Mapping the doctoral students' experiences: A customer journey analysis

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Abstract Customer experience research predominantly anchors the customer journey on a specific offering, implying an inherently customer-centric perspective. To address calls for a more goal-oriented approach, this study aims to develop an educational institutional view of customer journeys from the perspective of doctoral students. In a qualitative study, nineteen doctoral students were interviewed. Two independent researchers used triple coding and thematic analysis to unpack the experiences grounded by the perspective of the self-regulation model of a behaviour feedback loop. The findings suggest two pre-journey themes: supervisor selection and personal concerns, and three during-journey themes, namely, research complexity, administrative hurdles, and personal and social support struggles. The informants had pleasant experiences during the phase of the customer journey, expressing a favourable inclination towards trust and value. Nevertheless, they had difficulties in locating appropriate supervisors as a result of insufficient organised information. Several informants have reported suffering signs of depression, which can potentially result in serious consequences, specifically self-inflicted damage. Although the present study is not statistically generalizable to a broader population, the results are suitable and relevant for educational institutions that prepare doctoral students for rich and meaningful experiences in their doctoral journey. To the best of the authors' knowledge, this study is among the very few studies that unfold the experiences among doctoral students in higher institutions using a customer journey map while building upon a self-regulation model of a behaviour feedback loop. It shows how higher education institutions should ensure what is offered meets the demands and preferences of students while considering their contemporary needs and wants. These institutions should extend their view beyond the immediate goals of their students to identify relevant touchpoints and other customer journeys that affect the students' experience.

Keywords: higher education institution, student experience, postgraduate student, customer journey analysis, customer journey map

1. Introduction

Higher education institutions have seen a significant expansion in the education system, and as a result, they have become significant knowledge service providers, playing a crucial role in enhancing competitive advantage (Ganbold et al., 2023). The 17 Sustainable Development Goals (SDGs) adopted by all United Nations member states in 2015 cover a broad range of issues related to socioeconomic, environmental and technological development and apply to all the world's countries and those normally considered to be 'developing' or 'emerging'. As part of its broad remit, the SDGs expanded the focus beyond primary and secondary education to include tertiary education. In line with this evolution, SDG 4, quality education, calls for equal access to tertiary education, including universities, as part of the promotion of lifelong learning opportunities for all. It stands out as a crucial framework for ensuring equitable and sustainable educational practices (Koros & Sophie, 2023).

Given the shift to a knowledge economy, higher education has become a global business, and these institutions must continuously explore options for exporting higher educational services (Brown et al., 2008). While there is competition in outcomes such as research and innovation, universities are also expected to deliver high service quality. Moreover, the service provided represents the competitive differentiation between institutions in terms of their superiority in creating unique experiences (Joseph et al., 2015). Therefore, assessing service quality in higher education can provide a significant contribution and input that will be helpful for management and staff to continue improving the quality of education (Abbas, 2020). Universities should be able to maintain a competitive advantage solely by enhancing their competitiveness through improved education services and by satisfying students who are educated consumers and customers who can survive this change and expect sustainable growth (Ntoyakhe & Ngibe, 2020).

It is challenging to determine whether the administration and teaching at these universities are meeting the needs and priorities of their students from entry to graduation. Hence, understanding customer journeys is a prerequisite for developing

superior customer experiences (Følstad & Kvale, 2018; Kuehnl et al., 2019). Extant research nevertheless offers a limited view of customer journeys. Most studies anchor the customer journey to a specific product or service, implying an inherently customer-centric perspective that offers little insight into touchpoints beyond the firm's influence. Recently, there have been calls for a more goal-centric perspective, which is to shift to examine journeys focused on consumers' goals rather than on a particular purchase or service. Therefore, this study aims to develop a goal-oriented view of the customer journey. This view departs from what consumers want to achieve in their doctoral studies and illuminates the students' processes toward their higher-order goals. A goal-oriented view thus provides a more customer-centric perspective that has been strongly advocated in service research. Hence, this research aims to evaluate customer experience for doctoral students from a goal-oriented perspective via a customer journey map.

2. Theoretical Foundation

2.1. Higher education from the perspective of customer experience

Managing customer experience requires a process of planning and responding to customer encounters in a way that meets or exceeds their expectations, resulting in higher ratings, loyalty, and advocacy among customers. Cognitive, emotional, behavioural, sensory, and somatic responses are the foundation of the customer experience. Based on all their direct and indirect experiences with the company, individuals collectively create a comprehensive understanding. The service interactions (touchpoints) that make up the intricate customer journey affect the customer experience and have an impact on the client experience. By exerting more control over them, the company will perform better and advise businesses to structure the intricate idea of customer experience from the perspective of the customer journey by defining distinct purchasing stages and acknowledging the continual nature of the customer journey (Lemon & Verhoef, 2021).

Customer experience is crucial to the success of any company or organization. When operationalizing the customer experience, customers can be conceptualized in a variety of ways, including as users, consumers, participants, and co-creators. Universities have a long history, beginning as educational institutions and later evolving to knowledge creation and research and are now referred to as the third mission or engagement (Chankseliani & McCowan, 2021). Owing to their experiences, higher education landscape and corporate environment, institutions now place greater emphasis on developing their brands, producing memorable brand experiences, and improving service quality (Dass et al. 2019; Khanna et al., 2014; Popli, 2013; Ng & Forbes, 2009).

Even though marketing in higher education is now a recognized convention, marketing departments in higher education institutions typically limit their activities to outreach, admissions, and related branding initiatives because these are their main responsibilities. One of the reasons there currently needs to be more interest in examining the entire service experience from admission through graduation to becoming an alumnus may be the ongoing debate surrounding the idea of students as customers (Cai & Lo 2020; Šerić et al., 2020). The argument is that students should once again be recognized as the centre of education and co-creators of knowledge (Calma & Dickson-Deane, 2020).

They also highlight possible challenges that institutions can face when treating students as clients. Thus, higher education institutions need to determine whether the courses they offer still have value for today's students and whether they can still help them find employment that suits them (Brandon Busteed et al., 2014). Institutions must also assess how interested students are in studying the entire service knowledge, from application to graduate and alumni status. Higher education institutions include a variety of professional schools that offer instruction in fields such as law, theology, medicine, business, music, and the arts, in addition to institutions of higher learning (Popli et al., 2013; Dass et al. 2021). An organization might create process modifications from the viewpoint of its major audience after it maps the student journey assessment.

Customer journey mapping is used to comprehend a customer's actions, thoughts, and attitudes when utilizing a service. The process of providing services from the standpoint of the client is included in the customer journey. The customer goes through an emotional and physical adventure. The stages of the customer's journey can include looking forward to, getting there, and enjoying an experience. In comparison, a touchpoint is a customer journey idea that appears whenever a consumer "touches" a service and can take place across several channels and at different times (Vollrath & Villegas, 2021). A process evaluation for one unit or department is superior to mapping the student journey (or a specific segment); in the end, it enables a deeper understanding of the effects that these process modifications will have on students (Hajdas et al., 2022).

A student journey map is a visual description of every stage of the university enrollment process. The objective is to develop a close relationship between the university and both existing and prospective students (Beneke, 2021). Student journey mapping enables university staff to pinpoint the precise improvements they must make to enhance the student experience by identifying each step a student takes during the enrollment process. Universities that use a proactive approach, including managing student journey design, can not only increase their ability to attract, retain, and ensure the success of students but also create lean, effective organizations with students as their primary target market (Cook, 2009; Webster-Deakin, 2021). Additionally, successful universities with a focus on students are better prepared to generate and keep income and allocate resources to upgrades and enhancements.

2.2. Goals and the self-regulation model of behaviour in doctoral students' customer journeys

The self-regulation model of behaviour, derived from the research of Carver & Scheier (1982), offers a significant foundation for comprehending and enhancing customers' journeys. This approach highlights that behaviour is purposeful and governed by feedback control mechanisms (Carver & Scheier, 1982). The feedback loop of the self-regulation model includes goal setting, monitoring, adjustment, enhancing customer experience, personalization, adaptation, and ongoing improvement.

Within the framework of the goal-oriented perspective, consumers establish objectives for their engagements with products or services through the feedback loop of the self-regulation model. These objectives may encompass activities such as performing a transaction, acquiring information, or addressing a problem. The feedback loop enables customers to track their advancement toward these objectives, obtain feedback on their experiences, and modify their behaviours accordingly (Carver & Scheier, 1982).

In addition, customers consistently monitor their interactions with a product or service and evaluate whether they are making progress toward reaching their desired goals. The feedback loop allows customers to obtain feedback on their activities, either through direct feedback methods or by observing the effects of their interactions. Customers can modify their behaviours, preferences, or expectations to their objectives, as indicated by this feedback (Carver & Scheier, 1982). Furthermore, by implementing the concepts of the self-regulation model, organizations can create customer journeys that offer explicit objectives, significant feedback mechanisms, and chances for customers to modify their behaviours. These factors can result in an enhanced customer experience, heightened happiness, and greater loyalty (Becker et al., 2020).

Furthermore, the feedback loop within the self-regulation paradigm can be utilized to customize the client's journey. Businesses can enhance their offers, communications, and interactions by gathering and examining feedback data, enabling them to customize their approach to better align with the specific needs and preferences of each client (Becker et al., 2020). Like how individuals in the self-regulation model aim for ongoing improvement, businesses can utilize the feedback loop to systematically improve the customer journey. Through the process of collecting feedback, pinpointing areas that need enhancement, and executing necessary modifications, organizations can enhance the customer experience to be more efficient and gratifying (Becker et al., 2020).
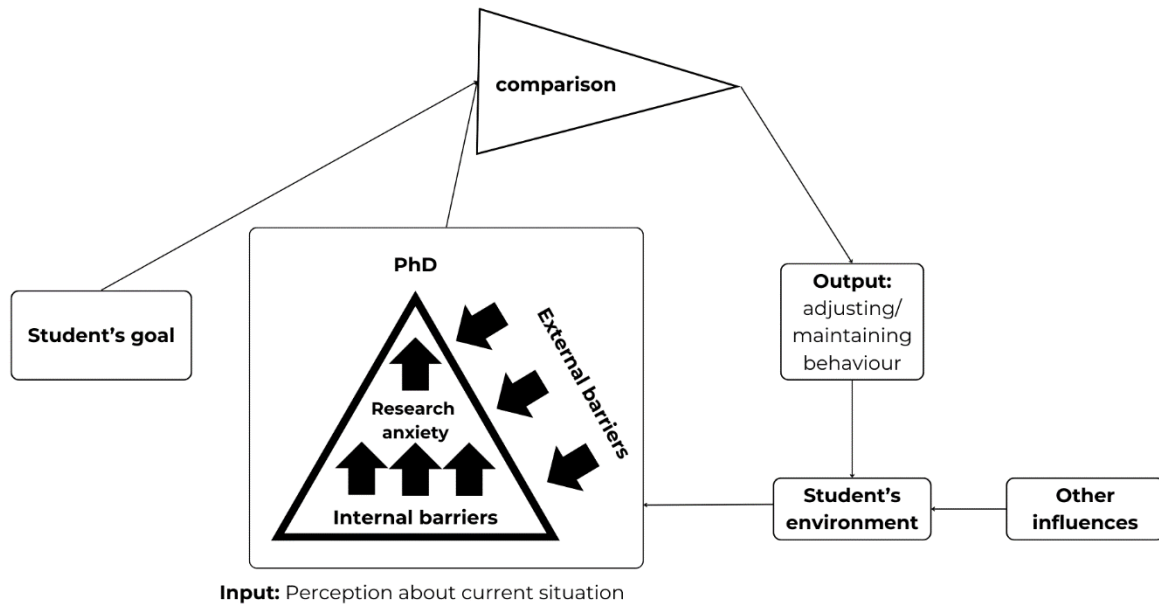
Therefore, the self-regulation model of a behaviour feedback loop can serve as a beneficial foundation for comprehending and enhancing the customer journey. By integrating goal setting, monitoring, feedback systems, and adjustment processes, organizations could establish customer-centric experiences that effectively generate satisfaction, loyalty, and long-term success. The student journey, which focuses on understanding and improving the different points of contact a student has with a higher education institution, is extremely applicable to students' experiences at higher education institutions. Higher education institutions might derive advantages from adopting a student-centric approach that prioritizes the student experience by recognizing students as important stakeholders. Ostrom et al. (2011) stressed the importance of using a service-oriented approach that regards students as crucial participants, ensuring that the organizational framework, talents, and assets of educational institutions are aligned to improve the student experience (Samson et al., 2017). Adopting this new viewpoint can result in enhanced student contentment, persistence, and overall achievement. This strategy also enables higher education institutions to obtain valuable insights into several phases of a student's academic career, starting from the initial application process and extending beyond graduation. Institutions can effectively meet students' requirements by tailoring their services and assistance based on a comprehensive understanding of the student experience at each interaction.

The self-regulation model of behaviour, derived from the work of Carver and Scheier (1998), can be applied to the doctorate student experience in multiple ways. The concept highlights that behaviour is purposeful and governed by feedback control processes. Within the framework of a doctorate student's experience, this model can be utilized to comprehend and improve advancement through an academic program. Initially, as doctorate students progress through their academic journey, they establish objectives about research, coursework, and professional growth. These aims are to the self-regulation model's focus on goal-oriented behaviour (Carver & Scheier, 1998). The feedback loop in the self-regulation approach enables students to actively assess their progress toward their goals, receive constructive feedback on their performance, and make necessary adjustments to their strategy.

On the one hand, the notion of self-regulation in the model can be associated with how doctorate students effectively control and oversee their time, resources, and emotions during their academic pursuits. Doctoral students can effectively manage their behaviours to retain concentration, sustain motivation, and overcome obstacles faced during their studies (Vancouver, 2015). On the other hand, the feedback loop in the self-regulation model can be associated with the iterative nature of the doctoral student journey. As students advance through several phases of their academic program, they are provided with feedback at each phase to guide their subsequent actions (Arkadan, 2022).

Furthermore, the self-regulation model's focus on feedback control mechanisms can be correlated with the significance of supervision and mentorship in doctoral education. Doctoral students benefit from receiving feedback from their supervisors, mentors, and peers. This feedback assists them in managing their actions, adapting their approaches, and enhancing their academic achievements (Schalkwyk et al., 2016). Therefore, the feedback loop of the self-regulation model of behaviour, which

is derived from Carver and Scheier's (1998) study, offers a significant framework for comprehending and improving the experience of doctorate students. By utilizing the principles of goal-directed behaviour, self-regulation, and feedback control processes, students can proficiently navigate their academic path, establish meaningful objectives, and advance toward the successful culmination of their Doctoral studies, as depicted in Figure 1.

Figure 1 Adaptation of the feedback loop of the self-regulation model of behaviour (Carver & Scheier, 1982, 1998).

3. Methodology

The data were collected from participants across postgraduate schools in Malaysia. The schools chosen were of similar age and were largely subsidized by the government, accreditations and rankings. These schools were also chosen such that they best represent their research performance in business. This was done considering the logic provided by Seawright and Gerring (2008) in terms of 'typicality', as the chosen case is representative of a population of cases. The purpose of the data collection was to develop a customer journey map based on in-depth interviews with those who just completed their viva voce within a year. The interviews were closed to reach data saturation (Saunders et al., 2017). Purposive sampling and snowball sampling were used for this study. These interviews allowed the researcher to probe each informant through a list of questions (Table 1). The questions were addressed include their underlying experiences and emotions throughout the pre-journey phase, during the journey and their expectations. To minimize the issues of memory recall and rationalization, all follow-up interviews were conducted within two weeks of their viva voce and typically lasted less than 60 minutes.

Table 1 List of questions for the interview protocol.

Objectives	Question
To explore the students' experiences in the pre-journey phase	What kind of experiences did you have when applying to continue your education or when you decided to get registered at your university?
To explore the students' experience during-journey phase	What experiences both good and bad, did you have from the time you began your studies at the university until you graduated and became an alumnus?

The transcripts were analysed using ATLAS.ti. Codes and themes that were reviewed and from the analysis were then grouped and collectively agreed upon by the research team. The touchpoints in the customer journey map were determined by referencing the brand touch-point wheel (Khanna et al., 2014) and other research in the field of higher education (Dass et al., 2021; Dou et al. 2019). The emotional experiences at the touchpoints were measured via a scale ranging from -10 to +10.

4. Results and Discussion

This study included a total of 19 informants. All the informants provided details regarding their experiences during their postgraduate courses. Furthermore, they are seen as well-informed individuals capable of offering insights into their educational experiences. The number of interviews ceased after the 19th interview. The interviews led to the development of 5 themes and 8 codes. Owing to resource constraints and to eliminate bias between coders, all the data and interview transcripts were thematically analyzed and coded by the researcher. The researcher conducted all the interviews and therefore had an adequate and solid understanding of the common themes that arose in the interviews. Figure 2 shows the codes and

themes in the phase. The words that dominated the conversation in the phase included supervisor selection and personal issues. This was experienced by these alumni throughout the phase.
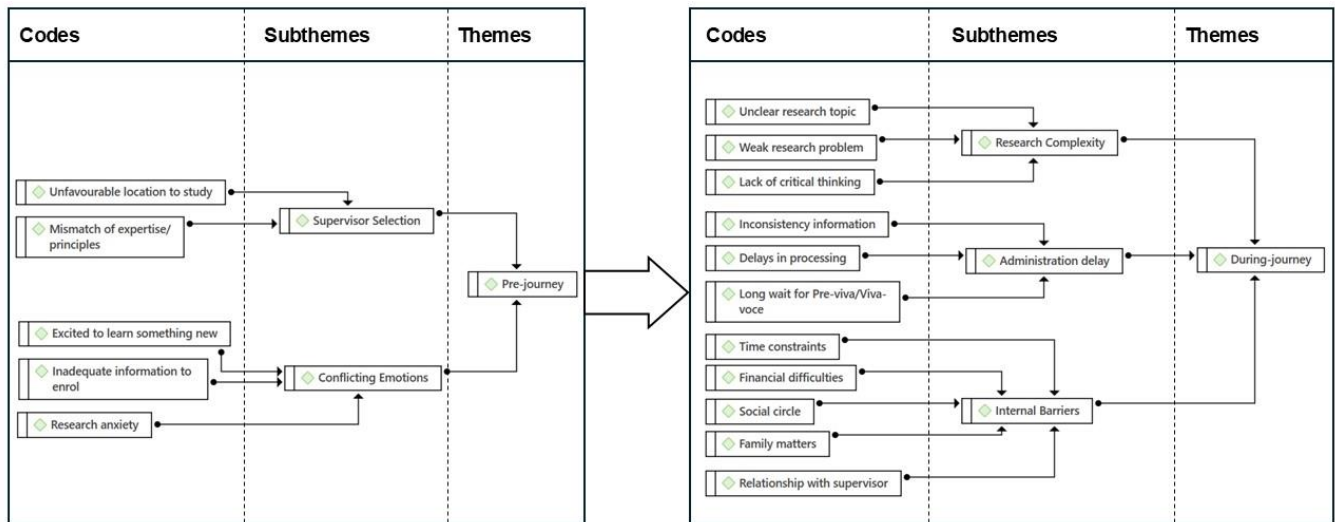

Figure 2 Codes and themes in the pre-journey and during the journey.

4.1. Doctorate students' experience pre journey

4.1.1. Theme 1: Supervisor Selection

4.1.1.1. Supervisor–student incompatibility

Theme one, which is supervisor selection, consists of two sub-themes: supervisor–student incompatibility and mismatch of expertise. Selecting a supervisor is another crucial aspect of the process since supervision and coaching will greatly influence the type of researcher you develop into, aligning with your academic progression. During the pre-journey phase, they have gone through an experience; for example, S5 stated that:

"I faced difficulties as my supervisor and I did not always agree on how to approach my research, which made it hard for me to obtain the support I needed."– S5.

4.1.1.2. Mismatch of Expertise

Waheed (2021) highlighted that a mismatch between supervisors and doctoral students can result in dissatisfaction, maladjustment, and unhealthy relationships, potentially leading to students leaving the program. Gao (2019) noted that incompatibility with supervisors and mismatches between departments and faculty can strongly affect the persistence of Doctoral students. For example, S7 stated the following:

"From my experience, I applied based on the university, not through the expertise of the supervisor, which creates problems in the future."– S7.

In conclusion, while mismatches between supervisors and doctorate students are not universal, the literature suggests that they can indeed occur and have significant implications for the doctoral journey. Understanding and addressing these mismatches is crucial for fostering positive supervisory relationships, enhancing student satisfaction, and ultimately supporting successful doctoral completion.

4.1.2. Theme 2: Personal Issues

This issue encompasses three factors: unfavourable location, family constraints, and lack of research knowledge. Before enrolling as doctorate students, individuals may encounter a range of obstacles that can influence their decision-making and readiness for doctoral studies. Prospective doctorate students may face substantial challenges due to factors such as unfavourable locations, family restrictions, and a lack of research knowledge. These issues can impact their capacity to begin and navigate the doctoral journey effectively.

An unfavourable location can present obstacles, such as restricted availability of resources, research facilities, and academic support, which are crucial for the achievement of successful doctorate studies. Acharya and colleagues (2023). During the pre-journey phase, they have undergone an experience such as the code provided above; for example, S6 stated the following:

"The location of the institution was unfavourable for me because it was far away, making it difficult to balance my studies with family commitments." – S6.

Family constraints, such as obligations toward family members, financial limitations, and the absence of familial assistance, can provide extra obstacles for persons contemplating a doctorate program (Liboro & Travers, 2016), as S4 stated:

"The absence of a supportive family network presents additional difficulties for me, as there are occasions when my wife fails to comprehend the demands of my academic pursuits." "It diminishes my ability to maintain motivation." - S4.

Moreover, a lack of research knowledge may lead to feelings of inadequacy, imposter syndrome, and uncertainty about one's ability to engage in rigorous academic research, which are fundamental aspects of doctorate studies (Deshpande, 2016). As stated by S1.

"Before registration, I faced challenges during my research due to my limited understanding of research methods and processes. As a result, I struggled to develop a mini proposal."- S1.

4.2. Doctorate students' experiences during the journey

The results generated three themes, namely, research clarity and publication challenges, administrative hurdles, and personal and social support struggles. Theme 1 was generated by 4 codes: unclear problem statements and research topics; limited current literature; and difficulties in publishing articles. Theme 2 was generated by 3 codes: inconsistencies in information, delays in visa processing and long waiting times for previva/viva. Theme 3 was generated by 5 codes: time constraints, financial difficulties, lack of friends, relationships with supervisors, and family matters.

4.2.1. Theme 1: Research Complexity

4.2.1.1. Unclear research topic

The doctoral journey commences when a research topic is chosen. This decision is essential because it establishes the entire plan for the mission. Doctoral students formulate their studies based on established scholarly works, identify areas of deficiency, and uncover specialized areas that can be enriched with novel insights. The selection is guided by passion, curiosity, and alignment with one's academic interests. However, several doctoral students found difficulty in shaping the topic of research. As stated by S4;

"Before the defence proposal, of course, it is the most difficult to shape the topic because we already have our topic; then, we have to sharpen our topic further."– S4.

4.2.1.2. Unclear problem statement

Doctoral students are required to submit a comprehensive and original piece of the thesis. This research aims to push the limits of knowledge within their selected discipline.

"It was hard to explain the problem I wanted to solve with my research. It was difficult to decide exactly what I wanted to study and what questions I wanted to answer."- S8.

The lack of a clear problem statement and research topic can hinder the initial stages of doctoral studies, leading to confusion and delays in research progress.

"I struggled with formulating a clear problem statement for my research and was uncertain about the direction and scope of my study."- S10.

4.2.1.3. Limited current literature

Once the study aligns with a specific issue, the students proceed to perform a thorough assessment of the literature. This entails the examination of pertinent studies, theories, and approaches. As the research proposal progresses, a comprehensive plan outlining the objectives, methodologies, and significance of the research should take shape. As stated by S1 and S19;

"I found it difficult to understand the research articles because there are many unfamiliar terms and concepts and some of the academic articles were written in a way that was hard for me to understand."- S1.

The limited current literature on a specific topic can make it challenging for doctoral students to situate their research within the existing scholarly landscape, potentially affecting the quality and originality of their work.

"Some of the research journals cannot be accessed, and if I want to download it, I have to pay for it."- S19.

4.2.1.4. Difficulties in publishing articles

Difficulties in publishing articles can impede the dissemination of research findings, delaying academic recognition and career advancement for doctoral students. As described by S5 and S18;

"I had a hard time publishing articles because it was difficult to find the right journals and obtain approval for the review process."- S5.

"I faced difficulties in publishing articles, and I have received many rejections. Each submission required revisions, and the feedback takes time, making it more challenging."- S5.

"Supervisor expected to publish in high impact and reputable journal."- S18.

Addressing these challenges requires proactive measures, such as seeking mentorship and guidance from experienced researchers, conducting thorough literature reviews to identify gaps in existing knowledge, and honing writing and publishing skills through workshops and training programs. By overcoming these hurdles, doctoral students can enhance the quality of their research, contribute meaningfully to their field, and successfully navigate the doctoral journey.

4.2.2. Theme 2: Administrative Hurdles

4.2.2.1. Inconsistencies in information

Inconsistencies in information can lead to confusion, delays in research progress, and difficulties in conducting a comprehensive literature review. This can hinder the development of a clear research problem statement and research topic, affecting the overall quality and originality of the doctoral study (Ely, 2002). As stated by S3 and S17;

"I received inaccurate information from the administration, with different staff giving me different feedback. This makes it hard to know what steps to take and causes delays in my progress."- S3.

"I have experience receiving wrong information from the administration related to the requirements of my publication."- S17.

4.2.2.2. Delays in visa processing

Delays in visa processing can disrupt travel plans, cause uncertainty, and create additional stress for international doctoral students. Visa delays can impact the timely commencement of doctoral studies, attendance at academic events, and overall academic progress (Mthombeni, 2024). As stated by S4 and S7;

"Visa processing delays caused problems with my research plans, leading to frustration and uncertainty about my research". - S4.

"The delays in visa processing impact the progress of my research." - S7.

4.2.2.3. Long wait for Pre-viva and Viva-voce

Doctoral students typically present their work at an oral or other type of examination, in which a panel of examiners designated by the institution assesses whether the candidate will be deemed successful. The last part of the journey culminates in the thesis defense where they showcase their research in front of a panel of experts. A long wait for viva voce can prolong the completion of the doctoral programme, leading to increased stress and uncertainty for students. Delays in scheduling can affect graduation timelines and future career plans (Bireda, 2015). A long waiting time for viva is one of the time management problems, such as what S3 and S1 went through; they received a late call for them to present their papers:

"I went through a long waiting session for the pre-viva, 10 months ago, I sent it, but it was only 2 years ago that they contacted me; I was the only one who was late to pass the date for the pre-viva. I went through the same thing when my viva was sent 5 months before, but they contacted me 9 months before." – S3.

"I think we are late in getting calls for pre-viva or viva voce because the administration does not give clear guidance to the students to complete their studies. For example, there is no fixed date for students." – S1.

Addressing these challenges requires proactive measures, such as effective communication with relevant authorities to expedite visa processing, seeking support from academic advisors to navigate inconsistencies in information, and maintaining open communication with the academic institution to address delays in video voice scheduling. By addressing these challenges, doctorate students can enhance their academic experience, mitigate stress, and progress successfully through their doctoral studies.

4.2.3. Theme 2: Personal and social support struggles

4.2.3.1. Time constraints

Most doctoral students had limited time to work on their research. This also includes limited supervisor-student interaction as they have full-time jobs, which makes them less immersed in their research. As S9 and S19 stated;

"I also work full time, so I do not have enough time; I also have to allocate time for my research and go to training related to research, so it is truly difficult for me."- S9.

"Balancing academics with part-time work and family left me with limited time for research, hence, time constraints."- S19.

4.2.3.2. Financial difficulties

Another pain point was the challenge of financing their studies. As mentioned by S17;

"During my studies, I encountered financial difficulties in paying my study fees. Although I received some money from the scholarship, I still faced challenges covering all the expenses associated with my studies."- S17.

4.2.3.3. Lack of friends

The majority of doctoral students found that there is a lack of extra-curricular activities, institutional clubs and committee experiences. They were expecting a rich experience in the postgraduate program. This will increase their networking and share their ups and downs in pursuing their doctoral degree. As described by S15 and S11;

"I often felt lonely because I did not have many friends or support, as many of my friends were busy with their research, so I could not talk to them or ask for help. It was hard because I did not have friends to share my ideas with or get advice from." - S15.

"I was often stressed and unsure if I was doing my research correctly, and I wished I had more friends and support to help me, also having people to talk to and get advice from would have made a big difference for me." - S11.

4.2.3.4. Relationship with supervisor

The majority of the doctoral students also found limited opportunities to interact with their supervisors who have high posts in the university. Others found a challenge to get used to new supervisors when there was a conflict which forced the current supervisors to be exchanged. As claimed by S8;

"During my research, my supervisor changed, and even my co-supervisor changed, making it challenging for me to maintain the same direction and focus on my project. Adapting to a new supervisor requires additional time and effort".- S8.

"I could not meet my supervisor in person very often. For example, when I need to understand difficult topics, meeting face-to-face would be helpful. We had to communicate online most of the time, and I believe talking in person would have been better for explaining things clearly."-S8.

4.2.3.5. Family matters

During the doctoral journey, several students found less support among family members. Others encountered unexpected events which forced them to cope with the situation to stay resilient in the doctoral journey. As stated by S3 and S18;

"Uncertain family matters, for example, death and illness."- S3.
"Family members do not understand the situation." - S8.

4.4. Student Experiences and Expectations through the Customer Journey Map

To investigate postgraduate expectations or suggestions, we use the customer journey map, which transfers information from the interview session to the form of a map. The journey map allows us to view not only postgraduates' expectations or suggestions but also their feelings from the start of their education until the end. The journey maps of three different phases are described below. The students were thus drawn marking their experiences on a scale of −10--+10 (−10--5 fall under 'Unhappy' and 'Frustrated'; −5--0 fall under 'Exploratory' and 'Interested'; 0--neutral; 0--+5 fall under 'Valued' and 'Trusting'; +5--+10 fall under 'Happy' and 'Pleased'). The journey map is depicted in Figure 3.
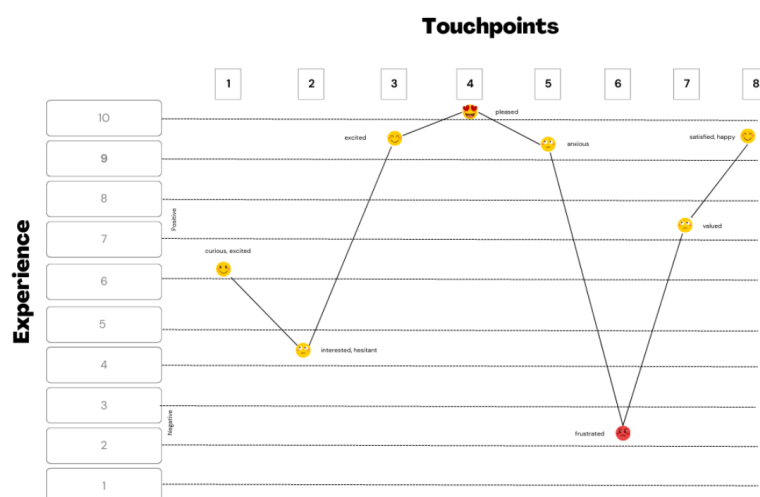
Figure 3 Customer journey map of the doctoral journey. Note: Touchpoints (1 – searching for a university and research topic; 2 – choose a supervisor; 3 – apply for Doctoral; 4 – register; 5 – research plan; 6 – proposal defence & publications; 7 – previva; 8 – viva).

The informants had largely positive experiences. The phase, which involves activities such as searching for and seeking information and a suitable supervisor, ranged between 0 and 5; a positive orientation was highlighted with emotions of 'trust' and 'value'. A detailed interview revealed that one informant struggled in the absence of structured information from suitable

supervisors to fit the field of research. There was no documented process to help informants converse with alumni and current students in searching for the ideal supervisor. The experience moves to the 5--10 range (happy and pleased) upon receiving admission confirmation.

While some informants expressed satisfaction with the study process and school life, others seemed to experience depressive symptoms. Various forms of mental health disorders can emerge and impact a student. The range of psychological experiences can encompass anxiety, sadness, and impostor syndrome (a recognized phenomenon). Additionally, these experiences can lead to more severe outcomes, such as self-harm and suicide, which have the potential to significantly impact or even terminate one's life. Every student possesses unique characteristics; therefore, any psychological issue that arises because of research should not be disregarded.

Poor interaction between faculty and students, while lacking coordination in proposal defence and pre-viva. They hope that they can obtain fast responses from management or their supervisor's side, such as S4, S14, S15, and S17:

"If possible, when we try to give information or want to approach to become the supervisor, please respond, at least if you are not interested, you can let us know in advance so that we do not feel like we are just being ignored." - S4.

"I would like to mention that the process of pre viva and viva needs to be systematic by the faculty as well as by the administration, which could save time for the students." – S14.

"When online, you understand that we want to know whether the response will be slow or not if face-to-face, we can catch up. Therefore, I hope the supervisor or management can respond immediately even online." – S15.

"I hope that if we send the date for the present pre viva or viva voce, we will receive a response immediately so that we do not have to wait a long time without a result." – S17.

Thus, there is an opportunity for improvement in informal and formal interactions with faculty and peers. Several informants expressed expectations or solutions for the problems faced by an administrative system, so they had to fix the administrative system as stated by S1, S3, S6, S8, and S16:

"I hope the university can update the latest information as soon as possible about the information in their system, such as phone number, email, what are the advantages of the supervisor, and his expertise." – S1.

"I hope they have a proper procedure. If possible, they do not reply to emails for more than 3 days. In addition, if people are looking for an administrator, please be a little near the counter, because when people are looking for it, it is very difficult to find it." - S3.

"I must deal with administration where the information will be mismatched and hope this can be fixed in the future." - S6.

"I hope the administration gives accurate information during the registration process. Any disruption to that process will not benefit us as long-distance travellers." – S8.

"Provide clear medical examination requirements and get confirmation from health centres around nearby clinics, because if it needs to be done at the university, it is not suitable for those who are not in the vicinity." – S16.

In addition, some informants expect to have a guide provided, as S2, S5, S7, and S9 hoped:

"I hope the university can provide trainings to write articles. Like myself, I am not very good at writing articles." - S2.

"The university can provide a guide that is organized and easy to follow so that students better understand what is needed to complete the research completely and perfectly." - S7.

"If the faculty can assign a local person for us to engage until the end of our study, that would be the best." - S9.

The learning experience and faculty interactions are highlights of the informants' experiences. Overall, the qualitative data reveal positive and negative experiences before and during the service encounter process concerning the academic curriculum guidelines and faculty interactions. To improve the experience of doctorate students, it is crucial to apply the ideas of customer journey mapping to the academic setting by utilizing a customer journey tool. Customer journey mapping is a widely recognized technique in marketing that aims to comprehend customers' interactions with a firm or organization at several points of contact (Silva et al., 2023). By utilizing this approach to the doctorate candidate process, schools can acquire a valuable understanding of the many phases of a candidate's academic advancement and pinpoint areas that require refinement.

Client journey mapping entails prioritizing the perspective of the client, specifically the doctorate candidate, as the focal point of focus (Fallast & Vorbach, 2019). This strategy can help academic institutions gain a comprehensive understanding of the requirements, difficulties, and encounters faced by doctoral students during their academic progress. By visualizing the candidate's progression through the stages of entrance, integration, and candidature (Ribau, 2020), institutions can pinpoint areas of difficulty, identify the support needed, and uncover possibilities for improving the overall candidate experience.

Moreover, the use of tools such as artificial intelligence (AI) in customer journey mapping can offer significant insights and enhance the number of applicant trips. Artificial intelligence (AI) tools, such as chatbots, recommenders, and virtual assistants, can generate customized experiences, improve communication, and optimize processes for those pursuing doctoral degrees (Rana et al., 2021). The incorporation of artificial intelligence (AI) into the customer journey tool can result in increased efficiency, more effective support mechanisms, and personalized assistance for students.

Furthermore, including gamification aspects in the process of becoming a doctoral candidate might enhance the level of engagement and motivation. Gamification can be employed to enhance every phase of the candidate journey, rendering the process more dynamic and gratifying for applicants (Arias et al., 2020). By incorporating gamification, universities may enhance applicant engagement, foster learning, and cultivate a more pleasurable academic environment.

Ultimately, academic institutions may improve the experience of Doctoral students by implementing customer journey mapping methodologies, utilizing AI tools, and adding gamification components. It is essential to comprehend the candidate's viewpoint, recognize areas of difficulty, and offer tailored assistance to enhance the candidate's experience and guarantee positive academic results.

5. Conclusions

Journey themes (research complexity, administrative hurdles, personal and social support struggles) that contribute to the evaluation of customer experience among doctoral students. Customer experience was generated from a customer journey map to research the experience of postgraduates. The informants reported positive experiences during the phase, with a positive orientation toward trust and value. However, they struggled with finding suitable supervisors due to a lack of structured information. After admission confirmation, they were generally happy. Some reported experiencing depressive symptoms, which can lead to severe outcomes, namely, self-harm. Importantly, every student has unique characteristics, and any psychological issues arising from research should not be ignored.

Higher education institutions should extend their view beyond the immediate goals of their students to identify relevant touchpoints and other customer journeys that affect the students' experience. This study will guide the student to begin their journey with clarity and direction if they serve their intentions with doctoral study, faced with obstacles and rewards. This study proposes a conceptualization of the customer journey in the context of higher educational institutions.

However, this study also has limitations in generalizing this study with other studies. It is possible that future research can cover every level of doctoral program education and compare it with types of universities. It is also proposed to develop propositions on another, larger sample. This can help future researchers discover and test the relationship between student and university factors such as institutional support, commercialization, management, and customer journey capabilities on university performance.

Ethical considerations

Informants' informed consent were obtained and personal information and responses were kept confidential and private.

Conflict of Interest

The authors declare no conflicts of interest.

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