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The Impact of Omnichannel Experience on Students' Loyalty and Advocacy Intention in Higher Education: The mediating role of Students' Engagement and Perceived Satisfaction.

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Abstract:

Purpose- Omnichannel (OM) strategy is the most important business revolution in recent years. It impacts communication, marketing, and information systems of modern organizations by integrating all available channels to convey a seamless experience that is consistent, unified, and personalized during user's journey irrespective of channel of interaction used. The purpose of this paper is to investigate the omnichannel strategy and to explore factors that influence omnichannel experience (OME) in higher education setting in Egyptian market by understanding triggers that craft and rise students' experience that subsequently impacts behavioral and emotional outcomes of students'. Study tests the relationship between OM proposed determinants (convenience, consistency, personalization, integrated promotion, integrated information access and students' support) that enhance students' experience and its impacts on perceived satisfaction and student's engagement as mediating variables that reflect on students' institutional loyalty and advocacy intention. This study extends previous research of omnichannel strategies presenting a new omnichannel experience model that centers around HE students' use of omnichannel communication and its potential benefits on both students and higher education institutions HEI's.

Design/methodology/approach- Design method adopted by study is mixed method design, qualitative and quantitative studies are undertaken on foreign agreement and framework university students' in Egypt. Data is gathered using self-administrated questionnaires and semi structured interviews. Study employs a stratified sampling design for university students through a well-structured questionnaire that collected data from 392 respondents and qualitative semi structured interviews are carried on 10 respondents for more in depth insights.

Findings- Results are analyzed by the theories of the theoretical framework of references and proved validity and reliability. Results indicate that determinants of OME are strategically significant and positively impact mediating factors that play an indirect role of relationship between OME and loyalty and advocacy intention in HEI's. Statistical methods such as distributions, frequencies, correlations, and regression are used to evaluate hypothesis. The findings will be a contribution to academic framework and will also benefit strategic university decision makers with strategic insights for future transformation from multichannel to omnichannel communication strategy.

Originality/value- despite the number of academic studies exploring OM concept but development of OME in HE context has been rarely studied and shortcoming in knowledge was found. This study is the first venture that tests OME in HE and will contribute in HE literature and student experience management along with omnichannel field of research.

Keywords: customer experience (CX), student experience (SX), higher education (HE), higher education institutions (HEI's), multichannel, omnichannel (OM), omnichannel experience (OME), students' engagement, students' satisfaction, loyalty, and advocacy.

1.0 Introduction:

In the light of recent events in higher education HE sector, it's becoming extremely difficult to ignore several changes in education industry that occurred due to advancement of strong interactive technological tools, changes in students' behaviors and needs, along with evolution in higher education service landscape, brings different motivations and classifications to be determined by higher education institutions HEI's, (Khoa et al., 2023). Today's students expect more accessible, tech enabled and reliable experience similar set up

with their experiences of renowned brands they interact with in service landscape. Therefore, enhanced HE practices of educational institutions are embraced to emerge high level of experience through strong interactive methods and tools that exploit integration of communication and support offered to students through OM strategy development that consequently create OME and subsequently impacts satisfaction, engagement and develop long term loyal relationships. moving up from multichannel to omnichannel shall allow integrating variety of interactions occurring between institutions and students at various touchpoints (Beck & Rygl 2015).

Moreover introduction of internationalization and huge divert towards privatization in HE had a great influence on competitive rivalry among universities, along with huge deployment of digital technology adopted by students and change in their lifestyles and expectations all puts pressure on adjusting rapid changes to policies and strategies of new communicating and support methods managed more consistently and with high levels of convenience across all channels provided by the educational institutions (Chowdhury et al.,2020 ; Huynh et al., 2023). According to (Frazer and Stiehler,2015 p.655). “A true omnichannel experience would mean that one transaction can span over more than one channel” in another definition it’s the ability of the institutions to reach and interact with its customers anytime ,anyplace where availability is the heart of omnichannel, with a unified approach offering hybrid contact points that enhance experience across all interactions (Furquim et al., 2022; Gao et al., 2021; Tien et al., 2020). Today’s institutions are expanding their operations to include more interactive methods and channels to better reach their users ensuring transparency, convenience, integration of information all linked through all integrated channels (Baqai et al.,2021).

This paper consists of five sections , first section is the introduction currently presented ,The second section is the background that will address the knowledge gap found and provides insights of previous literature relevant to the OM , and will include hypothesis development , third section will include the research methodology . The results and findings will be the fourth section finally conclusion, recommendations and limitations will be the fifth section.

2.0 Omnichannel :

Omnis is a latin word for ‘all’ or universal meaning that all channels will focus in giving a holistic experience throughout user journey to make it smooth and seamless interaction irrespective to what channel is chosen. (Gupta et al.,2004; Shah et al.,2006). Changes in how business interacts with their customers witnessed dramatic advent of digitalization (Quynh ,2023).

Omnichannel is a service that allows customers freely choose among parallel channels and seamlessly switch among different channels, without any information loss or reiteration. The concept focusses on the integration and coordination of detached channels to meet customer’s needs. This definition was supported by (Rodriquez Torrico,2022). Along with (Asmare and Zewdie,2022; Nelsin,2022; Sharma and Dutta,2023; Shi et al.,2020 ;Wang,2021), all centred

around defining OM through coordinating and synchronizing e- channels along with brick and mortar. Unlike multichannel OM is defined as more integrated, customized and interactive throughout users interaction journey that seeks smooth interaction with brand owned touchpoints in a cohesive, consistent sensitive manner (Gao et al .,2022),where presence of both online and offline channels can alter how information collection ease can be made along with communication service quality (Butkouskaya et al., 2020).Therefore to sum up OM is the coordination of multiple touchpoints to improve overall performance and quality of users experience (Thaichon et al.,2022).

2.1 Transition from multichannel to omnichannel

According to Forbes ,2021 multi suggests ‘many’ while omni suggests ‘all’ Multichannel focus on sending common messages to users through different individual channels, while omnichannel focus on getting users to engage by providing unified content through all connected channels. Unlike multichannel that lacks integration across channels omnichannel approach is continuously interacting in a seamless interplay connecting users with their brands (Alexander & Blazque , 2020). Removing all distinction among channels available and creating place without walls and barriers (Brynjolfsson et al., 2013).

Table (1) Multichannel vs. Omnichannel characteristics

Multichannel	Omnichannel
Multichannel are combination of touchpoints or mediums where customers and company interact through. (Shen et al.,2018). Siloed channel that operates as independent entities.	Omnichannel concept was then developed from multichannel but with more integration among independent channels to give a more seamless transition across physical and digital touchpoints. (Shen et al.,2018). Informational and transactional unified approach that manages channels and mingle them all.
Channel integration - no switching between channels	Channel integration -seamless switching across channels
Channel management -separate management of channels to optimize experience of each channel	Channel management - synergetic management towards gaining a more holistic overall experience
Data -is not shared among channels	Data - are shared across channels
Users - use channels in parallel	Users - use channels simultaneously

Source: Juaneda-Ayensa et al.,2016; Shen et al.,2018; Denis N. Dorofeev et al.,2021.

2.2 Experience concept:

Experience is one of the most widely studied phenomena in marketing where it encompasses every aspect of offering directly and indirectly interacted with company users (Verhoef, Lemon, 2016). Definition reinforce importance of experience idea through all interactions done by the institution throughout user life cycle another definition found is that customer experience is a set of interactions between company and customer which provokes a reaction,

this includes customer involvement and engagement at different moments (Gentile et al., 2021,p.397). Every interaction result in an impression from the moment of contact either through communication with staff, practices interactions, search, or visits online and offline interactions to create a sense of satisfaction and shape experience towards the company and develops sense of relationship (Burkus et al., 2009), this feeling sensed either increases or decreases person affinity to the company which results in an emotional connection (Prentice al., 2019).

2.3 Concept of customer experience CX vs students experience SX

In context of higher education, the student experience (SX) has a strong impact on students perceived satisfaction and this experience results from students smooth interaction with support systems provided by higher education institutions(HEI's) to meet their needs (Matus, 2022). But further research needs to explore new ways of interaction that adapts with modern students perceptions. (SX) has been a topic of interest in HEI's since 2010, especially after the increased use of communication technologies and its impact on SX which influenced role of management experience improvement strategies. (Izquierdo-Yusta et al., 2021; le Roux and van Rensburg, 2014; Postschulat et al., 2021). As a result, it is intended that this study will build on the enhancement of SX in HEIs and propose omnichannel strategy to consolidate better SX and reach a comprehensive model that explains the emergence of OME in HEIs.

2.4 Importance of omnichannel experience in Higher education

Imagine for a moment that students start their higher education HE journey trying to get information and offers from numerous institutions by browsing different websites, checking social media pages, trying to contact call centers or through visits to admission offices, searching for college opportunities. during this search journey students must engage through number of online and offline channels, even after settling for an option in any university, students' need huge support in enrollment process that is lengthy and complex where students must contact different channels to complete journey, (Hickman et al., 2020; Chen et al., 2018). With students high expectations of a more friendly and accessible means of communications that breaks barriers of data access and combine institutions silos channels will lead students satisfaction and easy engagement, Berman and (Thelen, 2018).

Omnichannel will be the new normal in the next few years (Briel, F. 2018). Omnichannel can take institutions marketing, communication, and recruitment activities to another level by offering multiple synchronized channels of communication that increase effectiveness of the process of reaching prospect along with assisting current students by providing best service quality from earliest stage of search, ensuring they receive relevant information and support needed although till they eventually graduate (Colliers, 2021).

2.5 Emergence of OME in HEI's

2.5.1 Student centricity approach

Omnichannel integration in educational institutions lately helped both students and educators to connect and collaborate to improve overall learning experience. **Student experience**-where students are the center when creating an omnichannel experience, it ensures that students finish his/her required process through several means and devices with no interruptions and with high level of consistency of information and process, highly available channels can integrate different communication channels that offers students information, solve queries, and offers means of support (Paola Vallejo-Correa et al., 2020).

2.5.2 Change of student's patterns towards technological advancement

Introduction in edtech resulted an innovation in education which results in tech implementation and research motivated funding. As for (Robledo and Ayla ,2018) many learning institutions has adopted multichannel communication approach where research has shown that there were number of significant limitations with multichannel approach including channel unity, narrow scope, lack of integration between touchpoints, inability to access and acquaint with changes that appeared overtime concerning learners and extending to their experiences across channels. (Inman and Nikolova, 2017).

2.5.3 Students' increased expectations

Changes in tech enabled omnichannel customer experience and increased expectations of university learners of demanding consistent seamless, highly personalized channels with high use of tech through touchpoints (Alexander, 2019). And it created opportunities to find greater success to whom will adopt approach and synergize manage of communication to distinguish from competitors and contribute towards customer experience (Inman and Nikolova, 2017).

2.5.4 Students tendency of multiplying and switching channels.

The relatively recent concept of omnichannel where the idea of multiplying channels became a great interest for many business (Brynjolfsson et al., 2013), to meet customers simultaneously through touchpoints providing memorable experience, unifying, and integrating different communication channels to offer students consistent valid information and help solve educational and noneducational obstacles and inquires.

2.6 Theories of omnichannel experience

Many theoretical perspectives adopted in literature with different lenses were tackled by authors and different angles were researched by many scholars to reach deeper understanding and to bridge across theoretical perspectives and research traditions in omnichannel management. The findings of theories adopted in OME investigated relations and outcomes deprived along with components and factors tested to support OM strategy. TAM theory was studied by (Berg and Tornblad ,2017; Lee,2016; Liu et al.,2017) they tested, Perceived ease

of use, perceived usefulness attitudes. While the TRA theory that was studied by Jia (2016), investigated Norms and subjective attitudes. Another commonly used theory that was widely used in Omnichannel context is UTAUT2 that was studied in (Juaneda-Ayensa et al., 2016; Kazancoglu and Aydin,2018) studies and included components of Performance expectancy, effort expectancy and social influence. Furthermore Wetzlinger (2017) used the Expectancy theory to test extent to which high performance is seen and how it leads to specific rewards. While Utility theory used by (Herhausen et al.,2019) studied relationships among satisfaction throughout journey to allow creating positive journey experience that enhance loyalty. While IDT theory used by (Shi et al., 2020; Thong ,2020),in their studies tested ease of use, visibility enablers, compatibility components . Lastly Theory of planned behaviour (TPB) founded by Ajzen (1991) as it's the extension of theory of reasoned action (TRA) that was introduced by Ajzen ,1985 that points out attitudes towards a specific behaviour that influence people behavioural and was used by (Fu ,2017; Salem et al.,2022; Xu & Jackson ,2019), shall be the adopted theory used in current study as this theory discusses that users selection of channels unified impacts his behaviour intention towards the institution that provides these unified channels.

2.7 Omnichannel experience determinants and outcomes from literature

Study reviewed and identified all relevant reviews extracted from literature, including definitions, antecedents, dimensions and important outcomes of most academic publications in both omnichannel context and in student experience in higher education to extract the best conceptual results and build a new perspective proposed to make up a contribution in literature with best determinants of omnichannel experience perceived by students in higher educational setting to influence student loyalty and advocacy . Analysis of various OME studies and findings were identified to extract factors and outcomes of OME. (Lee,2019), tested engagement, (Haider, 2020) tested channel integrations,(Dorofeev,2021;Shi et al.,2021), tested factors of conceptualizing OME , (Gao et al., 2021 ; Rahman,2022) studies tested crafting OME and finally (Viveka,2023), tested OM influence on loyalty. Analysis of Studies that mentioned and confirmed key behavioural and emotional outcomes was also scanned from previous literature where mostly observed and seen relevant outcome was loyalty (Allam et al.,2019 ;Gao et al.,2021; Rahmen,2022; Shen et al.,2018 ; Viveka,2023),Studies all confirmed loyalty outcome,

Therefore, this research will try to fill the gap in knowledge in this area and to identify and clarify new contribution of determinants suitable to the setting and industry and keeping in line with prior research. All determinants proposed were mentioned and confirmed in number of previous studies using scales previously validated to measure determinants and outcomes.

2.8 Hypotheses development

2.8.1 Impact of support services on OME.

It's the evaluative judgment of the support services provided at any stage in customer journey, providing prompt service representatives across channels (Ramadan ,2022). As per (Lee,2020); (Alsaid & Almesha, 2023). relationship experiences are the availability of assistance through representatives.

H₁: Integrated student support services has direct impact on perceived omnichannel experience OME.

2.8.2 Impact of convenience on OME.

convenience and ensuring access from any channel anytime and being responsive to customers where they can access information and find services available (Gao & Su, 2017;Taylor &Levin ,2014). drives customer experience and satisfaction. Accelerating convenience and ensuring access, being responsive, allowing access information anytime reinforce customer experience (Srivastava and Kaul, 2014).

H₂: Channels convenience has direct impact on perceived omnichannel experience.

2.8.3 Impact of consistency on OME.

Another important dimension is **consistency** across channels, (Beck & Rygl ,2015; Cook,2014; Shen et al.,2018; Shi et al., 2020). Omnichannel consistency focuses on two dimensions content and process across different channels (Nguyen ,2021). Consistency leads to increase in loyal brand ambassadors, positive reviews, happy social media sharing(Burkus ,2021).

H₃: Channels consistency has direct impact on perceived student omnichannel experience.

2.8.4 Impact of integrated information access on OME.

Another valid determent of omnichannel experience is availability of integrated information online and offline and instant information access that is up to date from a valid source(Nguyen ,2022). Omnichannel information integration system removes distinction among channels through continuity and ease of information to allow students to receive a unified and synchronized communication ,(Hilken et al., 2022).

H₄: Channels integrated information access have direct impact on perceived omnichannel experience.

2.8.5 Impact of personalization on OME

one of the core dimensions of omnichannel where it's the extent to which consumers receive tailored made information and services and receive recommendations based on your preferred data (Berg & Tornblad, 2017; Shen et al., 2018). Personalization moves customers towards

emotional and psychological attachment which makes the experience more pleasant, comfortable, enjoyable, and amusing (Rahman et al.,2022).

H₅: Channels personalization has direct impact on perceived omnichannel experience.

2.8.6 Impact of integrated promotion strategy on OME

Wherever and no matter where and how students are online or offline they must have consistent access to all benefits offered and offers done by the institution through synergetic promotion (Chen & Chi ,2021). that helps sending all relevant information to accurate target audience (Anderl et al., 2016; Verhoef et al., 2017). Integrated efforts enable consumers to obtain promotion related information about online offers from offline site and vice versa where consumers can find offline advertisements and promotions on its online channels (Zhang et al., 2018).

H₆: Channels integrated promotion has direct impact on perceived omnichannel experience.

Impact of Variables mediating between OME and loyalty and advocacy outcome in higher education settings.

Each salient omnichannel experience dimension represents a specific quality characteristic that matter to omnichannel student experience perceived and how students will experience positive quality of each dimension.

2.8.7 Relationship between OME and its impact on Students perceived satisfaction.

As per (Rahman ,2022; Zhang et al.,2022; Alam & Gani ,2019; Lee ,2019; Rahman ,2022; Zhang et al.,2022), Satisfaction was a positively validated outcome in all previous studies and most literature supported and showed significance and validity. Customer experience in literature was the main factor of satisfaction and loyalty.(Caruana,2002).

H₇: Student omnichannel experience has positive impact on perceived satisfaction.

2.8.8 Relationship between OME and its impact student engagement

This study will link omnichannel with student engagement effected from better integration perceived, consistency of interactions and will test its impact on loyalty and advocacy. Where engagement and trust are sustained critical drivers of loyalty in omnichannel (Xuan et al.,2023).

H₈: Student omnichannel experience has positive impact on students' engagement.

2.8.9 Relationship between satisfaction and its positive impact on loyalty and advocacy

A significant stream of research recognized customer satisfaction as a key predictor of customer loyalty (; Chen ,2012; Davis-Sramek et al., 2009Reichheld, & Teal, 1996). As customer satisfaction is a mediating variable including trust, commitment, and loyalty (Chen,2008). Customer satisfaction is measured by how pleasantness or dreadfulness

experience customer had during and after purchase, (Tyrväinen et al., 2020) . Satisfaction-loyalty relationship predictor was proved across existing research and satisfaction has direct effects on loyalty in OM environment(Lee & Kim ,2010).

H₉: Perceived satisfaction has mediating positive impact on loyalty and advocacy.

2.8.10 Relationship between student engagement on loyalty and advocacy

The study will verify relationship of how OME affects loyalty through customer engagement and how it leads to positive influence. Engagements plays a vital role in institution customer relationship. OME provides consistent, integrated, easy and convenient information and service that is highly personalized which facilitates higher engagement and thereby loyalty (Gao et al. ,2021). Interactions now with business users not only through conventional brick and mortar channels but also through new social media, mobile apps, platforms and more (Hsia et al,2020; Rigby,2011; Shi et al.,2020). Much earlier research consolidated that multiple channels gain loyalty (Berman and Thelen ,2018; Hussein & Kais, 2020; Mainardes et al., 2020).

H₁₀: Students engagement has mediating positive impact on loyalty and advocacy

2.9 Research Questions

Given that researcher is familiar with earlier studies granted and covered in literature review , the following questions are presented in the absence of an Egyptian study that measured relationships of OME in HE along with rareness of OME studies in HE context, resulted a significant gap. Accordingly, the problem of the study is in the following questions.

RQ₁: what is the impact of OME on students' loyalty and advocacy intention in higher education.

RQ₂: What is the validity and reliability of omnichannel determinates that results in students' omnichannel experience OME?

RQ₃: Is there a significant impact between OME and students engagement and perceived students satisfaction?

RQ₄: Is there a significant impact of mediating factors of satisfaction perceived and students' engagements on loyalty and advocacy intention level?

2.10 Exploratory research

The researcher was interested in getting more insights regarding Omnichannel ,therefore a pilot study was conducted to investigate and learn more by getting insights of the need of Omnichannel upgrade and problems associated to Multichannel system adopted now by many learning institutions which creates the need to embrace OM advanced strategy in communication, interaction and support in HEI's .

First a Pre-Pilot interviews were undertaken with field experts currently working in the realm of universities and IT, to reach a clearer idea about the problem statement. The experts were approached and interviewed in a semi-structured format for the sake of this research. Interview was conducted with Eng. Mohamed Haytham AAST (management information systems department) and Eng. Mohamed Ahmadian AUC (business intelligence department). The interviewees were firstly asked about the applicability of using omnichannel integrated channels and which type of universities in Egypt can acquire such integration and upgrade in communications among Egyptian universities? Then followed by questions that inquired about the variables that they believe influence omnichannel effectiveness, and what are the preferences of users in terms of most favorable channels reached by and used by students and services demanded to be used as support vehicles as well. Lastly, they were asked about the most successful omnichannel platforms and infrastructure of IT cost. After transcribing the interviews, most experts agreed on what they called a shift towards omnichannel integrations as a marketing, enrollment and communication tools. They agreed on the fact that personalization, interactivity, convenience and informativeness are the most important variables to consider while preparing integrated promotion in the marketing campaigns they work on. In the same vein, they added that student's engagement and satisfaction perceived by students are two variables that are crucial for the effectiveness of the university value given to reach high retention levels, loyalty, and further post graduate enrollments in the future, along with the positive WOM and advocacy. But general theme of all interviews that was conducted is that universities that will upgrade their multichannel approach to omnichannel approach needs huge significant investment in digital infrastructure including digital tools and technology along with embracing technology in physical campus as well to integrate and synchronize all channels.

Piloting questionnaires a total of forty university students took part in the study's pilot phase, which is conducted utilizing the snowballing method, Cronbach's alpha has been chosen as the method to use in determining whether or not the data acquired are credible and consistent. The findings demonstrated that the instrument is both reliable and valid. (Tavakol et al., 2011). And according to pilot survey the following findings were acquired .

According to findings some words are changed and simplified in the questionnaire to suit the younger generation terminologies to become easier to comprehend. Along with the necessity of an omnichannel definition to be added to surveys to allow better understanding of concept. Second finding shoed that some variables should be removed due to repetitiveness of meanings or due to misunderstanding of pilot surveyed. Thirdly self-administrated questionnaire is the data collection method chosen due to low response rate of online surveys. Lastly pilot study that included students from different private and public universities directed researcher choice upon types of universities that can be included in sample frame as some students from public and some private universities had no channels of communication experienced from their universities only hangouts in campuses and website updates therefore,

they didn't relate to the study approach of omni channels integration. Then questionnaire was translated and back translated

2.11 Problem statement :

After the extensive reading in Omnichannel experience that is shown in literature review and conducting exploratory study research , it is concluded that Multichannel systems that are currently used in HEI's usually consists of detached channels that works independently which results fragmented chain and struggles to deliver consistent and reliable students' experience . Therefore, introduction of omnichannel solves the issue by coordinating processes and technology across channels and uniforms information via different channels to provide a seamless consistent more reliable students' service where higher education .Embracing innovation by coming up with unique strategies such as Omnichannel strategy appeal more to students' and make them more engaged across all physical and digital boundaries .

Despite the relevance of Omnichannel strategies and its application in many businesses domains lack of knowledge of shifting from multichannel to omnichannel and its behavioural outcomes especially in HE context in specific creates a knowledge gap . Due to insufficiency in existing literature and scarcity found led for further research to explore characteristics and determinates needed to provide an efficient ground that contributes to HE management theories. Furthermore, implementation from universities to provide maximum efforts by adjusting policies and processes that meets needs of students away from traditional settings is a fundamental strategy in modern education landscape, (Hoehle et al., 2018; Wiener et al., 2018).

Thus, purpose of this study is to investigate and explore the omnichannel experience strategy that will enhance student experience SX and will impact on engagement, satisfaction, and thus loyalty and advocacy in higher education in the Egyptian market.

This study will shed light on new omnichannel experience approach that is widely used in businesses now and it will test its effects, usability, measurements, and outcomes in higher education.

2.12 Research model

Independent variables (IV)
Variables(DV)

Mediating variables

Dependent

Determinants of Omnichannel experience

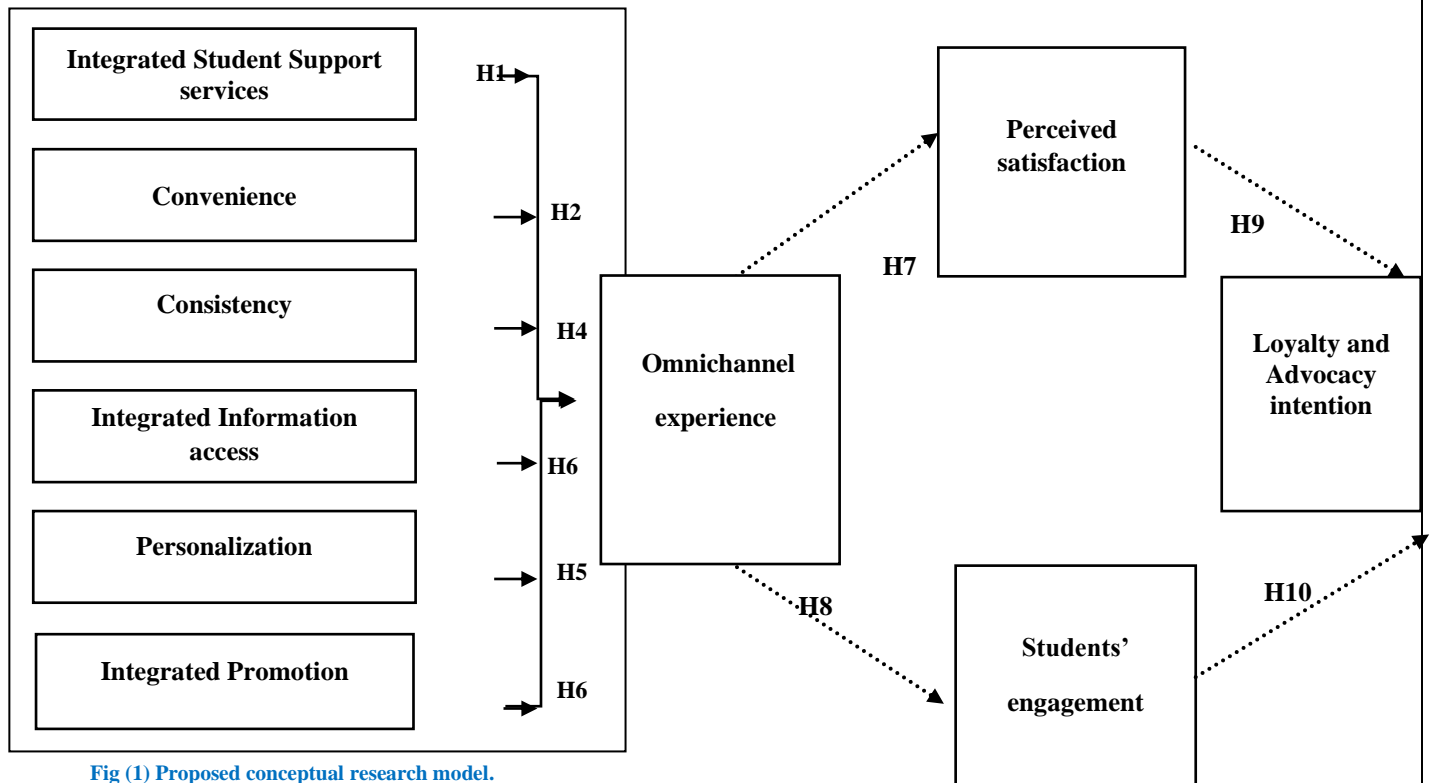


Fig (1) Proposed conceptual research model.

2.13 Research Hypotheses

H₁: Integrated student support services has direct impact on omnichannel experience OME.

H₂: Channels convenience has direct impact on omnichannel experience.

H₃: Channels consistency has direct impact on omnichannel experience.

H₄: Channels integrated information access have direct impact on omnichannel experience.

H₅: Channels personalization has direct impact on omnichannel experience.

H₆: Channels integrated promotion has direct impact on omnichannel experience.

H₇: Omnichannel experience has positive impact on perceived satisfaction.

H₈: Omnichannel experience has positive impact on students' engagement.

H₉: Perceived satisfaction has mediating positive impact on loyalty and advocacy.

H_{10} : Students engagement has mediating positive impact on loyalty and advocacy.

2.14 Research Scope

Scope of this research is to investigate the impact of OME on moderating variables of students' engagement and satisfaction and their relationship on loyalty and advocacy intention in HEI's. Study will answer concerns for institutions and offer the needed knowledge regarding implementing efficient omnichannel experience and will utilize its attributes and effects on how to evoke and develop favorable students experience which can boost their loyalty and advocacy.

3.0 Research Design

3.1 Method of Data Collection, Mixed – method approach , first primary data collection **semi structured interviews** were conducted and as per Malhotra (2010), Qualitative study allow to get a deep understanding of the research topic through first-hand experience, truthful reporting, and quotations of actual conversations from students. It aims to provide an explicit rendering of the structure, order, and broad patterns found among a group of participants. It also aims to understand how the participants drive meaning from their surroundings, and how their meaning influences their behaviour. Sample is Ten [one on one] interviews, interviews were based on predefined open-ended questions with warm up questions to make interviewers feel comfortable to share information and opinions, then all interviews was more or less the same structure through an interview guide formulated to make it easier later in compression, (Saunders et al., 2009).

Secondly, Once the model was confirmed, the **quantitative study** was conducted to describe and explain the relationships among the variables through **Self-administered questionnaires** conducted to utilize a standardized set of questions, which allow respondents' answers to be systematically compared and/or contrasted. This will enable the researchers to reach many potential respondents in a variety of locations. Scales were chosen according to literature. Where Student support , consistency, personalization and perceived satisfaction statements were adapted from (Parasuraman et al.,2005),while integrated promotion and integrated information access were adapted from (L-B Oh et al.,2012), engagement was adapted from(Hollebeek et al.,2014), convenience from (Ko, Cho et al.,2005) and lastly loyalty was adapted from (Pantano & Viassone,2015). Questionnaire was divided to three sections. first set questions will measure omnichannel usability variables that measures omnichannel experience, second section will include items measuring perceived satisfaction and students' engagements, third section will include measurements of loyalty and advocacy, and finally, a section includes demographics.

Table (2) Summary of Research design

Research Design Element	Chosen Method	Description and Rationalization
Purpose of Research	Descriptive Study	To identify the omnichannel determinants that formulates the perceived omnichannel student experience and their consequences on satisfaction, and engagement which will lead to loyalty and advocacy intention in higher educational institutes in Egyptian market.
Extent of research interference	Minimum Interference	Minimum interference needed to collect real data from the field without imposing any data collection bias on the participants.
Study setting	Natural Setting	Interviews are conducted in university campuses Questionnaire will be distributed by hand self-administered questionnaires, to participants from sample universities.
Time horizon	Cross-sectional studies (one shot)	Questionnaires will be distributed over a period of 7 to 10 days going one time into the market.
Sampling	Probability/stratified Sampling /Interval sampling	Where all the people have the chance of being selected With intervals between each participant of 1 minute
Intended Data Analysis	Thematic Analysis SPSS Analysis	Qualitative study is analysed using thematic analysis and interpreted through NVivo software. While quantitative data is analysed using SPSS.26 and smart PLS 3.2.7

3.2 Target Population

The target population was a large group of students to generalize findings but it was technically impossible to embody all HEI's therefore, researcher choose to limit this study to higher education institutes with special foreign agreements and frameworks affiliated with alliance of supreme council of universities (SCU) .The choice of these universities is based on applicability of institutions to finance and emerge this IT infrastructure and that already adopts a multi-channel communication strategies as omnichannel is the upgrade interface of multichannel strategy. And that was based on expert interviews and pilot testing results in the exploratory research Furthermore, universities under study must have higher forms of digital

transformation and applicability of adoption of digital technologies, advancements and updated innovative multi-channel approach to connect with international headquarters or branches that are required by international accreditations to comply similar student experience replicated to international campuses regardless location. In this study researcher selected a sample of private foreign agreements and framework higher educational institutions in Egypt will be our target population according to ministry of higher supreme education and according to university websites of number of students enrolled in university during school year of 2022/2023 was about 55267 the number of registered students in selected universities. There are seven universities under international framework agreements according to <https://moheer.gov.eg/private-univ2> . All universities within sample frame are tested with the exception of TU Berlin as it currently only offers post graduate programs while target population is undergraduate population. Number of enrolled students at each university was recorded from university websites, facts and figures.



وزارة التعليم العالي والبحث العلمي
المصرية

ثالثاً. مؤسسات تعليمية باتفاقيات دولية
1. الجامعة الأمريكية في مصر
2. الجامعة المصرية اليابانية للعلوم والتكنولوجيا
3. الجامعة العربية المفتوحة
4. الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري
5. جامعة اسلسكا مصر
6. جامعة برلين الألمانية بالجونة (TU Berlin).
7. الجامعة الألمانية الدولية بالعاصمة الإدارية الجديدة.

- 1- American university in Cairo
- 2- E-just Egypt-Japan university
- 3- Arab open university AOU
- 4- Arab academy for science and technology AAST
- 5- Eslsca university
- 6- TU Berlin university
- 7- German international university GIU

fig (2) Higher supreme foreign agreements and frameworks institutions

3.3 Sampling size and procedures

Sampling size is calculated accurately to ensure validity, accuracy, reliability, and integrity to the study. Formula of calculating required target size of target population to get acceptable confidence level at 0,05 (5% margin error) and consequently the confidence interval at 0,95 (95%certainty). <https://www.calculator.net/sample-size-calculator.html> N= 382.16384

Before beginning to compute the size of the sample, it is necessary to first determine the population, which (55267) students. With using a stratified sampling strata 10% of each university population selected to have equal proportion required within the target size. The

purpose of the computation of sample size is to identify an appropriate sample size that can accurately offer estimates about the entire population and generalize certain conclusions. Therefore, it is necessary for the sample to be representative of the entire population.

According to the Cochran formula for determining sample size, with a confidence level of 95% and an error margin of 5%, the sample size was determined to be 382 students in selected universities (Sekaran and Bougie, 2016). To increase the quality of the sample, at a margin of error of 3%, The appropriate sample size given the specified combination of precision, confidence, and variability. As a result, information is gathered for more than 400 students who are enrolled in chosen universities in order to reduce the proportion of errors. After through checks of questionnaires and the elimination of those with incomplete answers 392 students remained. The study was carried out between the month of September and October in the year 2023.

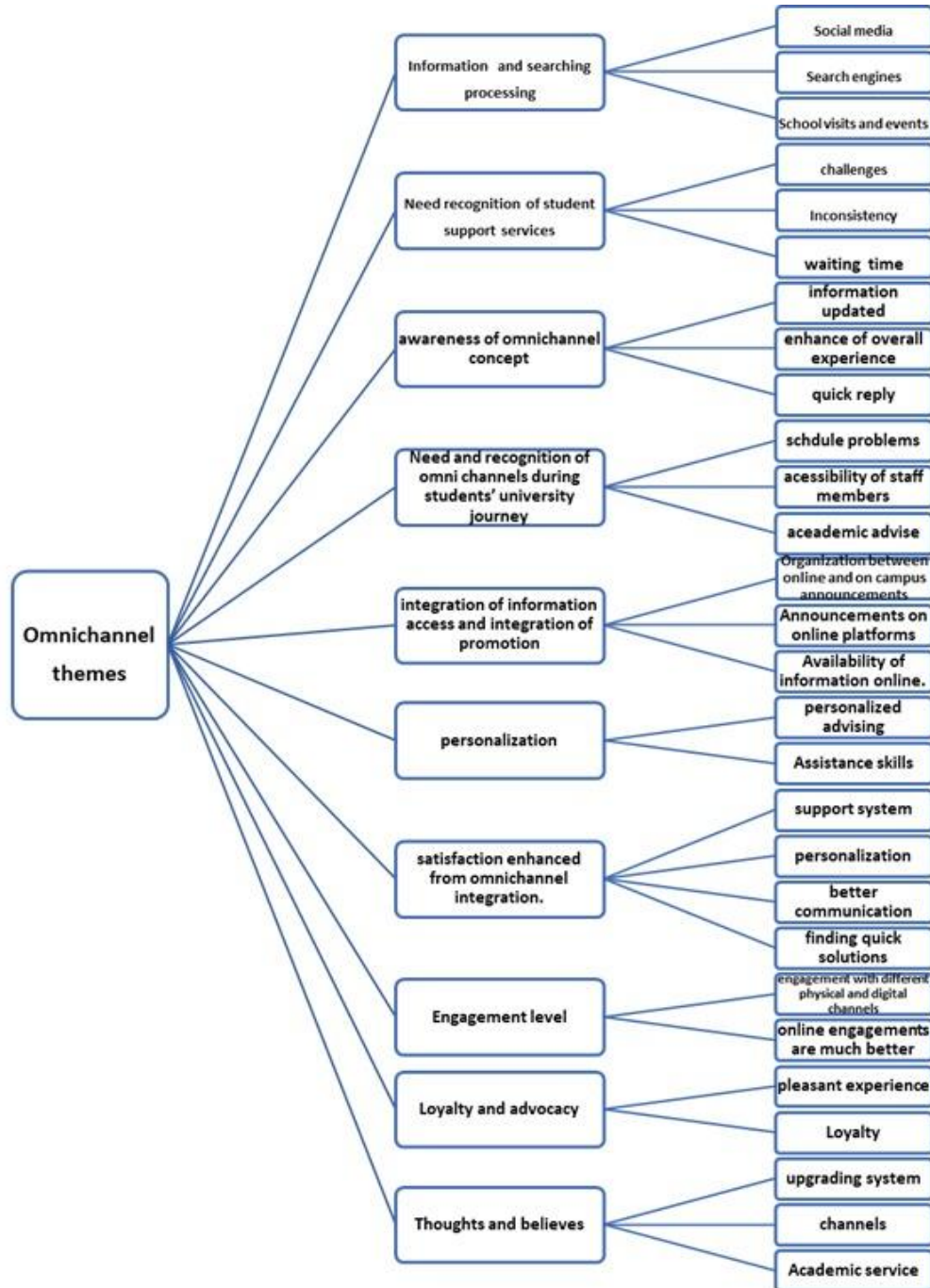
4.0 Data analysis

4.1 Qualitative research findings

Interviews' transcripts, observations, and recordings was examined and analyzed, certain points was highlighted in the text, and comments written in the margins. This helped identifying contradictions or inconsistencies, referring to related literature, and defining any common theories (Woods, 2006). Data was then coded after reading and re-reading of texts so that themes related to research questions could be identified, refined and analyzed.

All replies were extracted and combined as a figure after interviews and data was imported into NVivo to identify commonalities .This represents the final conclusion review of data. The themes extracted from respondents replies were the main touchpoints and channels used , obstacles and inconsistency found in current channels used, expectations of OM strategies , support areas needed by students through HE journey, preferences of personalization and loyalty intentions to reuse HE services in future and recommendations to others in case OME was perceived.

Summary of qualitative findings



fig(3) source; researcher contribution

4.2 Quantitative research findings

Empirical research was undertaken to discover what determinants contributes to OME success, further primary findings and conclusions were taken from data analysis. detailed sample characteristics of students were analyzed, the sample encompassed students from 6 different universities in the Egyptian market, respondents came from 10 different faculties of the different universities and variety of years of study are also determined to increase sample representatives of the population chosen. surveys allow obtaining quantitative data that has become a base for further statistical analysis (Saunders et al.,2012) .

4.3 Demographics Analysis

This part will tackle the research sample socio-demographic characters of the selected sample, the following table is an overview of the characteristics of the participants in terms of frequency and percentage.

Table (3) Description of demographic characteristics of the participant (n=392)

Variable	Frequency	Percentage
Gender		
female	204	52%
male	188	48%
What is your current year of study?		
first year	47	12%
second year	165	42.1%
third year	117	29.8%
fourth year	63	16.2%
University name		
AAST	157	40.1%
AOU	69	17.6%
AUC	46	11.7%
E-JUST	27	6.9%
ESLSCA	16	4.1%
GIU	77	19.6%
The most used online or offline communication tool		
website	212	54.1%
platform	196	50%
mobile apps	314	80.1%
front office helpdesk	186	47.4%
emails	149	38%
self-service portal	93	23.7%
hotlines	121	30.9%
chatbots	52	13.3%

It's clear that the sum of the users of each communication tool is not 392 because this was a multiple answer question.

Source developed by researcher

As shown from table (3) most students respondents that represents the research population indicates that 52% are females and 48% are males , second year students are the majority of respondents followed with third year student then fourth and lastly first year students., lastly the most commonly used communication tool by students are mobile apps, then websites, followed with university special platforms then physical help desks , hotlines, portals and chatbots subsequently.

4.4 Reliability and Validity Analysis

The results of the Factor Analysis show that all items are loaded in their constructs as suggested in the proposed model, as the loading of all items are greater than 0.5. Also, AVE values indicate that the constructs could explain more than 60% of the statements which indicate high internal validity.

Table (4): Reliability and validity of the questionnaire in each category by using Cronbach's Alpha coefficient.

Constructs		Number of Statements		Cronbach's Alpha		Average Item Correlation		AVE	Item	Loading
Omnichannel Experience	Student Support Services	4	20	0.953	0.898	0.687	76.54%	S1	0.885	
								S2	0.875	
								S3	0.894	
								S4	0.845	
	Convenience	4			0.860	0.605	70.55%	S5	0.828	
								S6	0.791	
								S7	0.875	
								S8	0.863	
	Consistency	3			0.804	0.578	72.04%	S9	0.854	
								S10	0.838	
	Integrated Information Access	3			0.798	0.568	71.23%	S11	0.854	
								S12	0.861	
Personalization	3	0.852	0.657	77.39%	S13	0.834				
					S14	0.837				
					S15	0.886				
Integrated Promotion	3	0.748	0.497	66.78%	S16	0.886				
					S17	0.867				
					S18	0.842				
					S19	0.803				
Students' Engagement	3	0.811	0.589	73.03%	S20	0.804				
					S21	0.877				
					S22	0.815				
Satisfaction	3	0.861	0.675	78.34%	S23	0.870				
					S24	0.852				
					S25	0.912				
Loyalty and Advocacy Intention	3	0.839	0.634	75.69%	S26	0.889				
					S27	0.858				
					S28	0.883				
					S29	0.869				

Developed by researcher using SPSS output

Table (5) Descriptive statistics for each construct and statement (n=392).

Question	Sample Size	Minimum	Maximum	Mean	Standard Deviation	COV
Omnichannel Experience	392	1	7	6.1033	0.9027	14.79%
Student Support Services	392	1	7	6.2251	1.0216	16.41%
I prefer that university provides courteous student support service across all channels	392	1	7	6.23	1.158	18.59%
I like to find my university student support service across all channels	392	1	7	6.18	1.215	19.66%
I prefer knowledgeable student support representatives across all channels to answer my questions promptly	392	1	7	6.21	1.193	19.21%
It's good to find helpful student support service across all channels and touchpoints	392	1	7	6.28	1.104	17.58%
Convenience	392	1	7	5.9228	1.09314	18.46%
When there are several channels and touchpoints it becomes more convenient to use	392	1	7	5.95	1.359	22.84%
I can get what I want for less effort using omnichannel multiple touchpoints	392	1	7	5.92	1.28	21.62%
I can use omnichannel integrated communication touchpoints anytime anywhere	392	1	7	5.94	1.242	20.91%
If Omnichannel touchpoints are offered by my university, it will make me complete my tasks quickly	392	1	7	5.88	1.33	22.62%
Consistency	392	1	7	6.1463	1.07154	17.43%
I prefer to find university support and services consistent over online and offline channels	392	1	7	6.25	1.182	18.91%
Offers apparent by university is better to be found the same across different channels	392	1	7	6.11	1.32	21.60%
I prefer the same service experience consistent across all touchpoints	392	1	7	6.07	1.286	21.19%
Integrated Information Access	392	1	7	6.1156	1.01128	16.54%
I prefer that I pick up my procedure where I left off even if it was from another device or channel	392	1	7	6.06	1.269	20.94%
It will enable me a benefit if an integrated solution found from digital or physical interface	392	1	7	6.19	1.164	18.80%
I would prefer to access all information available in online channels from campus internet devices and all campus information through online channels	392	1	7	6.1	1.16	19.02%
Personalization	392	1	7	6.1412	1.07011	17.43%

I would love if university channels presented customized information and offers to my personal need	392	1	7	6.15	1.2	19.51%
I would love if university omnichannel offers me extra services, information and promotions tailored to my situation and year	392	1	7	6.29	1.146	18.22%
I would prefer university channels that makes personalized recommendations across all channels	392	1	7	5.98	1.304	21.81%
Integrated Promotion	392	1	7	6.0689	1.05816	17.44%
I would love that my university websites/platforms and social pages show promotions that are taking place in physical campus	392	1	7	6.22	1.229	19.76%
I would love that my university websites/platforms and social pages advertises all campus information and events taking place	392	1	7	5.85	1.413	24.15%
I would prefer that my university campus advertises the websites and social pages through banners, pamphlets, and receipts	392	1	7	6.14	1.244	20.26%
Students' Engagement	392	1	7	5.9957	1.04556	17.44%
I spend a lot of time interacting with university touchpoints, compared with any other brand	392	1	7	6.09	1.203	19.75%
Whenever I am online, I always check my university social pages	392	1	7	5.79	1.323	22.85%
I generally interacts with my university touchpoints when I log in	392	1	7	6.1	1.15	18.85%
Satisfaction	392	1	7	6.0731	1.05801	17.42%
The university provides useful content and information and meets my requirements	392	1	7	6.17	1.182	19.16%
I think my university touchpoints are one of the best compared to others	392	1	7	5.99	1.223	20.42%
Overall, the university delivers a great possibility to interact with it on its different touchpoints	392	1	7	6.06	1.181	19.49%
Loyalty and Advocacy Intention	392	1	7	5.8418	1.16594	19.96%
I am willing to maintain my relationships with my university in future	392	1	7	5.91	1.28	21.66%
I would tell my friends about this university	392	1	7	5.8	1.324	22.83%
I would like to repeat my experience in further post graduate studies in this university	392	1	7	5.81	1.415	24.35%

Source: Developed by researcher based on SPSS output

As shown from table (5) the highest mean found is 6.2251 for item student support services which indicates that sample reported their high need for support services on the other hand the lowest mean found is 5.9228 for convenience item. Mean and standard deviation of research variables observed that responses are within neutral zone.

4.5 Correlation Test The following table(6) illustrates the values of Pearson's correlation coefficient for the main constructs.

Table (6): Pearson's correlation coefficients

	Omnichannel Experience	Student Support Services	Convenience	Consistency	Integrated Information Access	Personalization	Integrated Promotion	Students' Engagement	Satisfaction	Loyalty and Advocacy Intention
Omnichannel Experience	1									
Student Support Services	0.843**	1								
Convenience	0.839**	0.703**	1							
Consistency	0.875**	0.726**	0.674**	1						
Integrated Information Access	0.879**	0.684**	0.671**	0.742**	1					
Personalization	0.857**	0.619**	0.616**	0.688**	0.743**	1				
Integrated Promotion	0.844**	0.610**	0.635**	0.667**	0.686**	0.736**	1			
Students' Engagement	0.784**	0.621**	0.671**	0.634**	0.676**	0.710**	0.715**	1		
Satisfaction	0.842**	0.682**	0.717**	0.686**	0.749**	0.718**	0.774**	0.836**	1	
Loyalty and Advocacy Intention	0.653**	0.504**	0.549**	0.524**	0.543**	0.566**	0.664**	0.731**	0.689**	1

** correlation is significant at the 0.01 level (2-tailed).

Source: : developed by researcher based on SPSS output

4.6 Normality Test

Table (7): Normality tests

	Kolmogorov Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Independent Variables						
Omnichannel Experience	0.16	392	0.000	0.782	392	0.000
Student Support Services	0.224	392	0.000	0.736	392	0.000
Convenience	0.162	392	0.000	0.846	392	0.000
Consistency	0.213	392	0.000	0.768	392	0.000
Integrated Information Access	0.191	392	0.000	0.796	392	0.000
Personalization	0.211	392	0.000	0.74	392	0.000
Integrated Promotion	0.189	392	0.000	0.797	392	0.000
Mediators						
Students' Engagement	0.173	392	0.000	0.833	392	0.000
Satisfaction	0.191	392	0.000	0.795	392	0.000
Dependent Variable						
Loyalty and Advocacy Intention	0.166	392	0.000	0.864	392	0.000

Source: developed by researcher based on SPSS output

According to Sekaran (2003), a normality test is used to examine the variable distribution scale. If the variables are normally distributed, hence parametric test will be applied, but if they are not normally distributed then non-parametric test will be used for the inferential statistics. The null hypotheses of these tests that data follows normal distribution. So, if the significance value less than 0.05, then the normality of the data will be rejected and vice versa.

The tests' results, shown in table(7), revealed that all study variables were not normally distributed because the significance value of those variables were below 0.05. However, since the valid collected sample is 392 responses hence, according to Sekaran (2003), a research study sample size which is above 30 to 50 participants is capable of running parametric tests especially in multivariate research. Moreover, running a parametric test when the data variables are normally distributed can be violated if the study's sample size is large or moderate and results can still reflect precision and accuracy (Green and Salkind, 2005).

4.7 Hypotheses testing

First graphic illustrated path Model

In the first graphical implemented path model, there are six independent variables (student support services, convenience, consistency, integrated information access, personalization, and integrated promotion), one dependent variable (loyalty and advocacy intention), two mediators (students' engagement and perceived satisfaction).

Path model one

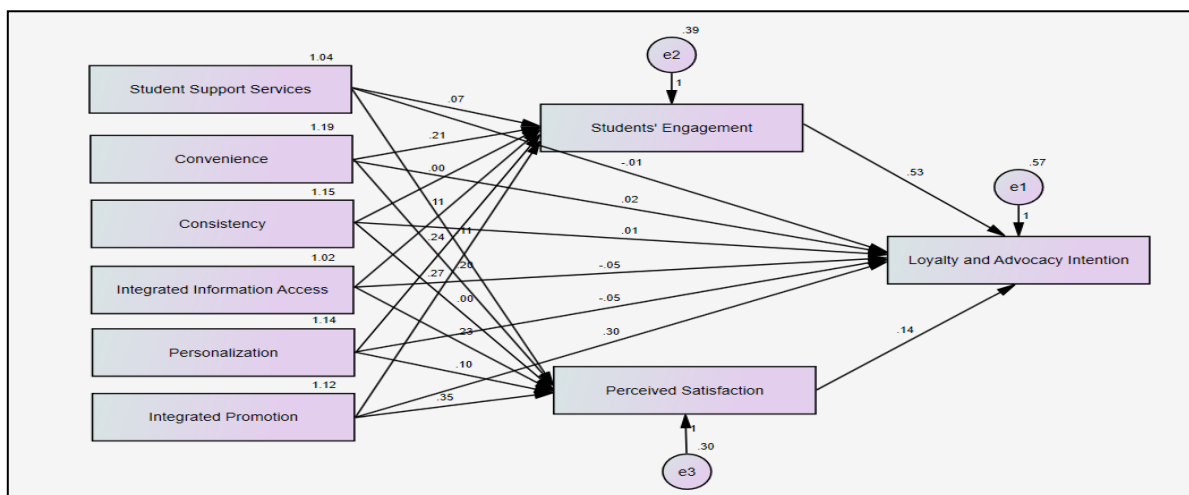


Figure (4): First path diagram developed by the researcher

It is clear that consistency doesn't significantly affect students' engagement, perceived satisfaction, loyalty and advocacy intention also student support services, convenience, integrated information access, and personalization don't significantly affect loyalty and advocacy intention, with confident 95%. So, these paths will be removed from the model and the model will be re-estimated again.

Therefore, Second Step path diagram

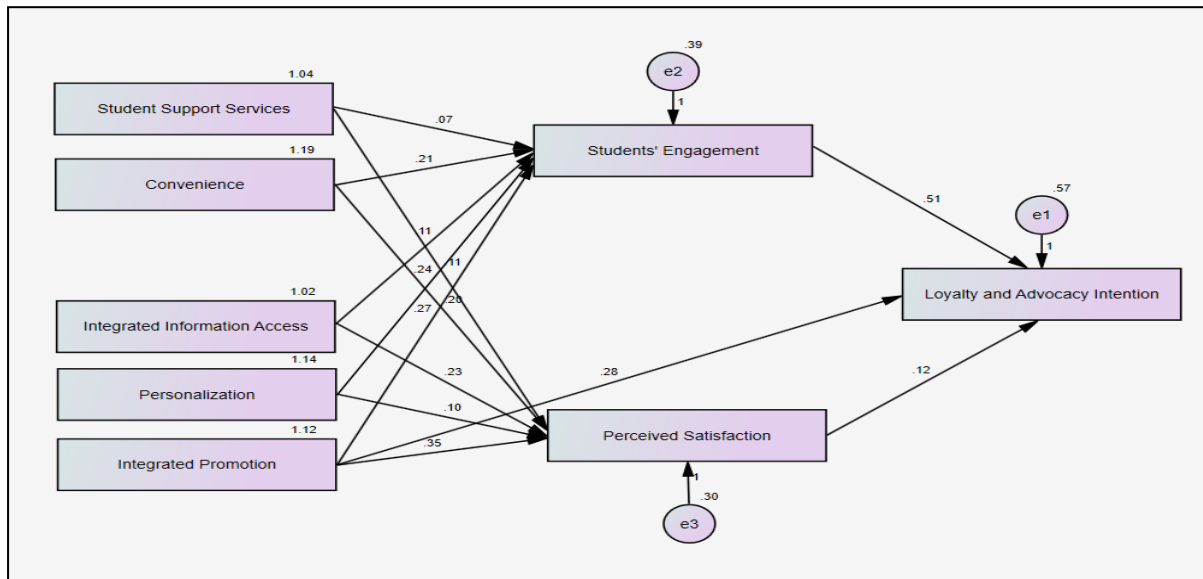


Figure (5): second path diagram developed by the researcher

Table (8): Regression weights SEM analysis for research variables

Model	Unstandardized Estimate	Standardized Estimate	Std. Error	C.R	Sig.
Students' Engagement ← Student Support Services	0.074	0.096	0.031	2.363	0.018
Students' Engagement ← Convenience	0.212	0.295	0.029	7.29	***
Students' Engagement ← Consistency	0.002	0.002	0.03	0.061	0.951
Students' Engagement ← Integrated Information Access	0.107	0.137	0.031	3.389	***
Students' Engagement ← Personalization	0.243	0.331	0.03	8.174	***
Students' Engagement ← Integrated Promotion	0.272	0.366	0.03	9.049	***
Perceived Satisfaction ← Student Support Services	0.113	0.153	0.027	4.151	***
Perceived Satisfaction ← Convenience	0.203	0.295	0.025	7.997	***
Perceived Satisfaction ← Consistently	0.001	0.001	0.026	0.031	0.976
Perceived Satisfaction ← Integrated Information Access	0.228	0.306	0.027	8.311	***
Perceived Satisfaction ← Personalization	0.099	0.141	0.026	3.836	***
Perceived Satisfaction ← Integrated Promotion	0.351	0.495	0.026	13.428	***
Loyalty and Advocacy Intention ← Students' Engagement	0.529	0.414	0.061	8.722	***
Loyalty and Advocacy Intention ← Perceived Satisfaction	0.144	0.107	0.07	2.062	0.039
Loyalty and Advocacy Intention ← Student Support Services	-0.011	-0.011	0.038	-0.284	0.777
Loyalty and Advocacy Intention ← Convenience	0.024	0.026	0.04	0.59	0.555
Loyalty and Advocacy Intention ← Consistently	0.005	0.006	0.036	0.154	0.878
Loyalty and Advocacy Intention ← Integrated Information Access	-0.046	-0.046	0.041	-1.109	0.267
Loyalty and Advocacy Intention ← Personalization	-0.054	-0.057	0.039	-1.375	0.169
Loyalty and Advocacy Intention ← Integrated Promotion	0.304	0.32	0.047	6.525	***

*** means that the variable is significantly different from zero at the 0.001 level (two-tailed).

Source: developed by the researcher based on SPSS output

It is clear from table (8) results that consistency doesn't significantly affect students' engagement, perceived satisfaction, loyalty and advocacy intention also student support services, convenience, integrated information access, and personalization don't significantly affect loyalty and advocacy intention, with confident 95%. So, these paths will be removed from the model and the model will be re-estimated again

Table (9): Regression weights

Model	Unstandardized Estimate	Standardized Estimate	Std. Error	C.R	Sig.
Students' Engagement ← Student Support Services	0.074	0.096	0.031	2.363	0.018
Students' Engagement ← Convenience	0.212	0.295	0.029	7.298	***
Students' Engagement ← Integrated Information Access	0.107	0.137	0.031	3.389	***
Students' Engagement ← Personalization	0.243	0.331	0.03	8.174	***
Students' Engagement ← Integrated Promotion	0.272	0.366	0.03	9.049	***
Perceived Satisfaction ← Student Support Services	0.113	0.153	0.027	4.151	***
Perceived Satisfaction ← Convenience	0.203	0.295	0.025	8	***
Perceived Satisfaction ← Integrated Information Access	0.228	0.307	0.027	8.32	***
Perceived Satisfaction ← Personalization	0.099	0.141	0.026	3.84	***
Perceived Satisfaction ← Integrated Promotion	0.351	0.495	0.026	13.428	***
Loyalty and Advocacy Intention ← Students' Engagement	0.513	0.41	0.054	9.532	***
Loyalty and Advocacy Intention ← Perceived Satisfaction	0.121	0.093	0.06	2.013	0.044
Loyalty and Advocacy Intention ← Integrated Promotion	0.275	0.296	0.043	6.442	***

*** means that the variable is significantly different from zero at the 0.001 level (two-tailed).

Source : developed by the researcher based on SPSS output

Table (10): Direct, indirect and total effects

Model	Direct Effect	Indirect Effects	Total Effect	Interpretation
Loyalty and Advocacy Intention ← Student Support Services	-	0.052	0.052	Full Mediation
Loyalty and Advocacy Intention ← Convenience	-	0.134	0.134	Full Mediation
Loyalty and Advocacy Intention ← Integrated Information Access	-	0.083	0.083	Full Mediation
Loyalty and Advocacy Intention ← Personalization	-	0.137	0.137	Full Mediation
Loyalty and Advocacy Intention ← Integrated Promotion	0.275	0.183	0.458	Partial Mediation

Source : developed by the researcher based on SPSS output .

It's clear to the researcher, from table(11), that all the goodness of fit measures of the model indicate that all indicators are at acceptable limits, especially NFI, RFI, IFI, TLI, and CFI are close to one. Also, the value of RMSEA is less than 0.05. All these measures indicate the goodness of fit of the structural model. Also, level of significance of the Chi-Square test indicates the model is not good fit, however Chi-Square test is very sensitive to the sample size so we will depend on the other measures.

Table (11): Goodness of fit indices

Indices	Abbreviation	Recommended Criteria	Results	conclusion
Chi-Square	χ^2	P-value > 0.05	40.546	Not Good Fit
Degree of Freedom	-	-	15	
Level of Significance	-	-	***	
Normed Chi-Square	$\frac{\chi^2}{DF}$	$1 < \frac{\chi^2}{DF} < 5$	2.703	Good Fit
RMSEA	Root Mean Square Error of Approximation	< 0.05 Good Fit < 0.08 Acceptable Fit	0.018	Good Fit
NFI	Normed Fit Index	> 0.90	0.942	Good Fit
RFI	Relative fit index	> 0.90	0.954	Good Fit
IFI	Incremental fit index	> 0.90	0.961	Good Fit
TLI	Tucker-Lewis Index	> 0.90	0.992	Good Fit
CFI	Comparative Fit Index	> 0.90	0.978	Good Fit

Source : developed by the researcher based on SPSS output .

Second path model

In the second model, there are only one independent variable (omnichannel experience), one dependent variable (loyalty and advocacy intention), two mediators (students' engagement and perceived satisfaction).

First Step

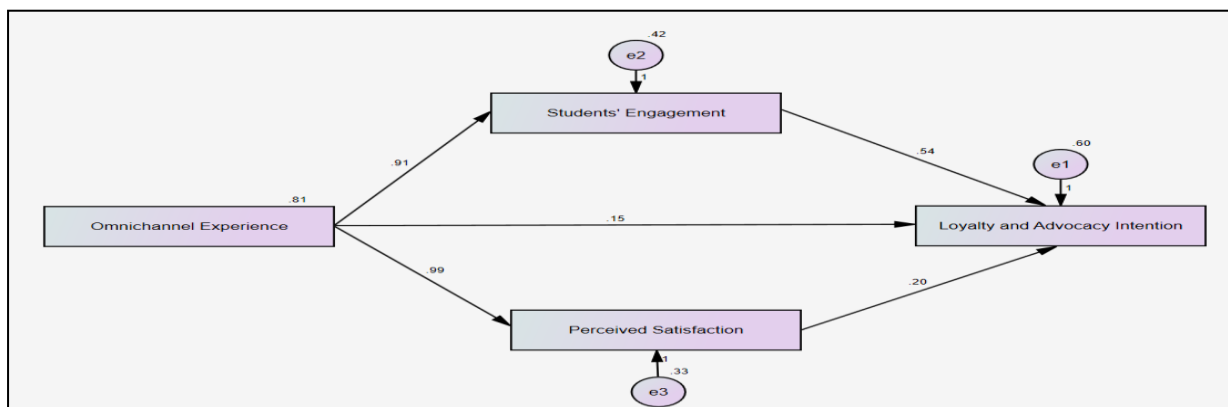


Figure (6): Third path diagram developed by the researcher.

It is clear that omnichannel experience doesn't significantly affect loyalty and advocacy intention, with confident 95%. So, this path will be removed from the model and the model will be re-estimated again.

Table (12): Regression weights

Model	Unstandardized Estimate	Standardized Estimate	Std. Error	C.R	Sig.
Students' Engagement ← Omnichannel Experience	0.909	0.784	0.036	25.006	***
Perceived Satisfaction ← Omnichannel Experience	0.987	0.842	0.032	30.859	***
Loyalty and Advocacy Intention ← Students' Engagement	0.541	0.493	0.060	8.954	***
Loyalty and Advocacy Intention ← Perceived Satisfaction	0.204	0.188	0.069	2.968	0.003
Loyalty and Advocacy Intention ← Omnichannel Experience	0.150	0.118	0.097	1.541	0.123

*** means that the variable is significantly different from zero at the 0.001 level (two-tailed).

Source : developed by the researcher based on SPSS output .

Second Step

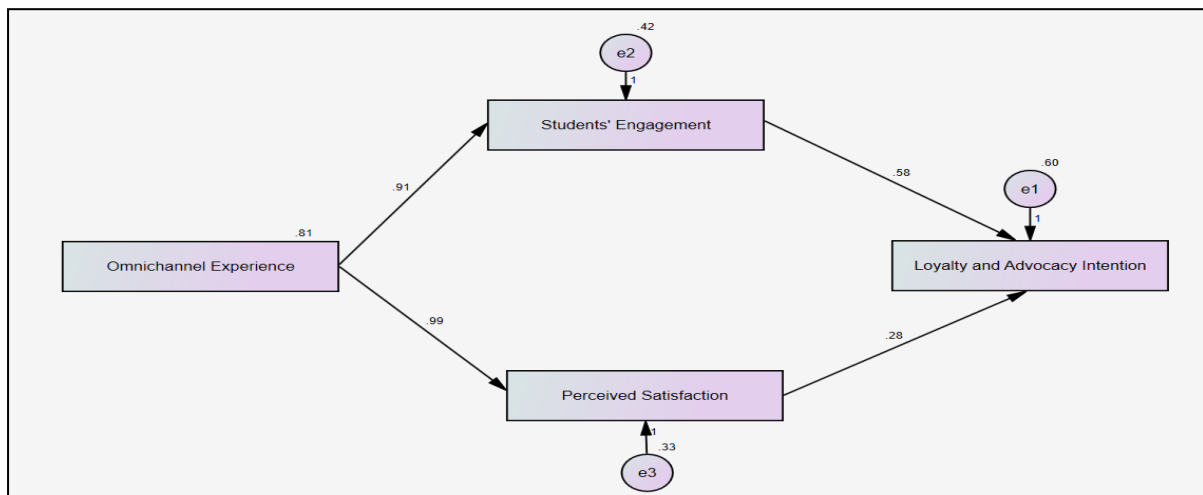


Figure (7): Fourth path diagram, developed by the researcher

Interpretation of models

The following table shows the estimates of the above model which can be interpreted as follows:

- The omnichannel experience has a significant direct positive impact on students' engagement, and this impact equals 0.909 with confident 95%.
- The omnichannel experience has a significant direct positive impact on perceived satisfaction, and this impact equals 0.987 with confident 95%.
- The students' engagement has a significant direct positive impact on loyalty and advocacy intention, and this impact equals 0.576 with confident 95%.
- The perceived satisfaction has a significant direct positive impact on loyalty and advocacy intention, and this impact equals 0.283 with confident 95%.
- The students' engagement mediates the relation between omnichannel experience and loyalty and advocacy intention such that the indirect impact of omnichannel experience on loyalty and advocacy intention through students' engagement is 0.524.
- The perceived satisfaction mediates the relation between omnichannel experience and loyalty and advocacy intention such that the indirect impact of omnichannel experience on loyalty and advocacy intention through perceived satisfaction is 0.279.
- The students' engagement better mediates the relation between all omnichannel experience and loyalty and advocacy intention than the perceived satisfaction.
- The total effect, direct effect plus indirect effects, of omnichannel experience on loyalty and advocacy intention is 0.803.

Table (13): Regression weights

Model	Unstandardized Estimate	Standardized Estimate	Std. Error	C.R	Sig.
Students' Engagement ← Omnichannel Experience	0.909	0.784	0.036	25.006	***
Perceived Satisfaction ← Omnichannel Experience	0.987	0.842	0.032	30.859	***
Loyalty and Advocacy Intention ← Students' Engagement	0.576	0.529	0.050	11.485	***
Loyalty and Advocacy Intention ← Perceived Satisfaction	0.283	0.263	0.050	5.714	***

*** means that the variable is significantly different from zero at the 0.001 level (two-tailed).

Table (14): Direct, indirect, and total effects

Model	Direct Effect	Indirect Effects	Total Effect	Interpretation
Loyalty and Advocacy Intention ← Omnichannel Experience	-	0.803	0.803	Full Mediation

Source : developed by the researcher based on SPSS output .

5.0 Discussion and recommendation

The interviews defines the summary of the results of integration of channels into OM strategy as an integral element in reaching OME that is seamless, consistent emerging users at all levels of their journey through various touchpoints and channels assortments and this study aims to understand how students' journey are formed and where assistance and emergence of OM can aid and support students and enhance experience all through their university journey based on their own experiences in HEI's.

5.1 Summary of results

Effect of OME on loyalty mediated by strong effects of engagement then followed by satisfaction as it appears to be strong predictors of loyalty as proved evidence of results of this research by its indirect positive significant relation and its impact of mediators examined in the model. Which reveals indirect mediated relationship between OME determinants and loyalty intention where OM interactions experience contributed by HEI's experiences will cause higher satisfaction and engagement which will lead to loyalty. All examined hypothesis from [H1 to H10] that are centered around research questions and hypothesis are tested and results clarified the development of OME. Therefore, results has confirmed previous studies by (Alam et al., 2019; Chen et al.,2021; Dorofeev, 2021; Lee ,2019; Shi et al., 2020;Syed Mahmudur Rahman ,2022).

5.2 Contributions to knowledge

Research aims to bridge gap of knowledge of SX and OM by advancing both theoretically and empirically knowledge in HE context.

This study aims to contribute to existing grounds of omnichannel student experience outcomes and its effects on cognitive and emotional responses in higher education private universities in Egypt. The research proposes a multi-dimensional empirical study from students preceptive that enhance students' experience by investigating in-depth key determinates responsible of OME development and its behavioural outcomes (Herhausen et al., 2015; Zhang et al., 2018). This study is the first to conceptually propose and empirically test determinants of OME and its relationships between customer satisfaction, brand engagement, loyalty, and advocacy outcome due to higher interaction in HE. Study will extend the literature by synthesising and empirically testing the hypothesis.

Theoretical implications Results of this study Enriched literature of field of marketing as findings will complement empirical structure related to student experience, satisfaction, engagement, loyalty, and advocacy behavioral intentions . Firstly, research identifies key

determinants that impacts, OM perceived by students in HE and based on literature review explored, study will extend the phenomena conceptualization by adding new developed and validated measurement items of OME determinants by adding a new combination. Study research gap formulated OME in a new emerging context that hasn't been fully explored and represents determinants that creates OME in a more comprehensive view compared to prior studies.

Secondly although customer experience area of study has been thoroughly investigated in customer behavior , marketing and branding studies but this research provides specific insight to extend it to students to create students experience to match the conceptualization of OM implemented in the HEI's and to shed light on the increased experience opportunities and integration of various connecting and communication channels that provides a diversified choice of number of available channels to students in their universities to aid and support students all through their university journey based on their preferences (McKinsey 2021; Pillai et al 2020; Shi et al 2020). findings attempt to add on new context attributes to improve and enhance students experience and extend understanding of importance of study in dynamic competitive marketing and technological environments that HEI's are facing today.

Finally, contribution to existing literature of TPB theory in exploration of OME context and its behavioral intention outcomes. However, results of the analysis imply and provides evidence and validation of theory in a new HE domain as it was validated in areas of retail fashion, banking, and others.

Practical Implications this study will demonstrate better student experience in an omnichannel context in HE fields and how it has beneficial effects on loyalty, advocacy and repurchase intentions of further services offered by the educational institutes. A mental model that will help adjust of metrics by academic and nonacademic staff in universities to improve and enhance physical and digital student experience all through student's lifecycle. And it will aid staff members responsible for enrollment process comparing current journeys with ideal omnichannel journey, demonstrating significant improvements that can be made to prospect students.

This study can be utilized by marketers and decision makers in universities in Egypt as it reveals variables of omnichannel enhanced student experience and its proposed outcomes which can be a useful instrument to increase level of universities performance and becoming ahead in competitive business environment. For practitioners empirical study and the increased number of HEI,s being introduced to Egyptian market as well as worldwide along with the internationalization strategies of many international universities stepping in the market and setting up huge competition its important and recommended that HE marketers, policy makers and strategic planners of HE service providers to understand new dynamics

influencing students and setting up their expectations and shaping their experiences and properly strategize for the competitive demanding domain.

5.3 Recommendations

Following recommendations are made to HE services providers and policy marketing HEI's according to research finding that strongly supported importance students experience importance and outcomes, it is necessary and required to foster policies that enhance the emergence of unified and integrated assortments of channels and upgrade communications into the omnichannel strategies. It is recommended to HEI's to invest in their communication and support students' affairs and allow significant diversification of new channels that gives consistent, reliable sources of interactions with students throughout their learning journey not only through their initial enrollment stage.

Since OM is a burning topic in marketing practitioners need to manage high levels of connections between channels with high adequacy and coordination (Field et al., 2019) and design new and more interactive experience with students by providing functional and effective means of desired communication and support mechanisms with consistent flow of information that should be found consistent regardless the platform used, and allow timely updates, notifications and personalized messages that will foster engagement and improve satisfaction wherever and whenever students want to reach and interact throughout their different study stages.

Key role of physical channels through campuses is an integral student channel where lots of point of interactions can occur and it's important to update physical channel along with online channels to ease and upgrade interaction levels which is the main ideology of Omnichannel ecosystem. Therefore, importance of developing strategies of OM management to increase satisfaction and boost engagements and allows higher interaction and assistance as per study results will reflect on positive behavioral outcome of higher loyalty and advocacy.

Other recommendations for HEI's policy makers to run surveys to discover areas of needed interactions, support and preferred touchpoints and to detect areas of improved students experience enhancements along with collecting more and more reactions and behaviors that will enable designing better informed contact strategies. All practical implications will build a competitive edge in the crowded marketplace and will create a positive reputation by being

more relevant to students evolving needs through updated institutional and operational efficiency.

Table (15) Practical recommendation Action steps :Technologies integrated into omnichannel student journey: The following table shows the enhancement of technology through the omnichannel coordinated touchpoints both physical and digital to enhance experience, putting in mind that some changes in tech tools can take place according to industry and service provider type. (Barwitz and Maas 2018). [Students stages in HE](#)

Discovery stage	Enrolment stage	Induction stage
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Physical Channels

QR code	induction programs	campus facilities
Events	welcome parties	help desks.
Tablets	photo sharing screens	reunions
Interactive screens	helpdesks	alumni
Wi-Fi	payment banks	

Responsibilities	Student affairs	Admission	Alumni team
	PR team	Accounting dept	Admission
	Students' union	Marketing dept	Operation dept

During discovery

During enrolment

During induction

Awareness	Consideration	Choice/ induction	Experience	Engagement
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Online channels		personalization	chat	
apps		online payments	video services	
virtual tours		social media daily updates	online engagement	
social media		Q&A updates	complain access panel.	
			Newsletter	

Digital channels

Responsibilities	Digital marketing	Customer service	Admission
	Team	Finance dept	marketing dept
	IT dept	Marketing dept	customer service

Objectives	Building awareness	Easy and flexible interactions	Student experience and engagement
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Source adapted from: Baier & Rese, 2020; select new technologies, journal of retailing and consumer services.

5.4 Limitations

This study provides extensive investigation of OME concept within HE industry with highly insightful developed conceptual mode based on prior existing literature. Despite acknowledgment of comprehensive insights some limitations were found and could give

directions to future research. Limitations found may serve as a starting point for future research to help achieve knowledge in OM field and serve mange omnichannel strategy.

Survey conducted was limited to a chosen sampling frame of universities however other set of universities could be tested to give more conformity to generalized findings. future study can articulate data analysis mechanisms along with enhancement on OME and could benefit from touchpoints interactions in acquiring and analyzing data.

5.5 Further Recommendations of future research

Table (16) Action plan

Omnichannel experience	Potential future research steps in OME	Practical implications And objectives
New outcomes behaviour	New elements and determinates Testing OME	- Repurchase intentions -Profitability -Trust -WOM
Ethnography research	Deeper data collection to give more reality of the phenomena	precise reliable data collection technique
Testing different touchpoints integration	Technology innovations such as voice assistance, smart assistance technology, AI tools	higher interactive tools that can integrate
Different organizational areas of service providers	Key elements of OME for new service base business	Guidelines and best practices for new service industries
Cross-cultural study	Replicate the model in another country to reveal weather OME acquired could be changed according to cultural differences	diverse usage needs and preferences of touchpoints and channels

Source: developed by the researcher

5.6 Conclusion

After analyzing and recognizing results all determinants that impacts OME proved to be valid and reliable tools to measure OME in HEI's. Thus study concludes that's today is a tech advanced era, providing superior customer experience is a primary goal for any organization that is willing to achieve satisfied customers and wants to create unique experience that is unified must be prominent to create positive perceptions (Yammiy &Ray,2019), with advent OM to benefit a unique experience by altering strategies that can create new opportunities and better services, where customers interacts with transformed digital tech , that is evolved where they expect across a seamless manner everywhere, anytime with an easy interaction . furthermore transition from technology soul to customer-oriented solutions in the digital age era must be altered. Thus this paper analysis how HEI's can shift interaction from isolated channels offered to integrated OM and bridge physical campus services and digital world to students through new OM channel management that offers more aligned process considering

various offline and online channels that supports students throughout their journey and according to preferences and indicated better engagements and higher satisfaction levels to reach high loyalty that will allow more advocacy and intentions of post graduate studies .

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