO2021/144/GVA], and Universitat de Valencia [Grant UV-INV-AE-1553911].

[2] Corresponding author: Maria-Jose Miquel-Romero can be contacted at: maria.j.miquel@uv.es

Originality: This study is the first to analyse the role of mobile dependency in showrooming and the chain of effects towards mobile showrooming attitude, behaviour and user-generated content creation in two different product categories.

Research limitations: All the individuals in the sample had some experience in showrooming, which could affect the results regarding showrooming attitude and intentions. Future research should consider the role of experience as well as validate the results across more product categories.

Practical implications: Mobile showrooming is a challenge for multichannel retailers. This paper reveals certain ways in which multichannel retailers could deal with showroomers as potential customers.

Introduction

The proliferation of digital channels that are ever more integrated accounts for the expansion of omnichannel consumer behaviours such as webrooming and showrooming (Fiestas and Tuzovic, 2021). Consumers see increasing benefits of combining channels during search and purchase stages and even using them simultaneously at the same stage of the purchase process (Flavián, Gurrea and Orús, 2020). Showrooming offers consumers the benefit of being able to examine products physically in-store and obtain lower prices or wider assortments by buying online (Gensler, Neslin and Verhoef, 2017). Thus, showrooming is a risk-reduction strategy whereby shoppers use the store to gain certainty about making the right purchase in the online channel. Some consumers need to feel and touch products to make sure they are good choice (Rodríguez-Torrico, San José Cabezudo and San-Martín, 2017); others visit the store to get expert advice from salespersons (Gensler, Neslin and Verhoef, 2017). This behaviour threatens the profitability of brick-and-mortar based retailers, who see their stores used as mere showrooms while other retailers (typically online retailers) reap the benefits of the sale (Fassnacht, Beatty and Szajna, 2019; Viejo-Fernández, Sanzo-Pérez and Vázquez-Casielles, 2020).

Mobile devices, and smartphones in particular, have become omnipresent in society and affect every aspect of people's lives. Today, 96.6% of Internet users worldwide own a smartphone and spend an average of 3.39 hours using Internet on their mobiles (We are social and Hootsuite, 2021). Many people, particularly younger cohorts, seem to be mobile dependent, as they always carry their smartphones with them and use them in every daily activity. Although in-store shopping is the first channel choice for shopping (41%) the COVID-19 situation has increased the use of smartphones in purchase processes. Nowadays, mobile is the online channel used more frequently to shop (33%), more than PCs (26%) or

tablets (18%) (PwC, 2021). The use of mobile devices increases the threat of showrooming for retailers even more, as mobile-assisted consumers can search e-commerce sites more conveniently and make rapid price comparisons while they are in-store. Typically, showroomers would use their smartphones to access additional information like product reviews and compare prices to end up purchasing at a competing online retailer (Rapp *et al.*, 2015; Schneider and Zielke, 2020). In fact, the growing trend to engage in social media from smartphones has boosted the creation of media content by end-users about their shopping and consumption experiences, i.e. user-generated content - UGC (Roma and Aloini, 2019; Singh and Chakrabarti, 2021). UGC could help reduce the perceived risk of mobile shopping, which is greater for products whose quality can only be assessed through direct inspection (Dahana, Shin and Katsumata, 2018). In this regard, Marriott and Williams (2018) highlighted the need to explore the impact of mobile devices on risk perceptions and mobile shopping intentions.´

More knowledge on the consumer drivers of mobile showrooming would help retailers to design strategies to keep being relevant for omnichannel consumers. There is a growing research interest in showrooming, but most studies do not specifically refer to mobile showrooming. Despite the increased use of smartphones for shopping and the significant impact showrooming has on retailers' profitability, research focusing on the implications of mobile devices for consumer behaviour is scarce (Schneider and Zielke, 2020; Fiestas and Tuzovic, 2021). To the best of our knowledge no previous studies have examined the role of mobile dependency on showrooming and UGC. Despite the importance and credibility that UGC has acquired, there is a knowledge gap about the factors that influence the publication of online content, particularly for omnichannel shoppers (Herrero and San Martín, 2017; Kang, 2018, 2019).

This paper aims to clarify the role of mobile dependency and uncertainty reduction strategies beyond the motivation of getting the best value for money in showrooming behaviour and UGC. More specifically our research seeks to answer the following research questions: 1) to what extent does being mobile dependent drive showrooming and post-purchase creation of UGC? and 2) to what extent is mobile showrooming connected to risk reduction strategies in online purchasing? By answering those questions our paper contributes to existing research in two ways; firstly, by focusing on the role of mobile dependency as a trigger of showrooming behaviour; and secondly, by extending showrooming research to the post-purchase stage by analysing the creation of UGC by showroomers. Finally, this study enriches existing literature by exploring the role that product category can play on the drivers of showrooming behaviour.

2. Literature review

Showrooming and webrooming are two different types of "research shopping", defined by Verhoef et al. (2007) as obtaining information about a product in one channel and purchasing it in another. In webrooming, information searches are conducted online and purchases are performed offline, whilst in showrooming information searches are in-store and purchases online. Therefore, showrooming and webrooming have very different implications and consumer motivations (Kang, 2018; Flavián, Gurrea and Orús, 2019) and impact retailers in substantially different ways, and therefore require specific research.

Showrooming research has its roots in the study of free-riding and customer switching behaviours (Van Baal and Dach, 2005). This may explain why most studies assume that showrooming is a free-riding behaviour whereby consumers use the services of one retailer but purchase at another. Linked to this research line are the studies that focus on retailer practices that could diminish the negative impact of showrooming (Rapp *et al.*, 2015; Fassnacht, Beatty and Szajna, 2019). More recently, some studies have adopted a different perspective and have investigated the positive side of showrooming for multichannel retailers (Rodríguez-Torrico, San José Cabezudo and San-Martín, 2017; Kokho Sit, Hoang and Inversini, 2018). In fact, showroomers do not always purchase at a different retailer to the one used to obtain information (competitive showrooming), but they can also purchase through the online channels of the same retailer (loyal showrooming) (Schneider and Zielke, 2020; Frasquet and Miquel-Romero, 2021).

Our study focuses on the consumer drivers of showrooming, which represents a more recent line of research. Accumulated knowledge shows that price consciousness or the motivation to save money are main drivers of this behaviour (Arora and Sahney, 2018; Dahana, Shin and Katsumata, 2018; Schneider and Zielke, 2021). Numerous studies have employed the benefit/cost approach to analyse consumer perceptions of showrooming that could explain this behaviour (e.g. Gensler et al., 2017; Kang, 2018); this approach reveals that lower prices, convenience and information acquisition are significant benefits, while the costs of shopping online (e.g. search costs and potential risks of product quality or delays) are negatively related to showrooming. However, Gensler *et al.*, (2017) argue that, whilst price savings are a significant consumer motivation to showroom, non-price factors play a key role in the consumer decision to showroom. Expanding the notion of monetary savings, other papers explore smart shopper feelings as a motivation of showroomers (Flavián, Gurrea and Orús, 2020), which is a complex concept including not only price savings but also convenience and perceptions of obtaining the right product and good value for money.

Some showrooming studies relate this behaviour to the use of the smartphone (e.g. Dahana et al., 2018; Rapp et al., 2015), but do not focus specifically on mobile showrooming. However, the use of mobile devices during search, purchase and post-purchase profoundly affects the customer journey and deserves special attention (Lemon and Verhoef, 2016). This is because the attributes of the smartphone related to ubiquity, hyper-connectivity and geo-localization (Perry, Kent and Bonetti, 2019) permit synergies between the physical store and the online channel, thus, providing consumers an enhanced true omnichannel experience (Santos and Gonçalves, 2019).

Thus, a distinction must be made between mobile showrooming and desktop or traditional showrooming (Viejo-Fernández, Sanzo-Pérez and Vázquez-Casielles, 2020). Mobile showrooming or mobile-assisted showrooming means consumers visit a store to evaluate products and use a mobile device to obtain additional online information - and most likely purchase - while they are in-store (Viejo-Fernández, Sanzo-Pérez and Vázquez-Casielles, 2020; Fiestas and Tuzovic, 2021). The smartphone has become the primary shopping tool at the search stage of the purchase journey (Fiestas and Tuzovic, 2021). As Gensler et al. (2017) argue, online search costs, which are negatively related to showrooming, can be decreased if the retailer, for example, offers mobile apps facilitating the use of smartphones at the store to scan barcodes or read product reviews. Thanks to social media apps, mobile devices are a convenient channel for sharing consumer opinions on social media, particularly immediately after buying when motivation is greater (Shankar *et al.*, 2016).

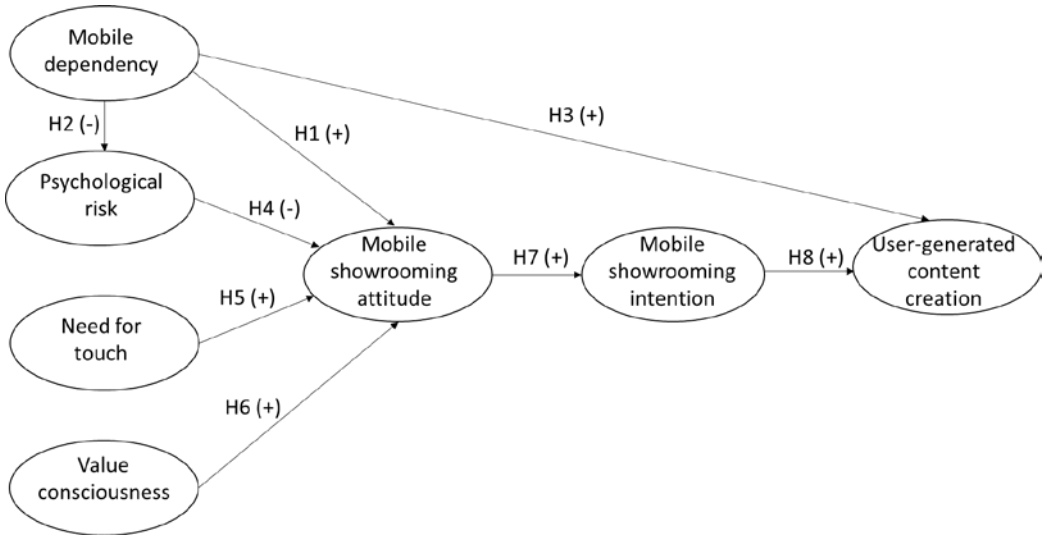
Literature focusing on mobile showroomers characterizes them as smart shoppers who are willing to make extra efforts to search for information to ensure they make a good purchase; they are very active in social media so they would probably use other users' reviews and share their own shopping experiences (Viejo-Fernández, Sanzo-Pérez and Vázquez-Casielles, 2020). Mobile showroomers may also be more impulsive in their purchase decisions than others who buy on their desktops or laptops (Rodríguez-Torrico, San José Cabezudo and San-Martín, 2017). Schneider and Zielke (2020) segmented showroomers, identifying a so-called "mobile economic" segment characterized by purchasing on their mobiles, searching for more information (both offline and online), buying at a competitor of the retailer visited, and being more price conscious.

3. Research model and hypotheses

Despite the recent interest in studying mobile showrooming as a different omnichannel behaviour, our literature review suggests that more research is needed to understand why shoppers engage in this practice in order to examine the specific factors directly associated with the use of mobile devices. The theory

of reasoned action (TRA) (Fishbein and Ajzen, 1975) provides the structure of our research model (Figure 1), which suggests that showrooming intention is driven by mobile showrooming attitude, which is, in turn, affected by a set of consumer traits and perceptions. Building on the findings reported in previous showrooming studies (Gensler, Neslin and Verhoef, 2017; Dahana, Shin and Katsumata, 2018; Kang, 2018), the search for the best value for money is posited as a driver of positive showrooming attitudes. Two additional theories offer support to the predictors of mobile showrooming. Media dependency theory (Ball-Rokeach and DeFleur, 1976) provides a logic to study the role of mobile dependency as a driver of mobile showrooming attitude and the post-sales behaviour of UGC creation. Additionally, we characterised showrooming as a behaviour that attempts to reduce the risks of online purchasing, which points to the theory of uncertainty reduction (Berger and Calabrese, 1975). This theory supports the inclusion of psychological risk and need for touch (NFT) to understand mobile showrooming behaviours. Then, we describe the logic of each hypothesised relationship.

Figure 1. Research model on mobile showrooming



Mobile dependency's role on showrooming behaviours

The increasing use of smartphones has resulted in consumers becoming dependent on them (Hooi Ting *et al.*, 2011). Dependency refers to a relationship in which the attainment of an individual's goal is contingent upon the resources of another party (Ball-Rokeach and DeFleur, 1976). Mobile dependency refers to

people viewing the phone as a necessity and being unwilling to part from it (Tian, Shi and Yang, 2009). As mobile devices are increasingly used for shopping, this dependency is expected to grow (Faulds *et al.*, 2018). Users become dependent on their mobile devices because of the benefits they provide in terms of connectivity, empowerment and personalization. Smartphones provide omnichannel shoppers with interactive multimedia content and access to mobile apps that enhance the shopping experience (Ballantine and Fortin, 2009; Jung, 2014). Media dependency theory (Ball-Rokeach and DeFleur, 1976) holds that people's dependency on mass media has cognitive, affective and behavioural effects, attitude formation being one of the cognitive changes that excessive use of media such as Internet can bring about. Mobile-dependent consumers tend to use several channels simultaneously, thus engaging in omnichannel behaviours (Flavián, Gurrea and Orús, 2020). For example, they often go to the store to get information and simultaneously search on their mobiles to access additional information and find the best price (Verhoef, Kannan and Inman, 2015). Therefore, mobile dependency probably contributes to forming a positive attitude towards mobile showrooming.

H1. Mobile dependency will positively affect attitude towards mobile showrooming

Perceived risk is a key concept in the study of consumer decision making since Bauer (1960) argued that consumer behaviour could be viewed as an instance of risk taking. Consumer decision making is affected by perceived risk because of uncertainty and the individual's tendency to avoid losses (Mitchell, 1999). Perceived risk has been examined as a critical barrier in technology acceptance research in the context of mobile shopping (Zhang, Zhu and Liu, 2012; Marriott and Williams, 2018). Literature has examined different types of perceived risk, psychological risk being often considered as an offshoot of other types of risk (Bezes, 2016). Psychological risk is defined as a consumer's dissatisfaction with making the wrong choice despite having a huge variety of products or services. It refers to the potential loss of self-esteem from the frustration of not reaching a purchasing goal (Stone and Gronhaug, 1993). Based on uncertainty reduction theory (Berger and Calabrese, 1975), consumers would search extensively for information to reduce the risk of purchasing online and gain confidence in the purchase decision (Zhang and Hou, 2017). The more reliant consumers are on their smartphones, the greater their perception of control as they feel they can reduce the risks involved in using mobile shopping (Hubert *et al.*, 2017). Thus, we expect that mobile dependency helps reduce the psychological risk associated with using a mobile device in a showrooming situation. Accordingly, we posit the following hypothesis:

H2. Mobile dependency will negatively affect psychological risk of mobile showrooming

The advent of the Web 2.0 enabled new forms of communication between consumers and brands and among consumers themselves. The increased use of mobile devices and social network sites accounts for the greater penetration of UGC – a new form of electronic word-of-mouth - particularly among younger consumers (Hall, Towers and Shaw, 2017; Singh and Chakrabarti, 2021). UGC has become one of the most reliable sources of information about brands. UGC encompasses various forms of brand-related content created by end-users that are publicly available on social media (Kaplan and Haenlein, 2010). In parallel, the "mobile revolution" has resulted in consumers spending more time using their smartphones than any other device. According to Melumad et al. (2019), these two trends have engendered a third: consumers increasingly use mobile devices rather than PCs to generate content. According to media dependency theory, the ultimate consequence of consumers' dependency on the media refers to behavioural effects (Ball-Rokeach and DeFleur, 1976); thus, dependency would prompt consumers to do something they would not otherwise have done. This theory has been used to explain consumers' activity on the Internet and social media (Patwardhan and Yang, 2003; Tsai and Men, 2013). Mobile-dependent consumers would be more likely to use their smartphones throughout the purchasing decision process; they would not only consume UGC at the information stage but would share their product reviews at the post-purchase stage (Kang, 2018, 2019). Thus, we suggest the following hypothesis:

H3: Mobile dependency will positively affect UGC creation

Psychological risk and attitude towards mobile showrooming

Online shopping, compared to in-store shopping, entails higher perceived risk (Yu, Lee and Damhorst, 2012; Bezes, 2016) due to the inability to physically evaluate the products, and insecurity about the seller, product quality and delivery times, among other aspects. Due to its intrinsic non-interactive character and the novelty aspect, mobile shopping entails more uncertainty and expectations of potential losses (Groß, 2016; Marriott and Williams, 2018). Several researchers have observed that perceived risk contributes negatively to attitudes towards online purchasing (Herrero Crespo, Rodriguez Del Bosque and Garcia De Los Salmones Sanchez, 2009; Hong and Cha, 2013; Wang *et al.*, 2015). Uncertainty reduction theory (Berger and Calabrese, 1975) suggests that higher levels of uncertainty are related to increases in information searches; this would explain why consumers visit a physical store to collect additional information that they are unable to obtain online (Flavián, Gurrea and Orús, 2016; Arora and Sahney, 2018). In the omnichannel retail era, webrooming (i.e. searching for information online and purchasing offline) has been associated with a risk reduction strategy. However, the same may not hold for showrooming, which poses additional risks

of online ordering and delivery (Flavián, Gurrea and Orús, 2020). In fact, Dahana et al. (2018) found that consumers who perceive higher risks of shopping online engage less frequently in showrooming, and Rajkumar et al. (2020) showed that online risk decreases perceived showrooming value. Extending those findings to a mobile showrooming situation, we expect that when the consumer bears specific psychological risks of using the mobile for purchasing, a negative evaluation towards mobile showrooming would appear. Based on the aforementioned arguments, we propose the following hypothesis:

H4: Psychological risk of mobile shopping will negatively affect attitude towards mobile showrooming.

Need for touch and attitude towards mobile showrooming

Individuals differ in the amount of touch they exhibit when shopping; some consumers seem to rely heavily on their sense of touch to evaluate products. NFT is defined as "a preference for the extraction and utilization of information obtained through the haptic system" (Peck and Childers, 2003: 431). Online shopping would be negatively affected if the individual's need for touch is high (Cho and Workman, 2011); consumers with a high motivation to touch feel more confident to purchase a product after having physical interaction with it. This would be particularly true in the case of products with important physical and tactile attributes such as clothing or appliances (Flavián, Gurrea and Orús, 2016; Dahana, Shin and Katsumata, 2018). As argued by Rodríguez-Torrico et al. (2017) individuals with high NFT are more likely to engage in omnichannel behaviours. In the multichannel retail literature, some researchers have reported that NFT explains webrooming as consumers with high NFT, after gathering information online, visit the store for reassurance and to buy the product (Kim, Libaque-Saenz and Park, 2018; Arora and Sahney, 2019). Showrooming is believed to be motivated by price advantages of online purchasing, combined with the enriched sensorial information that offline channels provide (Rejón-Guardia and Luna-Nevarez, 2017; Flavián, Gurrea and Orús, 2020). Based on uncertainty reduction theory (Berger and Calabrese, 1975), one could expect high NFT consumers to have a more positive attitude towards showrooming, as in-store physical inspection of the product would reduce the uncertainty of mobile purchasing. Based on the foregoing, we propose the following hypothesis:

H5: Need for touch will positively affect attitude towards mobile showrooming

Value consciousness and attitude towards mobile showrooming

The motivation to shop at lower prices online has been established as a prime motivation for showroomers (Flavián, Gurrea and Orús, 2020; Schneider and Zielke, 2021). Price-conscious shoppers have positive attitudes towards showrooming and are more likely to engage in this behaviour (Arora and Sahney, 2018; Burns *et al.*, 2018). Notwithstanding the relevance of price, (Gensler, Neslin and Verhoef, 2017) demonstrated that non-price factors play a key role in the decision to showroom, highlighting potential product quality gains from showrooming. This suggests that showroomers do not only seek lower prices but also the best balance between price and quality. Value consciousness refers to a consumer concern for paying a reduced price for a given level of quality (Ailawadi, Neslin and Gedenk, 2001). In other words, it is a personality trait that reflects the extent to which individuals attempt to balance quality and price paid when buying products or services (Lichtenstein, Netemeyer and Burton, 1990). The motivation of value-conscious individuals is to be "smart shoppers" by getting the best value-for-money in their purchases (Delgado-Ballester, Hernandez-Espallardo and Rodriguez-Orejuela, 2014). In a qualitative study of showroomers, Fiestas and Tuzovic (2021) observed that getting the best value was a benefit sought in showrooming. Hence, over and above the price benefits, we believe that value-conscious individuals will have a positive attitude towards showrooming:

H6: Value consciousness will positively affect attitude towards mobile showrooming

Attitude towards mobile showrooming and mobile showrooming intention

The theory of reasoned action (TRA) (Fishbein and Ajzen, 1975) established that behavioural intentions, which are an immediate precursor of actual behaviour are driven by attitudes towards the behaviour. Attitudes are defined as an individual's positive or negative feelings about behaving in a particular way (Ajzen, 1991). The technology acceptance model (Davis, 1989), one of the most influential extensions of TRA, has been extensively used in marketing to explain consumer acceptance and use of new technologies such as e-commerce. Thus, research in multi- and omnichannel marketing has often supported the link between attitudes and behavioural intentions. The perceived benefits and costs of showrooming (Arora and Sahney, 2018) as well as ethical concerns (Burns *et al.*, 2018), may shape attitudes towards browsing in store and purchasing on the mobile, which in turn would affect showrooming behaviour. Based on the postulates of TRA and subsequent showrooming studies, we posit that the intention to engage in mobile showrooming would be affected by the attitude that the consumer has formed towards the behaviour. Thus:

H7. Attitude towards mobile showrooming will positively affect mobile showrooming intention

Mobile showrooming intention and user-generated content creation

Omnichannel consumers enjoy using all the available channels offered by a retailer (Rapp *et al.*, 2015; Daunt and Harris, 2017): websites, brick-and-mortar stores, mobile apps, social media, etc. Showroomers typically engage in extensive information searches to feel confident in making the best choice and feel like smart shoppers (Flavián, Gurrea and Orús, 2016, 2020). When showroomers browse in-store, they typically use their smartphones to compare prices and read product reviews to find the right product online (Gensler, Neslin and Verhoef, 2017). The increased use of social media from smartphones allows consumers to share real-time, ubiquitous and rich content in social media about their personal shopping and consumption experiences (Roma and Aloini, 2019; Singh and Chakrabarti, 2021). Showroomers are believed to be expert shoppers who enjoy giving market-related information to others (Gensler, Neslin and Verhoef, 2017), therefore they would be prone to rate purchase experiences or write product reviews. According to Roma and Aloini (2019), real-time sharing of shopping experiences explains UGC creation as a means for consumers to build their identity in social media. The consumption of UGC has been associated with the creation of UGC (Daugherty, Eastin and Bright, 2008); thus, as showroomers actively seek UGC to make the best purchase, they would be inclined to create UGC based on their updated expertise after purchasing (Kang, 2018). Grounded on the above arguments, we present our final hypothesis:

H8: Mobile showrooming intention will positively affect UGC creation

4. Methodology

Data were collected through an online questionnaire managed by a professional market research company. To be eligible, respondents had to have bought a product online after obtaining information at a physical store in the previous year. Data were collected on the purchasing of two product categories: clothing and consumer electronics. The final valid sample consisted of 659 respondents equally distributed between the two product categories. In terms of sociodemographics, 50.4% of the whole sample were men, 7,4% were aged between 18 and 22, 31% between 23 to 35, 48.6% between 36 to 45, and 13.1% were older than 56, and most of them (58.1%) had university studies.

The scales used to measure the constructs, all of them 7-point multi-item Likert scales, were taken from literature and, when necessary, adapted to the context of the present research (see Appendix A).

The statistical method used to test the hypotheses was partial least squares structural equation modelling (PLS-SEM). As a first step, the psychometric properties of the scales were assessed to evaluate the measurement model. Additionally, Harman's single-test factor analysed possible common method bias (Podsakoff *et al.*, 2003). In a second step, the structural model was assessed. The use of PLS-SEM was considered appropriate for two reasons (Hair *et al.*, 2019): firstly, it enables the estimation of a model with many different constructs without requiring specific distributional assumptions on the data; and secondly, it is a causal-predictive approach.

To test the psychometric properties of the scales, the standardized loading factors of each indicator, the internal consistency of the constructs, as well as their convergent and discriminant validity were considered (see Appendix A). Results showed that all loading factors were higher than the 0.7 cut-off value and significant (Hair *et al.*, 2019), Cronbach alphas and composite reliability values were higher than 0.7, showing an adequate internal consistency of the constructs (Nunnally, 1978). Average variance extracted (AVE) offered values above 0.6 (Henseler, Ringle and Sinkovics, 2009), suggesting convergent validity. Finally, to check discriminant validity, we tested that (a) the values of the square root of the AVE were higher than the correlations between constructs (Fornell and Larcker, 1981), and (b) the Heterotrait-Monotrait ratios (HTMT) between constructs did not exceed the value of 0.9 (Hair *et al.*, 2017) (see Appendix B).

Additionally, exploratory factor analysis was performed to evaluate common method bias, revealing that the five factors with eigenvalues greater than 1 accounted for 70.47% of the variance (the first factor explaining just 21.88%), suggesting that common method bias was no threat (Babin, Griffin and Hair, 2016).

5. Results

The structural model assessment considered the level and significance of the path coefficients using the bootstrapping method with 5,000 subsamples as suggested by Hair et al. (2011) and the proportion of variance explained by each dependent construct and its predictive relevance (see Table 1). The results showed that the proportion of variance explained for each endogenous variable (R^2) surpassed the minimum threshold of 0.10 (Falk and Miller, 1992), as it was 0.550 for mobile showrooming attitude, 0.320 for mobile showrooming intention and 0.105 for UGC creation. Moreover, the Stone-Geisser test (Q^2) for those constructs was

greater than 0, suggesting that the structural model had predictive relevance (Hair *et al.*, 2019).

Table 1 shows that all the hypotheses except one were accepted. Mobile showrooming attitude is positively influenced by mobile dependency (H1), NFT (H5) and value consciousness (H6), and negatively influenced by the individual's perception of risk (H4). As expected, attitude determines mobile showrooming intention (H7). Finally, the creation of UGC is driven by the individual's mobile showrooming intention (H8), as well as the individual's mobile dependency (H3).

To enhance the validity of the model estimation results, we then analysed if the model results held for the different product categories or if, on the contrary, the product category could have affected the results of the hypotheses test. Previous literature suggests that consumers' channel choices are dependent on the product category; Heitz-spahn (2013) noted that consumers were more likely to engage in cross-channel free-riding when buying products of high financial value and low purchasing frequency, and Gensler et al. (2017) found that showrooming was more frequent in the computer and the kitchen appliances categories. In the present study, two different product categories were considered: clothing as an example of a hedonic product category, and consumer electronics as a utilitarian product category.

Table 1. Results of the structural model

	β-Value	t-Value
H1. Mobile dependency -> Mobile showrooming attitude	0.166	4.793***
H2. Mobile dependency -> Psychological risk	-0.015	0.175^{ns}
H3. Mobile dependency -> UGC creation	0.137	2.801*
H4. Psychological risk -> Mobile showrooming attitude	-0.091	2.329*
H5. NFT -> Mobile showrooming attitude	0.460	11.520***
H6. Value consciousness -> Mobile showrooming attitude	0.353	8.416***
H7. Mobile showrooming attitude -> Mobile showrooming intention	0.565	15.497***
H8. Mobile showrooming intention -> UGC creation	0.240	5.817***
Mobile showrooming attitude	R^2: 0.550	Q^2: 0.391
Mobile showrooming intention	R^2: 0.320	Q^2: 0.246
UGC creation	R^2: 0.105	Q^2: 0.080

^{ns} not significant; *** p <0.001; ** p <0.01; * p <0.05

Accordingly, a multi-group analysis was performed to compare the proposed model for the two product categories. Henseler and Fassott (2010) procedure was followed, and the sample was split into two groups according to the product category bought by showroomers. To ensure that the group differences stemmed exclusively from the category of product bought, the chi-square test and t-test

were performed to control the potential influence of sub-sample demographics. The non-significant results of these analyses (p >0.05) revealed that the controlling variables exerted no influence.

Table 2 shows the results of the multi-group analysis. The data suggest that the model results hold for clothing and consumer electronics for all the hypotheses except H3 and H4. The product category bought plays a role when it comes to explaining the influence of mobile dependency on the individual's UGC creation. In fact, when buying clothing this relationship (H3) is positive and significant, whereas when buying electronics, mobile dependency does not influence UGC creation. The same reasoning applies for H4. That is, psychological risk negatively influences mobile showrooming attitude when buying clothing but this relationship is not significant when buying electronics. Therefore, in the two product categories considered, showrooming attitude is affected positively by mobile dependency, NFT and value consciousness, showrooming intention is driven by showrooming attitude, and UGC would be created as an outcome of showrooming behaviour.

Table 2. Multi-group analysis by product category

	Clothing		Consumer electronics		Clothing vs electronics
	Path	t-V	Path	t-V	t-V
H1. Mobile dependency -> Mobile showrooming attitude	0.156	3.330***	0.209	4.390***	0.796^{ns}
H2. Mobile dependency -> Psychological risk	0.110	1.535ns	-0.125	1.273ns	1.942^{ns}
H3. Mobile dependency -> UGC creation	0.240	3.921***	0.036	0.504ns	2.180*
H4. Psychological risk -> Mobile showrooming attitude	-0.154	3.254***	-0.018	0.483ns	2.273*
H5. NFT -> Mobile showrooming attitude	0.446	9.121***	0.469	7.880***	0.303^{ns}
H6. Value consciousness -> Mobile showrooming attitude	0.354	6.203***	0.343	6.068***	0.141^{ns}
H7. Mobile showrooming attitude -> Mobile showrooming intention	0.554	13.484***	0.587	10.172***	0.464^{ns}
H8. Mobile showrooming intention -> UGC creation	0.253	4.967***	0.235	3.923***	0.238^{ns}

^{ns} not significant; *** p <0.001; ** p <0.01; * p <0.05

6. Discussion and conclusions

This paper shows that the combination of media dependency (Ball-Rokeach and DeFleur, 1976) and uncertainty reduction (Berger and Calabrese, 1975) theories is an valid approach for analysing the phenomenon of showrooming. These two

theories, complemented by TRA, help clarify the role of mobile dependency, psychological risk, NFT and value consciousness in mobile showrooming attitude, how attitude affects mobile showrooming intention and how that intention favours UGC creation.

These results make the following contributions to the literature. Firstly, this paper provides insights into the role of mobile dependency in showrooming behaviour; most literature on showrooming has not considered the device used to make the purchase, although it has relevant implications (Viejo-Fernández, Sanzo-Pérez and Vázquez-Casielles, 2020). The second contribution to literature consists in the investigation of the link between mobile showrooming behaviour and the post-purchase behaviour of UGC creation. Most showrooming research analyses its antecedents but not its consequences; our results extend knowledge to the post-purchase stage and allow us to affirm that showrooming helps generate UGC. The link between mobile showrooming and UGC creation has seldom been investigated, despite the growing trend of reading and posting UGC in social media from smartphones (Herrero and San Martín, 2017). Literature on UGC reveals that there are many different antecedents, moderators and mediators of UGC (Singh and Chakrabarti, 2021), with an individual's real time shopping experience just one of many (Roma and Aloini, 2019). Thus, the low, but relevant, explanatory power of the model with respect to UGC is due to the non-inclusion of other possible antecedents of UGC since our aim was to analyse the link between showrooming and the post-purchase behaviour of UGC creation and not to explain UGC. Finally, the paper enriches existing findings on showrooming by evaluating the proposed model in two product categories, clothing and consumer electronics, thus affording external validity to the results, and providing interesting insights into the influence of product category in showrooming behaviours.

As proposed, mobile dependency influences individual's affective and behavioural responses, as posited by media dependency theory (Ball-Rokeach and DeFleur, 1976). Based on the results obtained, stronger mobile dependency leads to a more positive attitude towards showrooming (H1), as well as to more UGC creation (H3). Given the key role mobile devices play in the daily life of many individuals, they are increasingly more relevant for implementing other activities related to achieving individual's goals (Ball-Rokeach, 1985), such as when they are buying a product or communicating with others about the purchase process. Although we suggested mobile dependency would reduce the psychological risk of mobile shopping (H2), the relationship was not significant. A possible explanation why being mobile dependent is not related to lower perceived psychological risk of mobile purchasing can be found by reflecting on the real meaning of mobile dependency. According to Wang, Lee, et al. (2015) when reasoning on what dependency entails, mobile dependency can be considered a

soft addiction that could reduce consumers' perception of control (Haslam, 2016), and therefore does not contribute to reducing perceptions of risk.

Our results are also in line with uncertainty reduction theory and allow us to conclude that showrooming is an uncertainty reduction strategy used by consumers to obtain the best value for money. As expected, the psychological risk of mobile shopping negatively affects the individual's attitude towards mobile showrooming (H4). This result helps reinforce the limited evidence on the effect of perceived risks on showrooming (Dahana, Shin and Katsumata, 2018), extrapolating it to the mobile showrooming context. Additionally, individual's NFT exerts a strong influence on attitude towards mobile showrooming (H5), as reported by Rodríguez-Torrico et al. (2017) The influence of value consciousness on mobile showrooming attitude is also important, exerting a positive influence (H6). This confirms the argument defended by Gensler et al. (2017) that showrooming is not only about price, and the qualitative finding of Fiestas and Tuzovic (2021), who reported that obtaining good value-for-money is a consumer motivation for showrooming.

As posited by the theory of reasoned action (Fishbein and Ajzen, 1975), attitudes are key determinants of behavioural intentions, and having a more positive attitude towards mobile showrooming will increase the intention to engage in mobile showrooming (H7). Finally, our results evidence that individuals more inclined to perform mobile showrooming will engage more in UGC creation (H8). This result extends the findings of Kang (2018, 2019) to the mobile context of showrooming and provides insights into the post-purchase phase of showrooming.

A multi-group analysis has shown that the relationships proposed in our model were fulfilled for two different product categories – clothing and consumer electronics -, except in two hypotheses, H3 and H4. The positive influence of mobile dependency on UGC creation (H3) and of psychological risk on mobile showrooming attitude (H4) was significant for clothing, but not for electronics. These results are not surprising, as literature on cross-channel free riding (Heitz-spahn, 2013) and specifically on showrooming (Gensler, Neslin and Verhoef, 2017) suggest that the type of product can play a role in channel choice. The explanation for these differences may lie in the type of information considered by showroomers in each case. According to Fernández et al. (2018), showroomers engage in information searches that go beyond the product attributes, e.g. how trendy a product is. Compared to clothing, buying consumer electronics can be more reliably evaluated based on the objective attributes of the product, thus reducing purchasing risk. Moreover, consumer's participation in social network sites is more common in clothing than in electronics, with individuals posting opinions and pictures about how well the clothes fit to help others make the right choice.

Managerial implications

Results from this study offer brick-and-mortar and multichannel retailers some suggestions about how to deal with the increasingly popular trend of mobile showrooming. The real threat of showrooming is that of free-riding or competitive showrooming, i.e. the consumer visits a store and purchases from a competing retailer. We provide further explanations of the drivers of mobile showrooming that may help retailers to attract showroomers and persuade them to buy from them (either at the store or through their online channels).

Our study reveals novel insights suggesting that consumers who are more dependent on their mobile devices have a more positive attitude towards showrooming and tend to create UGC. Retailers should appeal to those showroomers by offering responsive mobile channels and well-constructed apps that enhance the online customer experience while in-store. If channels are correctly integrated, shoppers visiting the store would easily cross-channels and use the retailer's mobile channels, thus decreasing the chances of competitive showrooming. Providing easy access to UGC will not only help store patrons in their decision-making but also make it easier for mobile dependent showroomers to share their own experiences after shopping. The potential of UGC to generate sales and attract new customers should not be overlooked; retailers should strive to build the path from reading positive UGC to purchasing and ulterior positive UGC creation. This is of special interest in the electronics product category, as our results show that an individual's mobile dependency does not drive UGC creation, so retailers should make an extra effort to encourage customers to share their experiences.

Furthermore, retailers could also capitalize on the fact that showroomers visit their stores to touch and feel the products, not only in the clothing category but also in the electronics one. An attractive store interior that allows access to the full assortment and easy testing of products will drive showroomers to that store; treating the latter as potential customers and not as free-riders should be the principle guiding omnichannel strategy.

Perceived risk of mobile shopping negatively affects showrooming intention in the clothing category. Retailers should take advantage of this by offering consumers the option of shopping at the store without experiencing that risk. Either by a swift conversion of browsers into store buyers with salespeople assistance, which would completely skip mobile shopping risk, or educating them on the mobile shopping process to reduce the perceptions of risk.

Taking into consideration that value-conscious individuals have better attitudes towards mobile showrooming, retailers should provide online information not only about their prices and promotions, but also about the quality and performance of their products to appeal to value-conscious individuals and encourage them to

make purchasing decisions. On this issue, well-trained salespersons could also play a key role to communicate the attributes and good value of the products. All in all, considering that showrooming is an uncertainty reduction behaviour to get the best value for money, retailers should make sure their online and offline prices are aligned with those of their competitors, launch bundle offers to enhance the perception of value and make price comparison more difficult, and offer unconditional exchanges and returns. Direct call to action based on these price strategies is supposed to play a special key role for those showroomers whose perceived psychological risk of mobile shopping does not affect their behaviour, as in the case of those who purchase consumer electronic products.

Limitations and future research

This research is not without limitations, and some of them can serve as a starting point to perform more in-depth research into showrooming. It is important to note that endogeneity was not tested. Endogeneity occurs when the exogenous variable and the error term of the endogenous variable are correlated (Benitez, Henseler and Roldán, 2016, p. 3). This may be due to several reasons, the most common being the omission of certain variables. Hair *et al.* (2021) suggest different approaches to address the foregoing, for example the use of control variables or instrumental variables, which should be taken into account in future research. To get informed individuals, our sample had to fit the criteria of having engaged in showrooming at least once in the previous year; this previous experience may have affected their mobile showrooming attitude and behavioral intentions. Future research should consider how past behaviour and its consequences (i.e. good vs bad showrooming experience) could condition the proposed theoretical model. Moreover, it would be interesting to analyze whether the influence of the considered drivers would be the same for individuals with and without showrooming experience. Additionally, two product categories were tested to provide external validity to the results. More product categories should be analyzed to support these findings. It would also provide insights into showrooming, comparing the relevance of the variables analyzed when using a device other than a smartphone to showroom. In this context it would be worthwhile analyzing the role that the psychological risk associated with the device can play in the attitude of showroomers.

References

Ailawadi, K. L., Neslin, S. A. and Gedenk, K. (2001) ‘Pursuing the value-conscious consumer: Store brands versus national brand promotions’, *Journal of Marketing*, 65(1), pp. 71–89. doi: 10.1509/jmkg.65.1.71.18132.

Ajzen, I. (1991) 'The theory of planned behavior', *Organizational Behavior and Human Decision Processes*, 50(2), pp. 179–211.

Arora, S. and Sahney, S. (2018) 'Antecedents to consumers' showrooming behaviour: an integrated TAM-TPB framework', *Journal of Consumer Marketing*, 35(4), pp. 438–450. doi: 10.1108/JCM-07-2016-1885.

Arora, S. and Sahney, S. (2019) 'Examining consumers' webrooming behavior: an integrated approach', *Marketing Intelligence and Planning*, 37(3), pp. 339–354. doi: 10.1108/MIP-05-2018-0152.

Van Baal, S. and Dach, C. (2005) 'Free riding and customer retention across retailers' channels', *Journal of Interactive Marketing*. Elsevier, 19(2), pp. 75–85. doi: 10.1002/dir.20036.

Babin, B. J., Griffin, M. and Hair, J. F. (2016) 'Heresies and sacred cows in scholarly marketing publications', *Journal of Business Research*, 69(8), pp. 3133–3138. doi: 10.1016/j.jbusres.2015.12.001.

Ball-Rokeach, S. J. (1985) 'The origins of individual media-system dependency: A sociological framework.', *Communication Research*, 12(4), pp. 485–510. doi: 10.1177/009365085012004003.

Ball-Rokeach, S. J. and DeFleur, M. L. (1976) 'A dependency model of mass-media effects.', *Communication Research*, 3(1), pp. 3–21. doi: 10.1177/009365027600300101.

Ballantine, P. W. and Fortin, D. R. (2009) 'The effects of interactivity and product information on consumers' emotional responses to an online retail setting', *International Journal of Internet Marketing and Advertising*, 5(4), pp. 260–271. doi: 10.1504/IJIMA.2009.027810.

Bauer, R. A. (1960) 'Consumer behavior as risk taking', in Hancock, R. S. (ed.). Dynamic Marketing for a Changing World, Proceedings of the 43rd Conference of the American Marketing Association, pp. 389–398.

Benitez, J., Henseler, J. and Roldán, J. L. (2016) 'How to address endogeneity in partial least squares path modeling', *AMCIS 2016: Surfing the IT Innovation Wave - 22nd Americas Conference on Information Systems*, (Tanriverdi 2005), pp. 1–10.

Berger, C. R. and Calabrese, R. J. (1975) 'Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication', *Human Communication Research*, 1(2), pp. 99–112.

Bezes, C. (2016) 'Comparing online and in-store risks in multichannel shopping', *International Journal of Retail and Distribution Management*, 44(3), pp. 284–300. doi: 10.1108/IJRDM-02-2015-0019.

Burns, D. J. *et al.* (2018) 'Showrooming: an Exploratory Empirical Investigation of Students' Attitudes and Behavior', *Information Systems Management*. Taylor

& Francis, 35(4), pp. 294–307. doi: 10.1080/10580530.2018.1503802.

Cho, S. and Workman, J. (2011) 'Gender, fashion innovativeness and opinion leadership, and need for touch: Effects on multi-channel choice and touch/non-touch preference in clothing shopping', *Journal of Fashion Marketing and Management*, 15(3), pp. 363–382. doi: 10.1108/13612021111151941.

Dahana, W. D., Shin, H. J. and Katsumata, S. (2018) 'Influence of individual characteristics on whether and how much consumers engage in showrooming behavior', *Electronic Commerce Research*. Springer US, 18(4), pp. 665–692. doi: 10.1007/s10660-017-9277-4.

Daugherty, T., Eastin, M. S. and Bright, L. (2008) 'Exploring consumer motivations for creating user-generated content', *Journal of Interactive Advertising*, 8(2), pp. 16–25. doi: 10.1080/15252019.2008.10722139.

Daunt, K. L. and Harris, L. C. (2017) 'Consumer showrooming: Value co-destruction', *Journal of Retailing and Consumer Services*, 38, pp. 166–176. doi: 10.1016/j.jretconser.2017.05.013.

Davis, F. D. (1989) 'Perceived usefulness, perceived ease of use, and user acceptance of information technology', *MIS quarterly*, 13(3), pp. 319–340.

Delgado-Ballester, E., Hernandez-Espallardo, M. and Rodriguez-Orejuela, A. (2014) 'Store image influences in consumers' perceptions of store brands: The moderating role of value consciousness', *European Journal of Marketing*, 48(2007), pp. 1850–1869. doi: 10.1108/EJM-02-2012-0087.

Falk, R. F. and Miller, N. B. (1992) *A Premier for Soft Modelling*. Ohio: University of Akron Press.

Fassnacht, M., Beatty, S. E. and Szajna, M. (2019) 'Combating the negative effects of showrooming: Successful salesperson tactics for converting showroomers into buyers', *Journal of Business Research*. Elsevier, 102(November 2017), pp. 131–139. doi: 10.1016/j.jbusres.2019.05.020.

Faulds, D. J. *et al.* (2018) 'The mobile shopping revolution: Redefining the consumer decision process', *Business Horizons*, 61(2), pp. 323–338. doi: 10.1016/j.bushor.2017.11.012.

Fernández, N. V., Pérez, M. J. S. and Vázquez-Casielles, R. (2018) 'Webroomers versus showroomers: Are they the same?', *Journal of Business Research*, 92, pp. 300–320. doi: 10.1016/j.jbusres.2018.08.004.

Fiestas, J. C. and Tuzovic, S. (2021) 'Mobile-assisted showroomers: Understanding their purchase journey and personalities', *Journal of Retailing and Consumer Services*. Elsevier Ltd, 58(March 2020), p. 102280. doi: 10.1016/j.jretconser.2020.102280.

Fishbein, M. and Ajzen, I. (1975) *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Addison-Wesley, Reading, MA.

Flavián, C., Gurrea, R. and Orús, C. (2016) 'Choice confidence in the webrooming purchase process: The impact of online positive reviews and the motivation to touch', *Journal of Consumer Behaviour*, 15(5), pp. 459–476. doi: doi.org/10.1002/cb.1585.

Flavián, C., Gurrea, R. and Orús, C. (2019) 'Feeling Confident and Smart with Webrooming: Understanding the Consumer's Path to Satisfaction', *Journal of Interactive Marketing*, 47, pp. 1–15. doi: 10.1016/j.intmar.2019.02.002.

Flavián, C., Gurrea, R. and Orús, C. (2020) 'Combining channels to make smart purchases: The role of webrooming and showrooming', *Journal of Retailing and Consumer Services*, 52(January 2019), p. 101923. doi: 10.1016/j.jretconser.2019.101923.

Fornell, C. and Larcker, D. F. (1981) 'Structural equation models with unobservable variables and measurement error : Algebra and statistics', *Journal of Marketing Research*, 18(3), pp. 382–388.

Frasquet, M. and Miquel-Romero, M.-J. (2021) 'Competitive (versus loyal) showrooming: An application of the push-pull-mooring framework', *Journal of Retailing and Consumer Services*, 62, p. 102639. doi: 10.1016/j.jretconser.2021.102639.

Gensler, S., Neslin, S. A. and Verhoef, P. C. (2017) 'The Showrooming Phenomenon: It's More than Just About Price', *Journal of Interactive Marketing*, 38, pp. 29–43. doi: 10.1016/j.intmar.2017.01.003.

Groß, M. (2016) 'Impediments to mobile shopping continued usage intention: A trust-risk-relationship', *Journal of Retailing and Consumer Services*, 33, pp. 109–119.

Hair, J. F. *et al.* (2019) 'When to use and how to report the results of PLS-SEM', *European Business Review*, 31(1), pp. 2–24. doi: 10.1108/EBR-11-2018-0203.

Hair, J. F. *et al.* (2021) 'Executing and interpreting applications of PLS-SEM: Updates for family business researchers', *Journal of Family Business Strategy*, 12(3). doi: 10.1016/j.jfbs.2020.100392.

Hair, J. F. J. *et al.* (2017) *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. second ed. Thousand Oaks CA. USA.: Sage Publications.

Hair, J. F., Ringle, C. M. and Sarstedt, M. (2011) 'PLS-SEM: Indeed a silver bullet', *Journal of Marketing Theory and Practice*, 19(2), pp. 139–151.

Hall, A., Towers, N. and Shaw, D. R. (2017) 'Understanding how millennial shoppers decide what to buy digitally connected unseen journeys', *International Journal of Retail & Distribution Managemen*, 45(5), pp. 498–517. doi: 10.1108/IJRDM-11-2016-0206.

Haslam, N. (2016) 'Concept Creep: Psychology's expanding concepts of harm and pathology', *Psychological Inquiry*, 27(1), pp. 1–17. doi:

10.1080/1047840X.2016.1082418.

Heitz-spahn, S. (2013) 'Cross-channel free-riding consumer behavior in a multichannel environment : An investigation of shopping motives , sociodemographics and product categories', *Journal of Retailing and Consumer Services*, 20(6), pp. 570–578. doi: 10.1016/j.jretconser.2013.07.006.

Henseler, J. and Fassott, G. (2010) 'Testing moderating effects in PLS path models: An illustration of available procedures.', in *Handbook of partial least squares*. Heidelberg: Springer Berlin., pp. 713–735.

Henseler, J., Ringle, C. M. and Sinkovics, R. R. (2009) 'The use of partial least squares path modeling in international marketing', *Advances in International Marketing*, 20, pp. 277–319.

Herrero, Á. and San Martín, H. (2017) 'Explaining the adoption of social networks sites for sharing user-generated content: A revision of the UTAUT2', *Computers in Human Behavior*, 71, pp. 209–217. doi: 10.1016/j.chb.2017.02.007.

Herrero Crespo, Á., Rodriguez Del Bosque, I. and Garcia De Los Salmones Sanchez, M. M. (2009) 'The influence of perceived risk on internet shopping behavior: A multidimensional perspective', *Journal of Risk Research*, 12(2), pp. 259–277. doi: 10.1080/13669870802497744.

Hong, I. B. and Cha, H. S. (2013) 'The mediating role of consumer trust in an online merchant in predicting purchase intention', *International Journal of Information Management*, 33(6), pp. 927–939. doi: 10.1016/j.ijinfomgt.2013.08.007.

Hooi Ting, D. *et al.* (2011) 'Dependency on smartphone and the impact on purchase behaviour', *Young Consumers*, 12(3), pp. 193–203. doi: 10.1108/17473611111163250.

Hubert, M. *et al.* (2017) 'Acceptance of smartphone-based mobile shopping: mobile benefits, customer characteristics, perceived risks, and the impact of application context', *Psychology and Marketing*, 34(2), pp. 175–194. doi: 10.1002/mar.20982.

Jung, Y. (2014) 'What a smartphone is to me : Understanding user values in using smartphones', *Information Systems Journal*, 24(4), pp. 299–321. doi: 10.1111/isj.12031.

Kang, J. Y. M. (2018) 'Showrooming, Webrooming, and User-Generated Content Creation in the Omnichannel Era', *Journal of Internet Commerce*. Taylor & Francis, 17(2), pp. 145–169. doi: 10.1080/15332861.2018.1433907.

Kang, J. Y. M. (2019) 'What drives omnichannel shopping behaviors?: Fashion lifestyle of social-local-mobile consumers', *Journal of Fashion Marketing and Management*, 23(2), pp. 224–238. doi: 10.1108/JFMM-07-2018-0088.

Kaplan, A. M. and Haenlein, M. (2010) 'Users of the world, unite! The challenges

and opportunities of Social Media', *Business Horizons*, 53(1), pp. 59–68. doi: 10.1016/j.bushor.2009.09.003.

Kim, E., Libaque-Saenz, C. F. and Park, M. C. (2018) 'Understanding shopping routes of offline purchasers: selection of search-channels (online vs. offline) and search-platforms (mobile vs. PC) based on product types', *Service Business*, 13(2), pp. 305–338. doi: 10.1007/s11628-018-0384-7.

Kokho Sit, J., Hoang, A. and Inversini, A. (2018) 'Showrooming and retail opportunities: A qualitative investigation via a consumer-experience lens', *Journal of Retailing and Consumer Services*. Elsevier Ltd, 40(October 2017), pp. 163–174. doi: 10.1016/j.jretconser.2017.10.004.

Lemon, K. N. and Verhoef, P. C. (2016) 'Understanding Customer Experience Throughout the Customer Journey', *Journal of Marketing*, 80(6), pp. 69–96. doi: 10.1509/jm.15.0420.

Lichtenstein, D. R., Netemeyer, R. G. and Burton, S. (1990) 'Distinguishing coupon proneness from value consciousness: an acquisition-transaction utility theory perspective', *Journal of Marketing*, 54(3), pp. 54–67.

Marriott, H. R. and Williams, M. D. (2018) 'Exploring consumers perceived risk and trust for mobile shopping: A theoretical framework and empirical study', *Journal of Retailing and Consumer Services*, 42, pp. 133–146. doi: 10.1016/j.jretconser.2018.01.017.

Melumad, S., Inman, J. J. and Pham, M. T. (2019) 'Selectively emotional: How smartphone use changes user-generated content', *Journal of Marketing Research*, 56(2), pp. 259–275. doi: 10.1177/0022243718815429.

Mitchell, V. W. (1999) 'Consumer perceived risk : Concetualisations and models', *European Journal of marketing*, 33(1/2), pp. 163–195.

Nunnally, J. C. (1978) *Psychometric theory*. New York: McGraw-Hill.

Patwardhan, P. and Yang, J. (2003) 'Internet dependency relations and online consumer behavior: a media system dependency theory perspective on why people shop, chat, and read news online', *Journal of Interactive Advertising*, 3(2), pp. 57–69. doi: 10.1080/15252019.2003.10722074.

Peck, J. and Childers, T. L. (2003) 'Individual differences in haptic information processing: The "need for touch" Scale', *Journal of Consumer Research*, 30(3), pp. 430–442. doi: 10.1086/378619.

Perry, P., Kent, A. and Bonetti, F. (2019) 'The use of mobile technologies in physical stores: The case of fashion retailing.', in *Exploring Omnichannel Retailing*, pp. 169–195. doi: 10.1007/978-3-319-98273-1.

Podsakoff, P. M. *et al.* (2003) 'Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies', *Journal of Applied Psychology*, 88(5), pp. 879–903. doi: 10.1037/0021-9010.88.5.879.

PwC (2021) *Global consumer insights pulse survey*.

Rajkumar, N., Vishwakarma, P. and Gangwani, K. K. (2020) 'Investigating consumers' path to showrooming: a perceived value-based perspective', *International Journal of Retail and Distribution Management*, 49(2), pp. 299–316. doi: 10.1108/IJRDM-05-2020-0184.

Rapp, A. *et al.* (2015) 'Perceived customer showrooming behavior and the effect on retail salesperson self-efficacy and performance', *Journal of Retailing*. New York University, 91(2), pp. 358–369. doi: 10.1016/j.jretai.2014.12.007.

Rejón-Guardia, F. and Luna-Nevarez, C. (2017) '"Showrooming" in Consumer Electronics Retailing: An Empirical Study', *Journal of Internet Commerce*. Taylor & Francis, 16(2), pp. 174–201. doi: 10.1080/15332861.2017.1305812.

Rodríguez-Torrico, P., San José Cabezudo, R. and San-Martín, S. (2017) 'Tell me what they are like and I will tell you where they buy. An analysis of omnichannel consumer behavior', *Computers in Human Behavior*, 68, pp. 465–471. doi: 10.1016/j.chb.2016.11.064.

Roma, P. and Aloini, D. (2019) 'How does brand-related user-generated content differ across social media? Evidence reloaded', *Journal of Business Research*. Elsevier, 96(December 2018), pp. 322–339. doi: 10.1016/j.jbusres.2018.11.055.

Santos, S. and Gonçalves, H. M. (2019) 'Multichannel consumer behaviors in the mobile environment: Using fsQCA and discriminant analysis to understand webrooming motivations', *Journal of Business Research*. Elsevier, 101(January), pp. 757–766. doi: 10.1016/j.jbusres.2018.12.069.

Schneider, P. J. and Zielke, S. (2020) 'Searching offline and buying online – An analysis of showrooming forms and segments', *Journal of Retailing and Consumer Services*, 52(June 2019). doi: 10.1016/j.jretconser.2019.101919.

Schneider, P. J. and Zielke, S. (2021) 'Price versus service: Can retailers beat showrooming with competence?', *Journal of Retailing and Consumer Services*, 61, p. 102592. doi: 10.1016/j.jretconser.2021.102592.

Shankar, V. *et al.* (2016) 'Mobile shopper marketing: Key issues, current insights, and future research avenues', *Journal of Interactive Marketing*, 34, pp. 37–48.

Singh, H. and Chakrabarti, S. (2021) 'Defining the relationship between consumers and retailers through user-generated content: insights from the research literature', *International Journal of Retail and Distribution Management*, 49(1), pp. 41–60. doi: 10.1108/IJRDM-03-2020-0080.

Stone, R. N. and Gronhaug, K. (1993) 'Perceived risk: further considerations for the marketing discipline', *European Journal of Marketing*, 27(3), pp. 39–50.

Tian, L., Shi, J. and Yang, Z. (2009) 'Why does half the world's population have a mobile phone? An examination of consumers' attitudes toward mobile phones', *Cyberpsychology and Behavior*, 12(5), pp. 513–516. doi:

10.1089/cpb.2008.0335.

Tsai, W. H. S. and Men, L. R. (2013) 'Motivations and antecedents of consumer engagement with brand pages on social networking sites', *Journal of Interactive Advertising*, 13(2), pp. 76–87. doi: 10.1080/15252019.2013.826549.

Verhoef, P. C., Kannan, P. K. and Inman, J. J. (2015) 'From Multi-Channel Retailing to Omni-Channel Retailing Introduction to the Special Issue on Multi-Channel Retailing &', *Journal of Retailing*. New York University, 91(2), pp. 174–181. doi: 10.1016/j.jretai.2015.02.005.

Verhoef, P. C., Neslin, S. a. and Vroomen, B. (2007) 'Multichannel customer management: Understanding the research-shopper phenomenon', *International Journal of Research in Marketing*, 24(2), pp. 129–148. doi: 10.1016/j.ijresmar.2006.11.002.

Viejo-Fernández, N., Sanzo-Pérez, M. J. and Vázquez-Casielles, R. (2020) 'Is showrooming really so terrible? start understanding showroomers', *Journal of Retailing and Consumer Services*, 54(October 2019). doi: 10.1016/j.jretconser.2020.102048.

Wang, C., Lee, M. K. O. and Hua, Z. (2015) 'A theory of social media dependence: Evidence from microblog users', *Decision Support Systems*, 69, pp. 40–49. doi: 10.1016/j.dss.2014.11.002.

Wang, Y. M. *et al.* (2015) 'Understanding multi-channel research shoppers: An analysis of internet and physical channels', *Information Systems and e-Business Management*, 14(2), pp. 1–25. doi: 10.1007/s10257-015-0288-1.

We are social and Hootsuite (2021) *Digital 2021. Global overview report*. New York: We Are Social.

Yu, U. J., Lee, H. H. and Damhorst, M. L. (2012) 'Exploring multidimensions of product performance risk in the online apparel shopping context: visual, tactile, and trial risks', *Clothing and Textiles Research Journal*, 30(4), pp. 251–266. doi: 10.1177/0887302X12462059.

Zhang, L., Zhu, J. and Liu, Q. (2012) 'A meta-analysis of mobile commerce adoption and the moderating effect of culture', *Computers in Human Behavior*, 28(5), pp. 1902–1911.

Zhang, Z. and Hou, Y. (2017) 'The effect of perceived risk on information search for innovative products and services : the moderating role of innate consumer innovativeness', *Journal of Consumer Marketing*, 34(3), pp. 241–254. doi: 10.1108/JCM-04-2016-1768.

Appendix A. Construct reliability and validity

Construct (Authors)	Loading	t	CA	CR	AVE
Mobile dependency (Ting et al., 2011)			0.851	0.900	0.693
In my daily life, usage of the smartphone is high.	0.744	19.944			
I feel lost when my smartphone is not with me.	0.860	42.171			
I use the smartphone for everything.	0.889	81.882			
I am totally dependent on my smartphone.	0.830	30.952			
Psychological risk (Marriott and Williams, 2018)			0.928	0.951	0.865
I often feel unnecessary tension when using my mobile device to shop online	0.887	3.835			
The thought of making online purchases on my mobile device makes me feel anxious	0.945	3.750			
Shopping online using my mobile device makes me feel uncomfortable	0.957	3.228			
Need for touch (Peck and Childers, 2003)			0.844	0.893	0.677
I place more trust in products that can be touched before purchase	0.827	38.478			
I feel more comfortable purchasing a product after physically examining it	0.850	75.233			
If I can't touch a product in the store, I am reluctant to purchase it	0.768	34.236			
The only way to make sure a product is worth buying is to actually touch it	0.844	53.126			
Value consciuosness (Delgado-Ballester et al., 2014)			0.861	0.905	0.705
When shopping, I am equally concerned about low prices and product quality.	0.846	44.480			
When shopping, I compare the prices to be sure I get the best value for my money.	0.816	36.153			
When shopping, I try to maximize the quality I get for the money I can spend	0.836	37.507			
When shopping, I like to be sure that I am getting my money's worth	0.860	53.430			
Attitude towards mobile showrooming (adapted from Rejón-Guardia and Luna-Nevarez, 2017)			0.803	0.885	0.720
I like to examine the product in a physical store before buying it online	0.767	29.073			
Buying online after examining the product in a physical store is a good idea	0.887	81.597			
The outcome of buying online after examining the product in a physical store if often positive	0.886	83.569			
Mobile showrooming intention (adapted from Rejón-Guardia and Luna-Nevarez, 2017)			0.860	0.915	0.781
I have the intention to buy in this way in the near future (visiting a physical store and buying online)	0.842	33.809			

When I have to buy this type of product again, I will do it in the same way	0.894	83.402			
I have the intention to continue buying in this way.	0.914	123.403			
UGC creation (adapted from Kang, 2019)			0.885	0.928	0.812
I will rate the purchase in the online channel	0.895	76.243			
I will post a comment about the product on the Internet	0.922	91.437			
I will share information about the purchase on the Internet	0.886	56.845			

CA = Cronbach alpha; CR = Composite reliability; AVE = Average variance extracted

Appendix B. Discriminant validity and heterotrait-monotrait ratio (HTMT)

	MD	PR	NFT	VC	MSA	MSI	UGC
MD	**0.832**	-0.015	0.219	0.388	0.405	0.431	0.240
PR	0.184	**0.930**	0.237	-0.227	-0.064	-0.062	0.252
NFT	0.248	0.304	**0.823**	0.320	0.588	0.316	0.202
VC	0.435	0.255	0.338	**0.840**	0.585	0.618	0.170
MSA	0.473	0.199	0.706	0.696	**0.849**	0.565	0.165
MSI	0.498	0.067	0.354	0.718	0.676	**0.884**	0.299
UGC	0.283	0.287	0.258	0.188	0.195	0.335	**0.901**

Note: The diagonal values in bold indicate the square root of the average variance extracted (AVE). The scores above the diagonal indicate inter-construct correlations. The scores below the diagonal show the heterotrait–monotrait (HTMT) ratio.

MD = Mobile dependency, PR = Psychological risk, NFT = Need for touch, VC = Value consciousness, MSA = Mobile showrooming attitude, MSI = Mobile showrooming intention, UGC = User-generated content creation.