






## Development and Preliminary Evaluation of Digital Orientation Tools for New Academic Staff in Higher Education

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### ABSTRACT

At an inceptive stage of working, individuals, especially new staff without or with limited working experience, may have anxiety and discomfort. This is particularly relevant in higher education where new academic staff will need to navigate complex duties such as teaching roles, research and institutional policies. Thus, it is ideal to have a platform that provides a comprehensive overview and understanding of orientation programs for new staff to facilitate their adaptation, foster departmental understanding, foster colleague connections, and help them grasp job essentials. In accordance with the Technology Acceptance Model (TAM), this study evaluates the development and preliminary evaluation of SmartStart Solutions, a digital orientation initiative consisting of an e-book and a mobile application designed for new academic staff at an academic centre. This research employed a qualitative cross-sectional survey design. The findings revealed that both platforms were perceived as effective and helpful in relaying information on key performance indicators, policies, staff benefits and faculty-related

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systems. Users valued the e-book as a structured reference guide and the mobile application as a portable orientation tool. Further improvements were suggested on visual readability, technical accessibility and chatbot support. Overall, the study proposes digital orientation as an effective tool to support academic staff in improving the onboarding experience in higher education. Ultimately, this research provides a scalable framework for academic institutions to adopt a digital-friendly orientation approach while maintaining an employee-centric ecosystem.

**Contribution/Originality:** This study contributes by introducing SmartStart Solutions as a digital orientation model developed for new academic staff in higher education. It highlights how e-books and mobile applications can make onboarding information more accessible, support role understanding, and help new staff adjust more confidently within an academic institutional setting.

## 1. Introduction

Starting a new job can be stressful, especially for those who have never been employed before (Xu & Wang, 2023). This exciting moment of starting a new career can be apprehensive due to various unknowns and expectations. These feelings can be reduced if new employees are provided with programs to ease their entry into the organisation. Ouanlee (2023) believes that a well-planned orientation programme can be a great help to these new hires in settling in, learning about their department, establishing relationships with other co-workers and understanding the roles of their positions.

A quick adjustment of the new hires is required. They are expected to adapt to the work culture, administrative systems and procedures, and professional responsibilities fast so that day-to-day operations run smoothly and are not disrupted. Proper onboarding support can ease these new hires from feeling confused, uncertainty and anxiety during the adaptation period. Having these feelings uncontrolled affects new hires' confidence, work performance and overall job satisfaction. For these reasons, effective onboarding and support systems are needed to help new hires adjust smoothly in their new working environment. In recent years, the Academy of Language Studies has welcomed a significant number of new staff, as a result of the retirement of the senior staff. A report published by the academy in December 2023 found that 34.2 per cent were new hires with less than five years of working experience.

To address these issues, two innovations: an electronic book (e-book) and a mobile application were designed and developed under the title *Smartstart Solutions*, a new staff orientation kit. The development of these orientation kits was informed by the needs of employees at the centre, to support newly appointed staff during their onboarding process. The package is intended to provide organised and accessible materials that facilitate new hires' adjustment to the workplace and ease their transition into the organisation.

Unlike conventional orientation materials, *SmartStart Solutions* is a digital onboarding innovation that integrates accessibility, mobility, and user-friendly navigation to improve staff orientation experiences. This innovation aligns with current trends in

digital learning and mobile-supported professional development, enabling access to information anytime, anywhere through digital platforms.

This paper, therefore, presents the development and preliminary evaluation of *SmartStart Solutions* as a digital staff orientation platform for newly onboarded academic staff. Specifically, it examines how the e-book and mobile application versions support users' access to onboarding information, functional usability, and overall orientation experience.

The study also aims to provide practical insights into how digital onboarding tools may support higher education onboarding practices, especially by facilitating smoother staff transitions and improving accessibility of organisational information. In addition, the findings may contribute to future improvements to staff onboarding initiatives and digital orientation practices within APB and similar educational institutions.

### 1.1. Objectives of the Study

This study seeks to achieve the following research objectives:

- i. To conduct a preliminary evaluation of the functional usability of the *SmartStart Solutions* e-book and mobile application in terms of navigation, accessibility and ease of use among the new academic staff at the academy.
- ii. To examine the effectiveness of the *SmartStart Solutions* e-book and mobile application in delivering essential information to the new academic staff at the academy.
- iii. To examine users' preliminary experiences and perceived usability of the *SmartStart Solutions* e-book and mobile application as digital staff orientation platforms for the academy.

## 2. Literature Review

Being offered a job is a recognition of one's qualifications and efforts. It can enhance one's confidence and motivation. However, these new employees often experience nervousness and uncertainty about their job expectations, and the ability to adapt to the new environment. This is where the organisation can play a role in assisting the new employees' transition. In this context, orientation and onboarding programmes play a critical role in easing this transition and supporting the early adjustment of the new employees.

The terms *orientation* and *onboarding programmes* are often used interchangeably; they represent conceptually and functionally different processes. Staff orientation programmes are one-time events planned by the organisation to facilitate a smooth transition to the workplace. The programmes introduce new employees to their roles, expectations, and organisation's essential information, such as missions, visions, values, policies, procedures and administrative requirements (Platt, 2023).

On the other hand, onboarding programmes are formal and can last up to a year or even more (Hillman, 2010). The programmes involve a series of planned activities, training sessions that extend beyond the initial orientation (Schraiber et al., 2025). The aim of these programmes is to equip new employees with the knowledge, skills, tools and resources needed to perform effectively and integrate smoothly and successfully into the organisation (Platt, 2023; Santos et al., 2025). Effective onboarding programmes can

build employees' confidence and engagement, leading to greater commitment, reduced turnover intentions and higher job satisfaction (Sani et al., 2023).

In a nutshell, staff orientation introduces new employees to the organisation briefly, while onboarding programmes involve a longer-term developmental process. Regardless, both programmes aim to reduce new employees' anxiety, improve confidence, promote consistency in knowledge and performance and facilitate successful adjustment within the organisation.

## **2.1. Challenges of New Staff Orientation and Onboarding Programs**

Onboarding programmes often face several challenges. When onboarding is poorly designed, new employees may experience information overload, limited personalised training, and difficulty adjusting to the organisation's culture (Gunnesch-Luca, 2025; Murphy et al., 2021; Sankaran & Amuthan, 2025). Too much information at the beginning can overwhelm new employees and make it hard for them to remember important details (Smite & Moe, 2023). However, too little information leads to conflicting messages across sessions, affecting the role clarity and productivity (Fraser-Arnott, 2020). Poor and missing onboarding materials and repositories make them struggle and slow down their adjustment and integration into the organisation (Szeluga-Romanska, 2025). Inconsistent onboarding practices across units, such as differences in timing, content, and delivery, can also reduce fairness and consistency in the onboarding experience (Mathwich, 2017). In addition, a lack of transparency and unclear team responsibilities may make it harder for new employees to start their jobs and take over tasks smoothly (Szeluga-Romańska, 2025).

Another challenge is the cost and insufficient time for onboarding programmes. Limited time has become a primary reason for the onboarding being neglected or shortened, especially in high-pressure settings (Chen, 2010). These shorter sessions may leave new employees underprepared as vital information is not adequately addressed (Ackermann, 2023). On the other hand, large-scale onboarding involving many new employees is costly and logistically challenging (Gregory et al., 2020). A limited number of trained mentors, due to limited resources, also limits personalised onboarding format, and this weak mentoring structure could weaken the socialisation and job skills development of the new employees (Enberg et al., 2024).

Technology issues and challenges related to digital onboarding can also make it harder for new employees to learn and connect with others. They struggle to locate the right information and resources in virtual environments (Gunnesch-Luca, 2025), and they find it difficult to get immediate feedback from their mentors or to be proactive in learning the contexts (Gunnesch-Luca, 2025; Murphy et al., 2021). This is because virtual onboarding often creates gaps in manager–new employees and peer communications, harming socialisation and role learning (Murphy et al., 2021). When interaction frequency and quality are lower, it leads to an uncertain reduction in social capital formation (Ayana et al., 2020). A more structured virtual onboarding is required to compensate for the loss of informal in-person exchanges (Murphy et al., 2021).

Finally, many organisations do not properly measure the effectiveness of their onboarding programmes, making it difficult to identify problems or make improvements. Poor post-training evaluation and supervision are lacking, making it hard to judge the impact on performance and satisfaction (Ackermann, 2023). Low

uptake and completion metrics, such as completeness percentages, often reveal poor program adoption and raise questions about the readiness and effectiveness of the programmes (Sankaran & Amuthan, 2025; Westover, 2025). If measured, the new employees often give mixed responses about whether the programmes affect their job performance or satisfaction, complicating the interpretation of impact (Ackermann, 2023).

## **2.2. Onboarding Experiences for New Academic Staff in Higher Education**

Academic staff in higher education are expected to understand and deliver multiple and overlapping tasks involving teaching, research, mentoring and student-related duties. Onboarding experience for newly academic staff should be comprehensive and encompass procedural knowledge, academic roles and identities, alongside fulfilling constitutional visions to accommodate transition into higher education (Breslin et al., 2021). Stratford et al. (2024) further highlighted that unclear expectations regarding workloads, key performances, teaching systems and faculty procedures may contribute to anxiety and uncertainties during the preliminary part of onboarding.

The ability for faculty members to balance academic roles and maintain key performances in terms of teaching and learning, research, supervision and industrial collaborations are challenging. Kenny and Fluck (2023) reiterate that academic workload is not easily measurable and distributed due to the complex nature of the profession. With these challenges in mind, job satisfaction and career development might be hampered without proper onboarding structure (Zamora et al., 2022).

Previous research has highlighted several onboarding support for new academic members. Muhayimana and Hill (2023) discussed the importance of peer mentorship in learning institutional expectations, while Sargent and Rienties (2022) mentioned that mentorship helps in making sense of 'being an academic' for new onboarded staff. Studies on the implementation of digital orientation, on the other hand, highlighted the benefits in terms of seamless information delivery (Herman & Davidson, 2022) while reducing high costs that are commonly associated with traditional onboarding (Miller, 2021). In sum, these studies proposed the need to integrate a comprehensive support academic onboarding system through digital resources to ensure sustainability and satisfaction during their transition.

## **2.3. Future Directions and Trends**

Emerging onboarding practices increasingly seek to address common challenges faced by organisations related to design, content relevance, resource availability, time and cost constraints, technological readiness and gaps in evaluation and measurement. Viewing these trends through a structured lens clarifies how onboarding practices can better support effective job entry and long-term employee integration.

One notable trend is the adoption of structured digital onboarding platforms, which offer remote tools and hybrid blends of orientation content and support for new employees (Ackermann, 2023; Gregory et al., 2020; Smite & Moe, 2023). To be effective, these onboarding materials must be tailored to the role, prior experience, and the departmental contexts to reduce overload and improve relevance for new employees (Petrilli et al., 2022; Szeluga-Romańska, 2025). Increasingly, onboarding designs should

also centre on the new employees' emotions, engagement and experience to improve satisfaction and retention (Gregory et al., 2020; Sankaran & Amuthan, 2025).

Besides structured digital onboarding platforms, the programmes can consider moving from one-off orientation to ongoing onboarding that includes pre-boarding, phased learning, follow-up evaluations, and long-term mentorship, to sustain integration over time (Enberg et al., 2024; Fraser-Arnott, 2020; Mathwich, 2017).

Formal mentoring, virtual mentoring, peer networks, and social media/workgroup channels further strengthen socialisation by increasing interaction frequency and reducing newcomer uncertainty (Ackermann, 2023). At the content level, onboarding programmes increasingly prioritise incremental learning designs that manage cognitive and information (Enberg et al., 2024; Murphy et al., 2021). Scenario-based activities, station or modular-interactive programs and compulsory pre-reading materials have been recommended to make onboarding portable, reproducible, and more engaging (Ayana et al., 2020; Russo et al., 2018).

Finally, future onboarding programmes must place a stronger emphasis on evaluation and measurement by implementing clear metrics, post-training evaluation, and monitoring tools to track completion, effectiveness, and return on investment, addressing the lack of evaluation and low implementation completeness reported by past studies (Enberg et al., 2024; Fraser-Arnott, 2020; Mathwich, 2017).

Taken together, these emerging trends highlight the need for an onboarding approach that is digitally enabled, continuous rather than episodic, learner-centred, and supported by systematic evaluation mechanisms.

#### **2.4. Digital Onboarding as a Strategic Response to Emerging Onboarding Trends**

Digital onboarding programmes provide a direct response to the future onboarding trends identified earlier, particularly those related to digital delivery, continuous onboarding, learner-centred design, and improved evaluation (Lazar, 2025; Sani et al., 2023; Santos et al., 2025). Structured digital platforms allow onboarding content to be standardised and introduced step-by-step, while still being adapted to different roles and departments. The content becomes more relevant to the new employees, reducing information overload (Petrilli et al., 2022; Santos et al., 2025).

Digital platforms can also save time and reduce training costs, as they allow remote access, reusable materials and flexible learning schedules. Pre-boarding modules, learning checkpoints, follow-up activities and continuous access are additional features that can be added to support ongoing onboarding programmes (Mustafa & Lleshi, 2024). Another important feature to increase interaction and support for new employees is the social media or workgroup channels. Lastly, to monitor progress and evaluate the effectiveness of the onboarding programmes, the digital platforms can integrate built-in tracking, feedback and analytic tools (Santos et al., 2025). In short, digital onboarding programmes offer numerous advantages that can help new employees settle into their roles effectively (Sani et al., 2023; Stachová et al., 2024).

## 2.5. Usability Criteria for Evaluating Digital Orientation Platforms

Digital orientation platforms play an important role particularly in assisting newly appointed staff adapt to organisational systems, procedures, and workplace environments. From the lens of the user, the effectiveness of the platforms is measured by how easily users can access, navigate and use the system based on their needs rather than solely focusing on the availability of the information. The common challenges often faced by new staff members using the onboarding process are lack informal interaction with peers to know further information of organisation, building relationships with the existing staff (Insalata, 2023), uncertainty and unfamiliarity with organisational practices, and an overload of various types of information which later impact on their confidence and adjustment within the organisation. Therefore, digital orientation platforms should be developed to help new staff members as a form of personalised learning experience (Brugliera, 2024), to assist them for a better comprehension, encourage independent reference, and provide supportive user experience. In this context, user-centred design highlights the importance of prioritising users' needs, expectations, and interaction experiences in order to improve usability, acceptance, and overall engagement with the platform.

One important usability criterion required in evaluating digital orientation platforms is navigation (Rupere & Jakovljevic, 2020; Zakaria et al., 2025) which refers to how easily users can explore and locate relevant information within the system. Effective navigation structures can systematically enable users to access needed information quickly without excessive searching or confusion (Smith & Jones, 2023). Additionally, clear menu organisation, logical categorisation, and systematic content arrangement are important in ensuring efficient interaction with the platform. Poor navigation may lead to frustration and reduced engagement, particularly among new users who are still unfamiliar with organisational processes.

Besides, accessibility is another significant usability criterion, particularly in digital learning and organisational platforms. Accessibility refers to users' ability to tap into platforms of information anytime and anywhere through various devices and internet access points. In the context of staff orientation, accessible should appear as a supporting independent learning and continuous reference. This flexibility becomes a crucial role for accessibility applied in the digital platform as it is 1 for new staff members who may require repeated access to procedural guidance during their adaptation process. Lazar (2024) also emphasizes that a system should be developed to accommodate users universally, inclusive of those with different digital literacy levels, and different work needs. Through this implementation, any accessibility barriers can be overcome and thus improve staff participation, efficiency and work performance.

Ease of use also plays as another contributing factor substantially to the effectiveness of digital orientation platforms. A platform that is designed simple, and user-friendly enables users to interact with the system with minimal technical difficulties. The common hurdle faced by the new staff is to understand and be aware of the current organizational system. Hence, ease of use is particularly crucial for them as it can assist the focus on understanding the nature of their organisational system generally. Also, this further helps them to adapt more efficiently and minimise difficulties during the initial orientation process (Megyeri & Szabo, 2021).

Besides, information clarity is equally significant in determining the usability of digital orientation platforms too. Information clarity gives attention to whether the guidance provided by the organisation is comprehensible and straightforward at a glance or rather not. The display of information should reflect clear comprehension such as on procedures, policies, and responsibilities. This criteria can avoid ambiguity and any overly indigestible information which may cause misinterpretation and boost user's uncertainty. Therefore, appropriate explanations and smooth presentation of information are needed in enhancing effective communication and learning especially among new staff.

Having a load of information is insufficient without designing it with an appropriate and captivating design. Interface design is another essential criteria required for a digital platform. This includes the establishment of layout, typography, color coding and the positioning of illustrations which further affect the readability of users. Apart from making it look aesthetically pleasing, most importantly the effective interface design is important to be set as a functional and independent reference to the new staff. This is because users usually rely on digital platforms to carry out their daily tasks which eventually leads to their working productivity (Nielsen & Moran, 2023). Thus, creating a visually presentable design with effective layout can naturally guide the users to the right information.

The above criteria works together with technical functionality which this sets for another important criteria. Technical functionality is a critical criterion in digital platforms, as reliable system features will help assist new staff experiences and support good adaptation to organisational processes (Kassymtayeva, 2020). This includes the use of hyperlinks, loading performance, and navigation systems as a whole. A functional and effective system contributes to positive users' experiences and thus harnesses their confidence and trust in using the system.

Finally, user satisfaction refers to how users feel about the digital orientation platform after using it. It reflects whether the platform is able to meet their needs in terms of information, interaction, and support. When users have a positive experience with the platform, they are more likely to continue using it as a trusted source of organisational information. In the context of staff onboarding, a satisfying digital orientation experience can also help newly appointed staff adapt more smoothly, build confidence in their new roles, and feel more connected to the organisation. User satisfaction has been widely recognised as an important indicator of successful digital system use, where positive user experience is shaped by ease of use, perceived usefulness, and interaction quality.

Integrating all of the mentioned criteria, these can be an added value towards designing a strong and effective digital onboarding system for new staffs

## **2.6. Theoretical Framework**

The present study is primarily grounded in Organizational Socialization Theory (OST) (1979), which explains the process through which newly hired employees acquire the knowledge, behavioural expectations, social understanding, and organisational values necessary to function effectively within a workplace environment. According to OST, successful socialisation occurs when organisations provide newcomers with adequate access to information, role clarification, social interaction, and institutional support that

reduce uncertainty and facilitate adaptation. In the context of higher education institutions, newly appointed academic staff are often required to navigate complex administrative systems, unfamiliar organisational cultures, departmental expectations, and institutional procedures within a short period of time. The absence of structured onboarding support may contribute to confusion, anxiety, role ambiguity, and slower workplace adjustment. Thus, the SmartStart Solutions platform was conceptualised as a digital onboarding intervention that supports organisational socialisation by centralising essential information, improving accessibility, and enhancing communication efficiency for newly recruited academic staff.

In addition to OST, the study also draws upon Buchanan's Three-Stage Early Career Model (1974), which outlines the developmental phases experienced by employees during the early years of employment. The model comprises the entry and learning stage, the contribution and consolidation stage, and the maintenance stage. The entry and learning stage is particularly relevant to this study as new staff members require continuous guidance, accessible resources, and organisational support to adapt effectively to their new work environment. The model emphasises that the quality of support received during the early employment phase significantly influences employees' confidence, performance, engagement, and long-term organisational commitment. By integrating Buchanan's model, this study recognises onboarding as a continuous developmental process rather than a one-time orientation event.

Furthermore, this study is informed by the Technology Acceptance Model (TAM) proposed by Davis (1989), particularly in evaluating users' perceptions towards the SmartStart Solutions e-book and mobile application. TAM suggests that users' acceptance of a digital platform is strongly influenced by perceived usefulness and perceived ease of use. In the present study, these constructs are reflected through users' evaluation of navigation, accessibility, clarity of information, functionality, and overall user experience. The inclusion of TAM strengthens the theoretical grounding of the study by explaining how positive perceptions towards usability and functionality may influence users' willingness to engage with digital onboarding platforms. Therefore, the integration of Organizational Socialization Theory, Buchanan's Early Career Model, and the Technology Acceptance Model provides a comprehensive theoretical foundation for examining how digital onboarding tools support workplace adaptation, information accessibility, and positive user experiences among newly onboarded academic staff.

## **2.7. Conceptual Framework**

The conceptual framework of this study illustrates the relationship between digital onboarding platforms and newly onboarded staff's orientation experiences within the academic workplace context. The framework proposes that the SmartStart Solutions e-book and mobile application function as independent variables that influence users' onboarding experiences through several usability and informational dimensions. These dimensions include navigation, accessibility, ease of use, informational clarity, functional usability, and overall user satisfaction.

Drawing from Organizational Socialization Theory, the framework assumes that when onboarding information is organised systematically and delivered through accessible digital platforms, new staff are more likely to experience reduced uncertainty, improved understanding of organisational procedures, and smoother workplace adaptation. Simultaneously, Buchanan's Early Career Model supports the idea that structured

onboarding resources play an important role in assisting employees during their early adjustment phase, particularly in developing role clarity, organisational familiarity, and confidence.

The conceptual framework also incorporates elements from the Technology Acceptance Model by positioning perceived usefulness and perceived ease of use as critical determinants influencing users' acceptance and evaluation of the SmartStart Solutions platform. When users perceive the onboarding platforms as practical, user-friendly, and informative, they are more likely to report positive onboarding experiences and greater satisfaction with the orientation process.

Based on these theoretical assumptions, the framework proposes that effective digital onboarding platforms contribute to positive organisational outcomes by improving staff orientation experiences, facilitating organisational alignment, enhancing informational accessibility, reducing onboarding-related anxiety, and supporting early workplace integration. In this study, users' perceptions of the SmartStart Solutions e-book and mobile application are evaluated qualitatively through measures of usability, informational effectiveness, and overall user experience. The conceptual framework therefore positions SmartStart Solutions as a digital onboarding intervention designed to support organisational socialisation and early career adaptation through accessible, user-centred, and technology-enhanced orientation practices.

### **3. Research Methods**

This section presents the methodology employed to evaluate the usability and effectiveness of Smartstart Solutions e-book and mobile application for new academic staff at the academy.

#### **3.1. Research Design**

This study employed a qualitative cross-sectional survey design to examine the usability, perceived effectiveness, and user experience of the SmartStart Solutions e-book and mobile application as digital staff orientation tools. This design was considered appropriate as the study collected users' evaluative responses at a single point in time, allowing the researchers to obtain a snapshot of participants' perceptions of the two digital onboarding formats (Setia, 2016). Data were collected using structured questionnaires, and separate but parallel survey instruments were developed for the e-book and mobile application versions to enable a comparative evaluation of users' overall experiences across the two digital formats. This mirrors established approaches utilised in evaluating technology and their usability, attesting that users' perceptions of ease of use, usefulness, satisfaction, and overall experience are commonly measured through self-report instruments (Davis, 1989; Brooke, 1996; Laugwitz et al., 2008).

#### **3.2. Development of Smartstart Solutions**

These two innovations were developed in stages. The first development was the e-book, designed with the sole intention to integrate information regarding the faculty, organisation and staff needs within one platform. The mobile application was then engineered to offer a more agile user experience, condensed into five primary navigation modules. This platform provides real-time access to external institutional resources, thereby reducing the "information search time" for the user. The section below will

describe the preliminary processes of designing the e-book, which serves as establishing foundational information, followed by the transition towards the mobile application, aimed for enhanced mobility and engagement.

### *3.2.1. Development of the SmartStart Solutions E-book*

In collecting data to build the contents for Smartstart Solutions, there were a few instruments and phases involved. In designing an appropriate input of Smartstart Solutions comprehensively, the results were extracted from interviews and surveys conducted with the participants through five important phases.

In Phase 1, the process involved segmentation of sections. This included the organisation of the data into relevant categories or sections to get a clear flow of information. After getting the full flow of content, Phase 2 started with the method of collecting and confirming information from the faculty and department in-charge. This is to ensure the data obtained fulfill the requirements of the orientation kit. Then, a draft of the PowerPoint presentation was created. This draft outlined the important key findings and insights based on the data gathered in the earlier phases.

Once the structure of the e-book in terms of sections and content was completed, the e-book entered phase three, which was the testing and evaluation phase. During this phase, the researchers meticulously reviewed the content to ensure its relevance, accuracy, and completeness. This phase is also inclusive of making sure that the hyperlinks are connected directly to the intended parts of the e-book. Along the testing phase, necessary adjustments were made to the primary PowerPoint file, which was then resaved to maintain up-to-date information. Following this, the project progressed to phase four, which involved finalising the design of SmartStart Solutions. The e-book was designed with a minimalist aesthetic to enhance readability and ease of navigation. Lastly, SmartStart Solutions was converted into PDF format, representing the final version of the innovation.

### *3.2.2. Transition from Smartstart Solutions E-book to Mobile Application*

The e-book was initially designed and developed to offer a personalised orientation resource for newly hired staff, drawing on information obtained through a preliminary survey. The e-book was subsequently tested and evaluated by new academic staff within the faculty, and feedback was collected through a survey to assess its usability and relevance. Based on the findings, a mobile application was then developed to enhance the usability and accessibility of the same orientation content for new hires. E-book users explicitly identified the need for a mobile solution to accommodate the highly mobile nature of their roles, which often require travelling between different academic faculties. Thus, such transitions frequently create barriers to real-time clarification and direct consultation with administrative management. The section below is a brief description of the Smartstart Solutions Mobile Application.

### *5.2.3. Features of the SmartStart Solutions Platforms*

The section below will elaborate on the distinct features of Smartstart Solutions E-book and Mobile Application that are utilised for this study.

#### *a) Smartstart Solutions E-book Features*

The Smartstart Solutions e-book was developed as a flip-book resource structured in a PDF format. It is easily accessible through a shared link and does not require users to sign up or register, thereby reducing access barriers for newly onboarded staff. Currently, the e-book consists of 23 content sections with 34 pages covering several sections including mission, vision and objective of the university, followed by *Amanah Tugas Pensyarah (ATP)*, Quality of Achievements, annual leaves, support system for lecturers and other relevant matters.

This e-book consolidated pertinent information and embedded hyperlinks that direct users to the institutional webpages. Tovstiadi et al. (2018) and Mueller et al. (2019) highlighted that such navigational features are prominent in digital resource design, especially in accessing information through accessibility and easy navigation. The e-book also allows users to go back to the main page of the e-book seamlessly, just by clicking on the 'home' button provided. However, as a static PDF-based resource, this e-book mainly supports one-way information delivery, which does not allow direct interactions with the administrators of the e-book content developers. This limitation informed the subsequent development of the SmartStart Solutions mobile application. Figures 1 and 2 below represent the interface of the Smartstart Solutions e-book:

Figure 1: Table of Contents of SmartStart Solutions

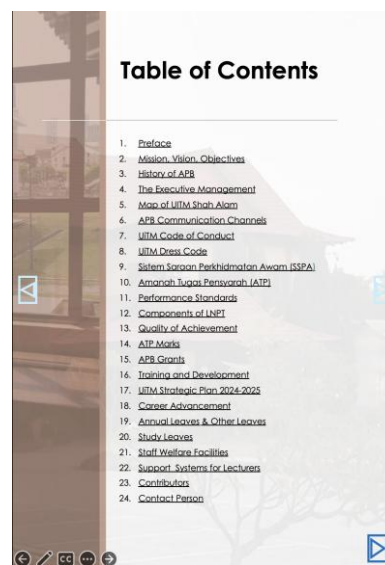


Table of Contents	
1.	Preface
2.	Mission, Vision, Objectives
3.	History of ABR
4.	The Executive Management
5.	Map of UTM Shah Alam
6.	APB Communication Channels
7.	UTM Code of Conduct
8.	UTM Dress Code
9.	Sistem Saraan Perkhidmatan Awam (SSPA)
10.	Amanah Tugas Pensyarah (ATP)
11.	Performance Standards
12.	Components of INET
13.	Quality of Achievement
14.	ATP Marks
15.	APB Grants
16.	Training and Development
17.	UTM Strategic Plan 2024-2025
18.	Career Advancement
19.	Annual Leaves & Other Leaves
20.	Study Leaves
21.	Staff Welfare Facilities
22.	Support Systems for Lecturers
23.	Contributors
24.	Contact Person

## b) Smartstart Solutions Mobile Application Features

The Smartstart Solutions Mobile Application content was updated according to what were delineated in the e-book which involve several key areas - *Sistem Saraan Perkhidmatan Awam (SSPA)*, Key Performance Indicators (KPIs), staff's benefits, rules and regulations about the work system of the academic centre. The concept of content structure is mostly maintained, utilising a hyperlinked table of contents which enhances the usability of the mobile app.

The mobile application consists of five main pages, structured according to the different needs of newly onboarded staff. In addition, the mobile application offered a personalised user profile to support adaptive interventions and facilitate future iterations of the platform. This feature is strategically added to assist researchers in

integrating an Artificial Intelligence (AI) conversational agent (chatbot) for constant and prompt interaction between users and developers. To safeguard the novelty and long-term viability of this innovation, the application has been officially registered under an Intellectual Property (IP) number, ensuring its legal originality and supporting the continuity of its developmental roadmap. A follow-up survey was administered to evaluate the functionality and usability of the mobile application. Figure 2 below represent the sample interface of the application:

Figure 2: Hyperlinks for Academic and Career Performance



### 3.3. Participants

Participants were recruited using purposive sampling, where the inclusion criteria focused on surveying new academic hires with fewer than five years of service in the academy, while respondents with more than five years of tenure were excluded from data collection. The sample size was n=25.

The research participants were chosen as they represent the intended users of the innovations. Aligning with the preliminary objectives of developing Smartstart Solutions for early onboarded staff, the participants are the most appropriate respondents to evaluate and provide relevant feedback on the usability, accessibility and perceived effectiveness. This sampling selection is supported by Bauer et al. (2007) and Perrot et al. (2014) which asserted that new onboarded staff require support in terms of access to information, to help better understand their roles and responsibilities and adjust to the organisation.

### 3.4. Research Instruments

The survey instrument was developed based on the Technology-Acceptance Model (TAM) (1989) and the survey included six sections consisting of a) demographic information, b) general feedbacks, c) content relevance, c) usability and design, d)

learning and understanding, e) engagement and interaction, f) suggestions and improvements. The survey instrument consisted of items that measured key usability constructs (e.g., ease of use, interface satisfaction) and perceived application effectiveness in supporting users' intended tasks. These instruments have been validated by the expert in the field.

Prior to data collection, ethical approval was obtained from the institutional review board, and all participants provided informed consent digitally at the beginning of the questionnaire. Participants completed the same survey anonymously and were instructed to answer based on their most recent experiences using the e-book and mobile application versions of SmartStart Solutions.

The study emphasised qualitative feedback obtained through the open-ended responses to gain insights into their usability perceptions, informational needs, and recommendations. This aligns with Sithole (2025), who focuses on detailed findings in qualitative research. The qualitative component of the survey is made up of 9 questions which invite clarifications, comments and suggestions on the design, embedded resources and insights on how this application supports new hires' onboarding processes and their preliminary experiences with both applications.

### **3.5 Data Collection Procedure**

The data collection procedure was done in several stages. Firstly, the participants were given access to both materials - the Smartstart Solutions e-book and the mobile application. The participants were given sufficient time to access, test and use the e-book and the mobile application. This experience-based approach is authentic in testing usability (Mogavi et al., 2024). The evaluations include evaluating their features, content, and overall usability based on actual user experience.

The data collection proceeds with online survey links distributions to the participants: one for the e-book and another for the mobile application. Google Forms was used to collect responses and the participation was voluntary and anonymous. The identities of the respondents were kept confidential throughout the data collection process. To add, both surveys were administered separately to allow impartial evaluation of each digital material.

### **3.6. Data Analysis**

The qualitative data serves as the source of analysis in this study. Responses to the open-ended questions were analysed thematically to identify recurring patterns, suggestions, and perceived areas for improvement. Repeated reading and coding were conducted followed by categorisation into broader themes regarding usability, informational effectiveness, user experience and onboarding support. This thematic approach in qualitative usability within digital domains is highly recognised as mentioned in Braun and Clarke (2021).

## **4. Findings**

The findings below present findings according to four themes which are centralised orientation, functional usability, effectiveness in organisational information delivery and preliminary Experience and future expectations.

#### 4.1. Smartstart Solutions as a Centralised Orientation Resource

The findings reveal the primary theme of Smartstart Solutions, as a centralised orientation resource. Respondents of the e-book repeatedly described the platform as functional and practical as they gathered pertinent information in one place. Respondents mentioned *“All in one information”, “Functional”* and *“more or less a starting kit for all new employees to understand the system and how to navigate oneself with all the different platforms being used in UiTM.”* Similar views were shared for Smartstart mobile application, which was described as *“a one-stop centre for details regarding the faculty and UiTM,” “all the information needed,” “compactness of information,”* and *“a lot of useful information at one place.”* These responses highlighted that both innovations serve as references that reduce information fragmentation during onboarding processes. This directly supports Frögéli et al. (2023) which mentioned that the formal orientation process should assist newcomers to better understand their roles through systematic information access.

Respondents of this study further supported this theme by associating Smartstart innovations as aid that integrate complex information. The response from the mobile application user noted that it consolidated information on *“ATP and rules which is not commonly available anywhere else,”* which was further supported by a user of the e-book who highlighted that it contained, *“key links to help navigate the work.”* In sum, Smartstart Solutions assist in information retrieval, both basics and complex ones. As asserted by Huang (2023), newly onboarded staff will actively seek information and organisational details for better assimilation of the workplace norms.

#### 4.2. Functional Usability: Navigation, Accessibility and Ease of Use

In relation to the first research objective, the findings reveal that both innovations are easy to navigate and understand. The e-book was described as *“user-friendly”, “very informative”, “clear-cut”* and useful because *“the hyperlink is a really good feature”*. Positive perceptions were also noted by the respondents of the mobile app who highlighted characteristics including *“user-friendly interface”, “simplicity”, “concise information”* and *“hyperlink to a variety of portals.”* These responses mirror the perceived usability criteria which involve ease of use and navigation, learnable interface and structure, alongside access to information (Huang & Benyoucef, 2023).

On the other hand, the responses presented several usability limitations. The respondents of the mobile application reviewed that *“the font is quite small to read,”* and that the *“Color scheme”* should be improved. For the e-book, respondents suggested *“More visuals”* and improvement in terms of color selection of the interface. This reflects that readability is an important component for both e-book and mobile applications to enhance user experience.

#### 4.3. Effectiveness in Delivering Essential Organisational Information

To address the second research objective, the findings reveal that Smartstart Solutions was effective in relaying pertinent information especially on KPIs, MyATP, leave procedures and staff benefits. For the e-book, the respondents primarily highlighted *“The content”* as its strongest aspect for the innovation.

In terms of the mobile application, respondents acknowledged the conciseness of role-related information, other than just addressing its presence. The respondents mentioned *"compact and useful introduction to the faculty,"* while another noted, *"I now know more on SSPA as well as what is expected of me as a lecturer."* Another description highlighted its usefulness by indicating that it provides *"everything that is required for new hires."* This grounds significant finding that echoes what was indicated by Huang (2023) who unfold that relevant information will greatly help with the onboarding processes.

However, several responses highlighted components that need better procedural guidance, which include *"sample of formal letters and forms," "list of abbreviations"* and *"marks and students papers."* This showcases the need to provide technical, step-by-step guidance to better equip newly onboarded staff on important procedural requirements. This is consistent with what was asserted by Grabmair and Kovacs (2023) on the need for task-related clarity to support early adjustment.

#### **4.4. Users' Preliminary Experience and Future Expectations**

For the third research objective, respondents of the Smartstart Solutions e-book and mobile applications perceived them as structured and a promising onboarding aid, but require further enhancements. All respondents indicated that they would recommend the e-book to future hires while 22 mobile application users indicated the same. The e-book was primarily viewed as an organised reference due to its book-like interface, while the mobile application is more portable and interactive. These responses were mirrored in their assigned descriptions - the e-book as a *"starting kit"* and the mobile application as *"one-stop centre"* which allows for an *"on-the-go"* use.

It is important to note that respondents expect better interactive support for future enhancements of the mobile application. They mentioned *"a pop-up chat for direct communication," "an AI chatbot to answer FAQs,"* and *"a helpline/AI chatbot to ask for further info."* This reflects on the issues highlighted in Woo et al., (2023) which mentioned the need for newcomers to navigate uncertainties through other channels for information seeking. In this context, users prefer to have an interactive application that moves beyond the static information delivery mode.

### **5. Discussion**

The findings on Smartstart Solutions as digital onboarding resources highlighted their values on information centralisation which lead to a more organised entrance process. By characterising both innovations as an *"all-in-one information"* and a *"one-stop centre"*, users indicated that these platforms are able to reduce confusion and overstimulation in learning role-related information. This finding is relevant in the academic setting which requires comprehensive and complex tasks to be undertaken through multiple available systems. In line with Frögéli et al.'s (2023) view, equipped knowledge facilitates organisational socialisation among newcomers, which in turn help them develop a sense of belonging towards an organisation. Similarly, Grabmair and Kovacs (2023) highlighted the need for a more structured reference guide for better job satisfaction. In light of this, the e-book was characterised as structured and organised, while the mobile application served as an immediate and portable reference. Thus, both innovations are proven to complement newcomers for faster familiarity on the organisation's system.

The findings also reflect on the need to further upgrade the mobile application to support two-way interactions in navigating uncertainties and information seeking. As exemplified by Woo et al. (2023), new staff often experience the feeling of uncertainty regarding organisational norms and practice and workplace support, especially when proper mentoring is limited. This further justifies the need for the mobile application to provide AI chatbots and a helpline in the near future. Other components especially on the readability and visual hierarchy of both applications were suggested for improvements. This aligns with what was highlighted by Huang and Benyoucef (2023) on the need for clear and concise interface design to increase usability.

In short, Smartstart Solutions possess strong preliminary potential as digital orientation platforms for new onboarded staff. Both innovations offer several strengths - the e-book as a structured and comprehensive guide and the mobile application to be compact and portable. Future improvements should focus on three components which include visual aids, task-based procedural guidance and interactive support mechanisms.

## 6. Conclusion

This study has redefined the traditional onboarding processes by evaluating the potential adoption of digital-based orientation systems through Smartstart Solutions' e-book and a mobile application. Three key elements were dissected – functional usability, informational effectiveness and overall adoptability – which reveal positive reception among the users, which reflect the successful integration of technology and an employee-centric ecosystem. These innovations are also able to bridge the gap of complex and intense onboarding processes by offering superior accessibility and personalised navigation to facilitate consistency in knowledge transfer and ensure successful adjustment within the organisation.

Beyond the digital effectiveness, Smartstart Solutions also acts as a psychological anchor that could mitigate anxiety commonly associated with new onboarded staff through early organisational alignment. This is evidenced through the clear user preference of prompt, mobile-mediated consumption of corporate knowledge. In sum, this study not only presents the possible shift from a traditional onboarding system to a digitalised platform, but can enhance the sense of belonging and cultural assimilation among the existing and the new staff. Future research may observe the long-term impacts of the adoption of these platforms with their transformative implications towards the organisation as a whole.

## Ethics Approval and Consent to Participate

The researchers used the research ethics provided by the Research Ethics Committee of Universiti Teknologi MARA (REC UiTM). All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional research committee. Informed consent was obtained from all participants according to the university policy.

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### Conflict of interest

The authors reported no conflicts of interest for this work and declared that there is no potential conflict of interest with respect to the research, authorship, or publication of this article.

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