

The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective

Husna Zainal-Abidin ^{a,b}, Caroline Scarles ^b, Christine Lundberg ^c

^a Center for Tourism Research, Wakayama University, Sakaedani 930, Wakayama, 640-8510, Japan

^b School of Hospitality and Tourism Management, University of Surrey, Guildford, GU2 7XH, Surrey, United Kingdom

^c The Norwegian School of Hotel Management, University of Stavanger, Kjell Arholms Gate 41, 4021 Stavanger, Norway

ABSTRACT:

While the tourism sector shifts towards digital transformation, Destination Management Organisations (DMOs) often struggle to adapt to their changing technological environment. This study explores the antecedents of digital collaboration and develops a framework for micro-DMOs to enhance effective destination management through digital technologies. An integrated sequential qualitative approach was adopted by conducting multi-phase interviews, in addition to designing and trialling a real-world trial digital platform. The research provides empirical evidence that digital collaboration is essential for micro-DMOs, necessitating them to transform their current “websites” into digital platforms which act as a hub for business stakeholders to actively be involved in. Antecedents of successful digital collaboration include mutuality, trust, control, and leadership which may be manifested differently from non-digital collaboration. Additionally, the study identifies three aspects for digital collaboration; marketing, networking and knowledge sharing that demands specific attention. Our results have theoretical, methodological, and practical implications for academia, industry and policymakers.

Keywords: DMO, digital platform, digital collaboration, eTourism, destination management system (DMS), design thinking

Abbreviations: DMO, Destination Management Organisation; SME, small medium enterprise; B2B, business-to-business; B2C, business-to-consumers; B2B&C, business-to-business and consumers

1 Introduction

While technology has been advancing significantly and becoming increasingly widely adopted amongst visitors over the decades, the application of digital technologies by Destination Management Organisations (DMOs) to fulfil their management role has been generally limited (de Bois, 2021; Estêvão et al., 2020). Without adapting to the technological environment, DMOs may outlive their purpose of developing and managing their destination effectively (Fyall &

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

Garrod, 2019; Gretzel, 2022; Sigala, 2014). An integral aspect for successful destination management is effective collaboration between tourism stakeholders (Estêvão et al., 2020). In fact, a recent independent report commissioned by the UK Government surveying over 280 tourism stakeholders, demonstrated the need for “*increased investment in digital technologies as a way of collaborating and working more effectively*” (Llewellyn, 2021, p. 5). Benefits of using digital technologies include enabling stakeholders to match, connect and communicate with each other with minimal friction while making it possible to collect, store and share large amounts of information seamlessly (Gawer, 2021; Gretzel, 2022; Wang & Zhao, 2019). Although there is academic consensus on the importance of technology in enhancing collaboration in tourism, the process of how DMOs can adapt and use technology for collaboration has been relatively unexplored (Estêvão et al., 2020).

When exploring digital technologies and DMOs, recent studies have predominantly focused on other aspects of smart tourism such as its conceptualisation (Li et al., 2017), governance (Gretzel, 2022), DMO roles (Sorokina et al., 2022) and visitors’ technology readiness (Shin et al., 2021) within the planning and development of smart tourism. Although collaboration between stakeholders is considered to be the foundation for successful smart destinations (Sorokina et al., 2022), research on tourism collaboration has mainly emphasised the more traditional, non-digital forms of collaboration; primarily to understand its complexities, benefits and challenges (Bramwell & Lane, 2000; Falk, 2017; Qiu et al., 2022; Wondirad et al., 2020). Thus, despite the growing breadth and depth of studies on non-digital collaboration, academic literature concerning digital collaboration in tourism remains almost entirely unmapped (Qiu et al., 2022; Zainal-Abidin et al., 2019). As such, a more holistic understanding of technology integration towards digital collaboration for destination management is needed to ensure destination competitiveness is realised (Fyall & Garrod, 2019; Sorokina et al., 2022).

Compounding the challenge in establishing digital collaboration for destination competitiveness is the fact that different DMOs tend to vary in their characteristics such as roles, governance and size. While the impact of DMO roles (Abou-Shouk, 2018; Gretzel, 2022) and governance (Estêvão et al., 2020; Sorokina et al., 2022) have been extensively researched over the past few decades, the influence of organisational size and decision making appear to be neglected in the literature. The European Commission (2020) categorises small and medium-sized enterprises (SMEs) as medium-sized (<250 staff), small (<50 staff) and micro (<10 staff). Most research

concerning SMEs in tourism have primarily focused from a non-DMO, tourism business perspective, while a small-medium-sized DMO perspective is fairly limited (Zach, 2016). A better understanding on micro-DMOs and digital technologies is crucial due to two main reasons: First, micro organisations are found to behave differently compared to larger organisations (Estêvão et al., 2020; European Commission, 2020). This characteristic may influence their decision to adopt technological approaches to collaboration. Second, the majority (79%) of DMOs in the UK are considered as micro-DMOs (i.e. employing less than 10 staff) while only 10% of DMOs employ more than 20 staff members (de Bois, 2021). As such, necessitates greater research on micro-DMOs in relation to its readiness and capability for supporting digital collaboration between stakeholders.

Therefore, the aim of this study was to explore the antecedents of digital collaboration and develop a framework for micro-DMOs to enhance effective destination management through digital platforms. Ultimately, repositioning micro-DMOs to be more relevant in the digital world. To fill the gaps aforementioned and achieve the research aim, this research has three objectives: first, to explore the motivations for tourism business stakeholders to collaborate on a DMO's digital platform; second, to explore the antecedents of digital collaboration; and third, to develop a framework for an enhanced digital platform for DMOs that can facilitate digital collaboration.

This paper responds to the research gap as highlighted by Estêvão et al. (2020), Llewellyn (2021) and Zach (2016). From a theoretical standpoint, this research is unique, as it integrates the current understanding of inter-organisational collaboration and digital platforms from the tourism, business management, and information systems literature (Estêvão et al., 2020; Hein et al., 2020; Muzellec et al., 2015; Qiu et al., 2022; Thomson et al., 2009). By doing so, it contributes to the extant literature on digital stakeholder management and digital collaboration in tourism (Fyall & Garrod, 2019; Gretzel, 2022; Qiu et al., 2022; Zainal-Abidin et al., 2019). Furthermore, by using the case study of Visit Surrey, the regional DMO of Surrey, the research contributes to current understanding on micro-DMO structures and digitally facilitated roles (Fyall et al., 2012; Zach, 2016). Methodologically, the research goes beyond traditional qualitative methods and adopts an action research design approach (Asadullah et al., 2018). A trial digital platform was developed to better understand the antecedents of digital collaboration and serve as a guideline for Visit Surrey, our case study DMO, to transform their website if they wish to do so in the future. Few studies in the wider research of digital platforms, let alone in tourism, have taken such an approach

(Asadullah et al., 2018). Furthermore, the paper offers practical implications by providing deeper understandings and guiding principles that DMOs, particularly smaller, micro-DMOs can adopt to transform their current websites into effective digital platforms for digital collaboration and remain relevant in the digital age of a post-COVID-19 world (Estêvão et al., 2020; Gretzel, 2022; Llewellyn, 2021; Zach, 2016).

2 Literature review

2.1 Destination Management Organisations (DMOs) and digital channels

Traditionally, DMOs have been considered solely as a marketing organisation which seeks to promote their destination in order to reap economic benefits (Llewellyn, 2021). Nonetheless, a DMO's marketing effort often transpires into the management of destination stakeholders and resources (Fyall & Garrod, 2019). This paper accepts the DMO as a Destination Management Organisation due to its multifaceted roles beyond marketing. For instance, Qiu et. al (2022) and Wondirad (2020) emphasises the importance of DMOs as facilitators of collaboration for destination development while Hristov and Zehrer (2015) highlight their leadership role in establishing governance structures. Furthermore, Gretzel (2022) calls for a shift in the destination management paradigm by conceptualizing a smart tourism ecosystem, a system in which technology is integrated into the management role of DMOs. Within this system, the DMO is firmly placed at the centre of destination development and with core fundamental roles such as a mobilizer, match-maker, manager, and steward (Gretzel, 2022). While the integration of technology and destination management has been widely promulgated within academic literature (Gretzel, 2022; Li et al., 2017; Sorokina et al., 2022), studies have been primarily conceptual in nature and lack empirical research findings that demonstrate how the process of digital transformation can be applied by real-world DMOs.

Furthermore, the integration of digital channels in tourism is fairly restricted to the demand side, i.e., a one-way communication between the DMO and visitors (Estêvão et al., 2014). Current literature predominantly highlights the use of DMO websites and social media as digital marketing and communication channels. For instance, Molinillo et al. (2018) demonstrates the importance of destination image derived from DMOs' various digital channels on visitors' intention to visit, and provides a basis for comparison between the main social media channels engagement levels (i.e., Instagram, Facebook, Youtube and Twitter). In addition to destination image, the quality of destination website design (i.e., information quality, service quality and Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

system quality) is also reported to increase tourist satisfaction and intention to visit (Song & Wen, 2021). Estêvão et al. (2020) suggests the transformation of DMO websites into a "one-stop shop" platform for visitors to plan, book and purchase their holiday (e.g. dynamic packaging). This is because DMO website analytics is a powerful tool which can empower DMOs to enhance the tourist pre-planning process and gain additional data to evaluate tourists' experience (Önder & Berbekova, 2021). Despite this, only a handful of DMOs have incorporated the "one-stop shop" platform (e.g., Lake Constance DMO and Fjord Norway DMO) (Estêvão et al., 2014; Perelygina et al., 2022). Therefore, traditional DMO websites need to be re-evaluated and reconstructed into a more integrative digital platform (Perelygina et al., 2022). As suggested by Estêvão et al. (2014), the distinction between an enhanced DMO digital platform and a tradition DMO website is in its transactional and tourism business support dimension.

On the supply side of destination management (i.e., between DMO and tourism business stakeholders), research remains limited to conceptual propositions for collaborative digital marketing and frameworks for smart tourism (Abou-Shouk, 2018; Gretzel, 2022; Sorokina et al., 2022). For example, Sorokina et al. (2022) presents four pillars for a smart destination (i.e., technology, e-governance, liveability and sustainability). Despite the common agreement on the technological benefits of digital channels towards effective destination management, DMOs have yet to effectively use their digital data holistically (Önder & Berbekova, 2021; Uşaklı et al., 2017). Current research suggests that DMOs predominantly use digital channels merely for marketing purposes which are focused on the demand side, i.e., visitors (Molinillo et al., 2018; Önder & Berbekova, 2021; Song & Wen, 2021). The issues highlight the gap in understanding of how DMOs can better transform their one-way communication website into a comprehensive digital platform that can support effective destination management. In particular, the understanding of how the tourism supply side i.e., tourism business stakeholders can be better integrated on a DMO's digital platform (Estêvão et al., 2020).

Additionally, DMOs are diverse in their organisational characteristics which may lead them to formulate different strategies in developing their destination's growth (i.e., influencing the different digital channels they adopt). Factors such as environmental context (Fyall & Garrod, 2019; Qiu et al., 2022), destination governance (Gajdošíková et al., 2016; Sorokina et al., 2022), business model (Estêvão et al., 2020; Perelygina et al., 2022), and destination eReadiness (Estêvão et al., 2014) may influence a DMO's decision to adopt and integrate technology for

collaboration. Past research have explored the impact of the DMO's network size and collaboration (Hristov & Zehrer, 2015; Zach & Racherla, 2011) but rarely explored influence of DMO size based on employee number (Zach, 2016). The range of resources that a DMO has will influence the decisions taken by a DMO.

The majority of DMOs consists of small-medium sized organisations, particularly for the case of regional and local DMOs (de Bois, 2021; Gajdošíková et al., 2016). They tend to have greater financial and organisational limitations (de Bois, 2021; Zach, 2016). Limitations in their resources and staffing are further exacerbated during the COVID-19 pandemic, as DMOs suffer extended financial exhaustion and continued staff redundancy (Llewellyn, 2021). Despite the greater limitations of small regional DMOs, government funding tends to be disseminated to larger, national DMOs, which creates greater regional disparities (Gajdošíková et al., 2016; Jørgensen, 2017). Disparities in financial capabilities thus influence how smaller DMOs behave in comparison to larger DMOs when managing their destination and adopting digital technologies. A research by Jørgensen (2017) indicate how smaller DMOs, (due to facing greater financial difficulties) focus on collaboration to combine their various resources in creating new products which they later market together. Thus, demonstrating the importance of collaboration for smaller DMOs. According to Zach (2016), leadership plays a far greater role towards successful collaboration than a DMO's organisational structure. Strategic leadership within a DMO allows tourism stakeholders to better achieve their shared goals and choose to adopt technologically driven strategies (Volgger & Pechlaner, 2014). Particularly for smaller DMOs, they need to leverage maximum benefit from both their technological resources and human capital (i.e. through effective digital collaboration) in order to not only remain as a competitive place to visit but also to live and work in (Fyall & Garrod, 2019). As such, DMO transformation is necessary as there is increasing complexity in destination management (Beritelli & Laesser, 2019).

2.2 Inter-organisational collaboration in tourism

Inter-organisational collaboration is key for successful destination management. One of the greatest challenges for DMOs is that they do not have direct control over the products and services that they market and represent (Estêvão et al., 2014). Tourism products are produced by multiple stakeholders (i.e., accommodation, food and beverage, transport, and attractions) without a central control, with profits accrued to a large number of stakeholders throughout the destination, providing economic and social benefits (Peroff et al., 2017; UNWTO, 2007). Tourism

stakeholders are interdependent and form complex relationships which requires DMOs to have the skills and capabilities to support and facilitate collaboration in order to achieve shared destination prosperity (Bahar et al., 2022; Hristov & Zehrer, 2015). Organisations form ‘coopetitive’ relationships when they concurrently cooperate and compete with each other to enhance destination competitiveness (Bahar et al., 2022; Chim-Miki & Batista-Canino, 2017).

Past research has explored the topic of destination collaboration extensively. Covering aspects such as collaboration characteristics (Bramwell & Lane, 2000; Qiu et al., 2022; Saito & Ruhanen, 2017; Wong et al., 2011), processes (Farsari, 2018; Peroff et al., 2017; Saito & Ruhanen, 2017; Zach, 2016), failures (Brandão et al., 2019) and success (Falk, 2017; Foris et al., 2020; Wong et al., 2011). Two common motivations of collaboration emerge within the literature; to create value through collaborative product development (Estêvão et al., 2014; Falk, 2017; Zach & Racherla, 2011) and to enhance destination brand image through collaborative marketing (Abou-Shouk, 2018; Farsari, 2018; Mariani & Kylänen, 2014; Sorokina et al., 2022). Collaboration allows tourism business stakeholders to leverage on the skills and resources of each other and share complementary resources to create mutual value and gain a competitive advantage (Abou-Shouk, 2018; Goerzen, 2007; Weber et al., 2017; Wondirad et al., 2020). Additionally, by leveraging on each other’s capabilities, collaboration is also reported to reduce the risk of business failure during challenging times (Martinez et al., 2019).

Despite the extensive research on collaboration in tourism, current research predominantly focuses on non-digital collaboration, without specifying the use of technology in destination management (Qiu et al., 2022). For example, Fyall et al. (2012) identifies three general strategies of destination collaboration: “organic” (tourism stakeholders collaborating without a DMO-led strategy), “mediated intra-destination” (collaboration facilitated by a DMO within the destination), and “mediated intra- and inter-destination” (collaboration facilitated by a DMO between destinations) to be effective and maximize their ‘collaborative’ advantage. Brandão et al. (2019) further adds to the process of collaborative innovation, highlighting how geographical proximity improves collective trust, knowledge sharing and learning. Additionally, the role of DMO leadership is emphasised as key, for successful collaboration for innovation (Zach, 2016). While these studies are important in providing guiding strategies for effective collaboration, they overlook the role of DMOs in facilitating collaboration using technology. As previously mentioned, the majority of DMOs have merely developed websites with varying levels of

interactivity, and have not managed to effectively support meaningful collaborations digitally (Abou-Shouk, 2018; Estêvão et al., 2020). Nonetheless, integrating digital technology in collaboration may add further elements influencing the success of collaboration such as digital tensions (Bahar et al., 2022), data privacy (Gretzel, 2022; Sorokina et al., 2022), functionality (Estêvão et al., 2014; Wang & Zhao, 2019) and digital business model (Perelygina et al., 2022). Thus, the current understanding of collaboration provides limited insight into the antecedents of successful digital collaboration.

2.3 Guiding theories for digital collaboration

As previously mentioned, prior research in tourism has been largely focussed on non-digital collaboration of DMOs with some integration of technology for online collaborative marketing (Abou-Shouk, 2018; Fyall et al., 2012), with less attention on the process of digital collaboration itself for destination management (Llewellyn, 2021). Digital collaboration is important as it is considered as a strategic tool that could fundamentally change traditional business relationships (Wang & Zhao, 2019). Nonetheless, empirical work and explorations on the topic of digital collaboration, where available, has been largely outside the tourism context (Madlberger & Roztocki, 2010; Wang & Zhao, 2019).

2.4 A conceptual model of digital collaboration in tourism

Initial understanding on organisational collaboration in tourism predominantly emerged within the management literature (Bramwell & Lane, 2000; B. Gray, 1989; Wood & Gray, 1991). The present research is aimed at contributing to the body of knowledge regarding strategic digital collaboration within the tourism industry. To achieve this goal, the term digital collaboration in this study is defined as *“the process whereby a group of autonomous stakeholders work toward achieving a common objective, using shared rules, norms and structures, facilitated by digital technologies”* (adapted from Gray, 1989; Gretzel, 2022). We identify four dimensions of successful collaboration based on an interdisciplinary understanding of interorganisational collaboration (Crick & Crick, 2020; Falk, 2017; Fyall et al., 2012; Qiu et al., 2022; Thomson et al., 2009). As argued by Fyall et al., (2012), there is no standardised theory of collaboration in tourism and therefore, theories from various disciplines should be merged. The dimensions of digital collaboration are not mutually exclusive from non-digital collaboration and may overlap. There are however, additional layers to collaboration on digital platforms and such differences and similarities will be briefly discussed below.

Mutuality - Mutuality forms the basis of any collaboration, as organisations need to have mutually beneficial interdependencies of collaborating (Crick & Crick, 2020; Thomson et al., 2009). Organisations collaborate to achieve mutually agreed upon goals and benefits (Fyall et al., 2012; Sigala, 2014). Such goals are aimed to create competitive advantage through coopetition (Chim-Miki & Batista-Canino, 2017). Tradition non-digital collaboration may be imposed through a ‘top-down’ approach with formal “*institutionalised relationships*” (D’Angella & Go, 2009; Wong et al., 2011), while digital collaboration is seen to be more flexible with less structure (Wang & Zhao, 2019). Peroff et al.’s (2017) research identifies that mutual commitment is strongest at the pre-collaboration phase and significantly decreases over time; suggesting that mutuality may *fizzle* out after the “prime” years of collaboration, particularly for more institutionalised, formal non-digital collaboration (D’Angella & Go, 2009; Peroff et al., 2017).

Governance - In ensuring that all collaborating organisations derive benefits, Thomson et al. (2009) reported that successful collaboration is underpinned by a strong, clear governance that establishes the rules and regulations associated with the partnerships within the collaboration. These rules provide the expectations for responsibilities between collaborating partners (Volgger & Pechlaner, 2014). As such, governance and mutuality exist interdependently: agreed-upon rules ensure mutual benefits for collaborating organisations. That governance in inter-organisational collaboration is said to require a central position to administer, coordinate, organise, and disseminate information regarding collaboration, where collaboration is suggested to be more hierarchical and structured (Thomson et al., 2009). Nonetheless, as argued by Faraj et al. (2011) and Wu (2019), digital platforms are uniquely characterised as having less centralisation. Therefore, organisational structure within a digital context can be seen to be more fluid (Gawer, 2021). Research highlights the capacity of digital platforms to transform over time due to technological advancements (Madlberger & Roztock, 2010), indicating the dynamic and ever-changing nature of digital inter-organisational collaboration. Such dynamic capabilities of digital platforms, therefore, highlight the need to have a standard and reliable technological structure that facilitates collaboration (Asadullah et al., 2018). The technological aspect of digital collaboration therefore influences the administrative structure of digital collaboration, as it allows collaboration to be more adaptable due to less hierarchical structures (Wu, 2019).

Trust – Trust is a central requirement for successful collaboration irrespective of mode i.e. digital and non-digital collaboration (Czernek & Czakon, 2016; Qiu et al., 2022). For many,

organisations may need to develop relationships with trustworthy rivals for mutually-beneficial outcomes, such as to develop complementary products (Crick & Crick, 2020). Effective communication could promote mutual trust and confidence in the partnership (Zach, 2016), while lack of trust could undermine the willingness of organisations to collaborate. Thus, trust-building is a significant concern in online collaboration (Trang et al., 2015), as it involves more limited channels of interaction than is the case when people interact face-to-face. Kasper-Fuehrer and Ashkanasy (2001) proposed the theory of trust development, which postulated trust development strategies through communication in virtual contexts. Although their theory provided a good understanding of the required elements for trust in online contexts, the theory was not empirically validated and was developed outside the tourism context. As a consequence, there is a need for greater understanding of the concept of trust, and of how trust can be established and sustained on digital platforms in tourism.

Communication – Effective communication of organisational goals and expectations is important to engage other organisations in initiating a collaboration (Brown et al., 2014; Ma, 2008; Wang & Zhao, 2019). Prior research suggests that without effective communication, displeasing behaviours can transpire between partners and hinder successful collaboration. Nonetheless, communication can be distinctly different when conducted non-digitally versus digitally. While non-digital communication is synchronous, digital communication can occur synchronously or asynchronously (Spagnoletti et al., 2015), with an addition of a return communication i.e. a message that returns from a synchronous communication (Wang & Zhao, 2019). That is, in physical collaboration, communication is bounded by physical space and time, whereas digital collaboration allows communication to occur at any moment and place. Thus, virtual collaboration through virtual spaces provides greater communication flexibility between parties. Extensive use of technology allows organisations to share information more dynamically and quickly (Abou-Shouk, 2018), supporting effective communication leading to further collaboration agreements as organisations develop better mutual understanding (Ness, 2009). As a result, there is a need for digital collaboration platforms to provide synchronous and asynchronous communication to allow collaborating stakeholders to convey and converge their ideas (Wang & Zhao, 2019).

Some DMOs are already taking steps in engaging with digital technologies but mainly focus on creating more meaningful and sustainable connections between visitors and destinations (Li et al.,

2017), without considering the aspects of stakeholder management. However, meaningful connections with visitors can be fulfilled through a stronger collaborative approach with business stakeholders (McCabe et al., 2012; Muzellec et al., 2015). Therefore, to reiterate, there are differences in how collaboration can be conducted non-digitally and digitally. Nonetheless, research on this topic has often been neglected as illustrated in **Table 1**. Hence, a better understanding of the digital platform characteristics is necessary to understand digital collaboration within a tourism context.

2.5 The transformation from DMO websites into digital platforms

Traditional DMO websites tend to be a one-sided communication channel which differs from a digital platform that allows it to take into account the needs of multi-layered social network of different actors (i.e., business stakeholders and visitors) (Asadullah et al., 2018; de Bois, 2021; Estêvão et al., 2020). In general, current DMO websites serve to promote marketing information (Song & Wen, 2021). Thus, a DMO website is mainly beneficial for tourists to retrieve information while tourism businesses are excluded from gaining direct value from the website (Önder & Berbekova, 2021). Therefore, a DMO's website could serve better if transformed into a digital platform that acts as a hub which enables tourism organisations to interact with one another (Bahar et al., 2022). A digital platform provides value mechanisms to the DMO, tourism business stakeholders and visitors (Hein et al., 2020). In the present paper, we integrated Muzellec et al.'s (2015) B2B&C understanding on a two-sided digital platform which combines two distinct but interdependent user perspectives on digital platforms: business-to-business (B2B) and business-to-consumer (B2C). Business stakeholders contribute to the value proposition of the digital platform by providing further products and services through collaborative initiatives which would ultimately benefit the visitors (Hein et al., 2020). Additionally, business stakeholders are autonomously in control of their own decision-making and collaboration (Hein et al., 2020; Wood & Gray, 1991). Past research have widely investigated on the demand-side i.e., B2C requirements for DMOs (Önder & Berbekova, 2021; Song & Wen, 2021) and less emphasis have been made on the supply side i.e., B2B processes and experiences. Therefore, this paper will focus on business stakeholders and DMOs (B2B) to explore the antecedents of digital collaboration for tourism.

2.6 Study context

The context of the study was Visit Surrey, the regional DMO in Surrey, United Kingdom. Visit Surrey overlooks and markets the tourism attractions within 11 boroughs. After being closed due to political restructuring, in 2011, Visit Surrey was re-established by local tourism stakeholders themselves, proving the necessity and continued relevancy of a regional DMO. Consisting of only two employees during the time of data collection, Visit Surrey was amongst United Kingdom's 79% micro-DMOs (Llewellyn, 2021). With limited resources and capacity, Visit Surrey sought collaboration with local stakeholders and universities to improve its destination management, particularly through online means. Therefore, Visit Surrey was selected as a case study because it constitutes an ideal example for exploring how micro-DMOs can reposition themselves in the digital world. Additionally, the research partnered with FDK Design Consultants, a digital platform designer on a pro-bono basis to assist in the development of a DMO's trial digital platform for collaboration.

3 Research design, data collection and analysis

Data gathering methods were underpinned by a constructivist philosophical view and an interpretivist epistemology (Gray, 2013; Saunders et al., 2012). The interpretation of the researcher creates the reality. The research paradigm positions itself through the understanding that interpersonal relationships of stakeholders in digital collaboration are derived from the interactions between stakeholders and the meanings they create from these interactions (Neutzing et al., 2011; Stenbacka, 2001).

Prior research on inter-organisational collaboration commonly deployed a single methodological approach involving interviews and document analysis (Saito & Ruhanen, 2017; Wondirad et al., 2020). As digital collaboration is a new research area that requires an additional layer of understanding of the collaboration context (i.e., the use of technology) (Estêvão et al., 2020; Hein et al., 2020), in the present research, we adopted methods beyond traditional interviews and, instead, adopted action design research by conducting an exploratory qualitative study (Stenbacka, 2001; Veal, 2011) and developed a real-world digital collaboration platform for participants to test and discuss their experiences when collaborating digitally. A user-centred, design thinking approach was adopted to further consolidate understanding (Griffin et al., 2015; Leifer & Meinel, 2019; Tussyadiah, 2014). Design thinking is a research design that requires a “...systematic and collaborative approach for identifying and creatively solving problems...” (Griffin et al., 2015, p. 23). Such an approach helps facilitate better understanding

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

of the needs of organisations collaborating online by applying the following four steps: identifying the problem, elicitation of new user insights, developing a test product and, later, evaluating the product (Griffin et al., 2015; Leifer & Meinel, 2019). Employing a basic design thinking framework, a three-phase research design for data collection process was planned (Figure 1), allowing rigorous and thorough data collection and analysis to enable the development of the theoretical framework (Tussyadiah, 2014). Furthermore, the method aligns with McCabe et al.'s (2012) scenario-based design approach in examining stakeholder involvement and overcoming knowledge barriers associated with digital technology.

Phase 1 was aimed at exploring the existing understanding of digital collaboration and the evaluation of DMO roles on a digital platform as perceived by business stakeholders. Twenty-seven interviews with business stakeholders were conducted using purposely sampled participants (Appendix A). In order to provide a representative sample of tourism business stakeholders in Surrey, interview participants were selected based on the following criteria: 1) experienced in their role as a decision-maker, 2) aware of issues concerning inter-organisational collaboration, and 3) having an understanding of digital platforms and being willing to discuss these issues in depth. Interviews ran for six months. Following the interviews, user personas were developed based on the interviewees' characteristics, motivations and behaviours (Appendix C). The user personas were later presented and consolidated with Visit Surrey DMO. As such, user personas developed from the interviews in Phase 1 helped informed the platform designers to develop the digital platform in Phase 2.

Phase 2 was aimed to develop a trial digital platform based on the interviews and user personas from Phase 1. Visit Surrey provided user insights while FdK Design Consultants assisted in developing the trial digital platform over a span of two months. The purpose of developing the trial digital platform was to give a visual representation that participants could engage with in Phase 3 and reveal the nature of human-computer interaction when business users engage in digital collaboration. With the additional data generated, the digital collaboration framework could be validated through data triangulation (Griffin et al., 2015), and thus the trustworthiness of the overall findings could be evaluated (Lincoln & Guba, 1995). FdK Design Consultants developed the trial DMO digital platform by designing various webpages to serve different functionalities. These functionalities were primarily to fulfil the three main motivations for tourism stakeholders to collaborate digitally as identified in Phase 1 (i.e. marketing, knowledge

sharing, networking). Further discussion on the nuances of these motivations will be presented in the results section. A few examples of the webpages were the tourism business landing page (the login page leading to the tourism business-only side of the digital platform), dashboard (to gain insights on current tourist trends), and community forum (to seek and gain knowledge between business stakeholders). The interface of these webpages can be seen in Appendix D. Nonetheless, it is important to note that the focus of this research was to understand the perceptions and thoughts of business stakeholders towards digital collaboration, rather than to examine the user experience on how a stakeholder would use an existing digital platform for collaboration. As such, the development of a trial digital platform was primarily to enlighten business stakeholders on the possibilities that an enhanced DMO digital platform could function as a space for developing partnerships for marketing purposes, gaining knowledge to new tourism trends and information, in addition to gaining access to new businesses in town who they could possibly engage and collaborate with. Therefore, there was one standard design of the digital platform that participants later trialled in Phase 3.

Phase 3 was designed to consolidate the initial data collected in Phase 1. Visual elicitation was conducted by having participants trial the digital platform and describe their experiences through feedback interviews. Thirteen business stakeholders were purposely sampled (Appendix A) with criteria similar to those for Phase 1. Phase 3 ran for four months. Having multiple sources of evidence obtained through the three-phase design allowed for data triangulation and consolidation of findings (Figure 1).

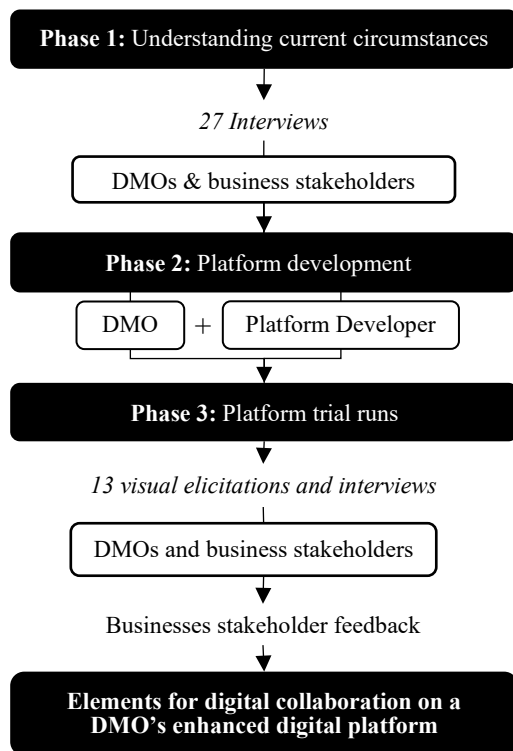


Figure 1: Research Design

3.1 Data analysis

Qualitative data collection and analysis used were in line with Braun and Clarke's (2006) research criteria. Interviews were qualitatively analysed and interpreted through thematic analysis in accordance with Braun and Clarke (2006) and Saunders et al. (2012). The process involved familiarisation, generation of initial codes, the search for themes, revision of themes, and refinement of themes (Attride-Stirling, 2001; Braun & Clarke, 2006). Interviews were transcribed verbatim and analysed using QSR NVivo to identify common themes that emerged. In the first cycle of coding, similar terms and phrases were grouped together and then regrouped to incorporate all the identified concepts into categories of similar themes (Attride-Stirling, 2001). The data analysis was based on a continuous process of comparing data and theory to construct emergent groups of themes from the interview transcripts (Braun & Clarke, 2006; Stenbacka, 2001). The coding cycle was repeated to review the initially identified themes. Interviews continued until data saturation was achieved (Newman & Larkin, 2004) i.e., when no new themes emerged in the thematic analysis (Saunders et al., 2012). This research reached data saturation with twenty-seven interviews in Phase 1 and thirteen interviews in Phase 3. Lastly, the themes

were refined by evaluating the linkages between them, and propositions were generated concerning the understanding of digital collaboration. The research analysis was iterative and reflexive in nature. The process of thematic analysis enables researchers to reaffirm propositions while exploring new relationships within the data (Braun & Clarke, 2006).

To assess the trustworthiness of our methods and findings, Lincoln and Guba's (1995) evaluation criteria were used. These criteria are credibility, dependability, and confirmability (Lincoln & Guba, 1995). Three researchers worked on the project throughout the twelve months to ensure findings were accurately represented (credibility). Findings were rendered consistent by ensuring participants described their past and current experiences in great detail (dependability). Findings were based on participants' explanations rather than researcher biases. Data were obtained from a substantial number of participants, and follow up questions were asked to attain clarity, and field notes were written based on participants' explanations (confirmability). Additionally, the sequential qualitative approach strengthened the trustworthiness of the data through data triangulation (Braun & Clarke, 2006; Lincoln & Guba, 1995).

4 Results and discussion: Towards a framework for digital collaboration

4.1 Key motivations to collaborate on a DMO's digital platform

When trying to understand collaboration on a DMO's digital platform, it is important to first understand the motivations for collaborating digitally. In other words, it is important to understand what role(s) DMOs are expected to fulfil on a digital platform. Therefore, the interviews began with questions exploring the expectations of digital collaboration by stakeholders. Three key expectations were identified: *marketing*, *knowledge sharing* and *networking*. While the motivations to collaborate are similar to past research on non-digital collaboration, several distinct characteristics of stakeholder collaboration emerge on digital platforms.

Stakeholders unanimously agreed that digital collaboration on a DMO's digital platform is expected to fulfil a marketing purpose, consistent with previous research (Abou-Shouk, 2018; Mariani & Kylänen, 2014). Interestingly, contrary to past research, our findings indicate that stakeholders expect to collaborate on product development and marketing directly on a DMO's digital platform itself rather than establishing collaboration non-digitally. No study has yet to validate such findings through empirical data. This is because past research studying on DMO digital channels has predominantly focused on the visitor side with the exclusion of business

stakeholders (Choi et al., 2007; Song & Wen, 2021). Where business stakeholders were considered, studies were theoretical propositions in nature without empirical validation (Fyall & Garrod, 2019; Gretzel, 2022). In addition, current DMO websites merely illustrate tourism stakeholders (i.e., attractions) individually on the website with minimal linkages between the attractions (Luna-Nevarez & Hyman, 2012). Our study illustrates how digital collaboration could help link tourism attractions cohesively through product development and pricing which could ultimately enhance visitor's online planning (Önder & Berbekova, 2021). Additionally, our findings prove that tourism business stakeholders feel the need to be actively involved on a DMO's digital platform to better serve the visitors. The following quotes are a few examples supporting these findings:

“other than making you [business] visible to people that haven't yet seen you, which is the marketing role, they [DMOs] could look at joining things up in the area. I think it all comes down to marketing really in one way or another.”
(Phase1_25)

“according to this, we can decide who will do different events... I think it's really interesting because you can create promotions...based on obviously the timing, the time of year and the length of stay” (Phase3_09)

Additionally, the majority of stakeholders highlighted knowledge exchange as another key motivation for collaborating on a DMO's digital platform. Two types of information exchanges are identified: visitor-related and tourism business-related information. First, businesses seek to gain tourist insights from the DMO's digital platform. As identified from the sequential interviews, *“I would love to have [tourist] data trends”* (Phase1_13) and *“to know who our customers are, what are their interests, why they're coming, how many people, how often, and so on. I think this is really useful for the business side”* (Phase3_09). As highlighted by Fesenmaier and Xiang (2017), data derived from web analytics is crucial in providing deeper understanding on the constantly changing tourist behaviours and preferences. Despite that, our findings suggest that business stakeholders, particularly within micro-DMO settings have yet to have the opportunity to exploit the full potential of web analytics information (Önder & Berbekova, 2021). This is most likely due to micro-DMO's having websites that are unable to share such insights (Song & Wen, 2021).

Second, our findings demonstrate that the majority of businesses seek to collaborate digitally to exchange knowledge between each other: *“If other places have insights that maybe you don't have...It's an opportunity in sharing best practice.”* (Phase1_13) and triangulated in Phase 3 with, *“the idea is good, that you're encouraging people to share best practice and get involved in where businesses in the community have got needs or wants”* (Phase3_13). Consistent with coopetition theory, businesses that may be in competition with each other collaborate to gain a competitive advantage (Bahar et al., 2022; Chim-Miki & Batista-Canino, 2017). The high willingness to collaborate and share knowledge here suggests that collaboration on a DMO's digital platform occurs more freely with less fixed governance, rules, and structures from a central party (i.e., DMO). As such, differs from the findings of Thomson et al. (2009) and Ma (2008), who argue that collaboration is more hierarchical and administrative, with a central position overseeing the collaboration. Furthermore businesses collaborating can diversify their knowledge and support in new product development through innovation (Brandão et al., 2019). The findings of both types of knowledge exchange further validates the need for DMOs to transform their websites into B2B2C digital platforms that incorporate the tourism business users into a platform, and not just visitor users (Choi et al., 2007; Muzellec et al., 2015; Önder & Berbekova, 2021).

Finally, businesses are motivated to collaborate digitally on a DMO's digital platform to gain networks that they otherwise would not have. As participants highlight, *“...they [DMOs] have networks, and they can reach out to their networks that we can possibly hope to engage with”* (Phase1_19) and *“through the network itself. Potential collaboration with other businesses to make new ideas or making contacts are very important.”* (Phase3_09). Most tourism businesses interviewed were SMEs and have limited human and financial resources. Therefore, enhancing networks is crucial as highly diversified network can help in knowledge diffusion, create wider access to resources and increases destination competitiveness (Brandão et al., 2019).

Overall, the research provides empirical evidence for the need to transform DMO websites into digital platforms which integrates business stakeholders as suggested by Llewellyn (2021) i.e., stakeholders expect to be more actively involved in digital destination management. Additionally, environmental and organisational characteristics of a micro-DMO and its business stakeholders influences digital collaboration. Similar to Visit Surrey, most micro-DMOs are positioned in the ‘autonomous’ or ‘cooperation’ stage of destination configuration whereby destination stakeholders are relatively fragmented with organisations owning limited information systems

(Estêvão et al., 2014). As such, the findings support that SMEs under micro-DMOs can be seen to have a high propensity to collaborate as suggested by Czernek and Czakon, (2016) to leverage on each other's skills and resources (Fyall & Garrod, 2019). Noteworthy, the fact that Visit Surrey was re-established from the initiative of stakeholder collaboration further suggests that micro-DMOs are accustomed to building collaborative relationships. This fact supports the conclusion that small DMOs are more optimistic in exploring new approaches such as digital collaboration in managing destinations.

4.2 The antecedents for successful digital collaboration

Based on the previous discussion, the data demonstrates a clear desire for organisations to collaborate digitally. Nonetheless, current literature offers limited insights regarding the antecedents for successful digital collaboration (Czernek-Marszałek, 2018). The following sections will dissect the four key dimensions that emerged from the sequential interviews: mutuality, leadership, trust, and control. Although these dimensions are present in non-digital collaboration, they manifest slightly differently in the context of digital collaboration.

4.3 Mutuality and the need for collaborative leadership

The strongest antecedent for digital collaboration is mutuality, as mentioned by the majority of interviewees. Digital collaboration involves the *“coalition of the willing”* (Phase1_08) by *“working together to achieve mutually beneficial goals”* (Phase1_17). As such, while past research indicates that collaboration requires formal institutionalised collaboration to be established (i.e. ‘top-down’ approach) (D’Angella & Go, 2009), the current findings suggest that mutuality within micro-organisation digital collaboration needs to come from a ‘bottom-up’ approach. As a participant mentions, *“you've got to build up from the ground up to demonstrate why it's beneficial”* (Phase1_10). Due to less structures in digital collaboration, collaborative initiatives need to come from the organisations themselves.

Mutuality is further emphasised in Phase 3 findings with participants indicating how mutuality through collective benefit is a prime factor in collaborating digitally. Further emphasising that the opportunity in accessing large data and networks is one of the key advantages of using a digital platform for collaboration (Bahar et al., 2022; Czernek-Marszałek, 2018). This advantage provides mutual benefit through collaborative product development and marketing which would ultimately lead to community building. *“I like the idea actually of the collaboration... Through the network itself. So potential collaboration with other businesses to make new ideas or making*

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

contacts are very important” (Phase3_09) and *“if other people are talking about things or somebody else puts up an idea and I think, wow, I can get involved in that...you’ve got to be part of this community to make it work. There’s no point in being a passive bystander”* (Phase3_11). The findings provide a deeper understanding on collaboration (Qiu et al., 2022) by indicating that most organisations interviewed were more willing to initiate collaboration with others rather than passively waiting to be invited for collaboration. The size of an organisation may allow more autonomous leadership and decision-making as suggested by Zach_(2016). Therefore, suggesting that there is a lower barrier to entry to be involved in digital collaboration amongst micro-DMOs.

Additionally, the findings demonstrate that initiatives for digital collaboration is driven by an effective destination leadership as previously suggested by Benson & Blackman (2011). Recently, Sorokina et al. (2022) also identified the fundamental role of smart leadership in technologically driven DMOs. Despite this, little is known about what such leadership entails. The theme leadership emerges within Phase 3, as organisations trial the digital platform and reflect on digital collaboration. Within the application of digital platforms, our findings identify the characteristics of micro-organisational smart leadership. An interviewee explains, *“you’ve got to get some people who are going to champion it, be kind of culture carriers...getting some of those people to champion their existing culture, their existing practices to other people to encourage them.”* (Phase3_13). Smart leadership should entail the idea of a *“culture champion,”* i.e., trustworthy leaders who understand the impact of a collaborative and innovative organisational culture and acts on it. The research findings demonstrate how leaders should *“bring together businesses and organizations in the local area to be a community”* (Phase3_07) and that a digital platform is seen as another mechanism to lead *“collaborative ideas and have people supporting each other”* (Phase3_13). Current literature identifies that DMOs serve as leadership networks concerned with collective orchestration of the destination (Hristov & Zehrer, 2015; Sorokina et al., 2022). The research demonstrates that successful digital collaboration requires not only a collaborative leader, but one who is capable of drawing other organizations to form collaborative communities. Additionally, a digital platform is found to facilitate organizational leaders to leverage on the network effects and form such communities (Bahar et al., 2022). Based on these findings, we contribute to further understanding on smart leadership by micro-DMOs and micro-organizations (Sorokina et al., 2022; Zach, 2016).

4.4 Trust in establishing digital collaboration.

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

The trust element is the most distinct aspect of digital collaboration compared to non-digital collaboration. While trust is generally considered a crucial element in non-digital collaboration (Czernek & Czakon, 2016), this research highlights the multilayer aspect of trust in digital collaboration. Rarely is interorganisational trust on digital platforms explored within the tourism literature (Falk, 2017; Wondirad et al., 2020). This research identified three different types of trust; trust towards the DMO, trust towards other organisations, and trust towards the technology i.e., digital platform.

The first type of trust is explained by a manager who regards the regional DMO as a trustworthy organisation to be associated with, *“because you’re all part of [DMO name], they should have a certain level of trustworthiness... it just makes that first hurdle a bit easier to get over if you want to approach somebody about something”* (Phase3_03). As previous research has shown, an increased level of trust is associated with organisational reputation (Canavari et al., 2010), which a DMO generally possesses.

Second, the findings also indicate that there is a need for trust in the business stakeholders that are collaborating. Trust in the DMO and between stakeholders can be linked to the understanding of shared responsibility within the collaboration and, ultimately, gaining mutual benefits (Farsari, 2018). The following excerpt demonstrates how the perceived mutual benefits between collaborating stakeholders enhances trust:

“There has to be trust, there has to be perceived mutual benefit that you’re actually, by collaborating, you’re increasing the opportunity for both of you to prosper. Trust will be a key thing.” (Phase1_25).

Another participant explains, *“there’s lots of different things going on, and I think it’s easier to have a conversation about things with people that you know that you are already in partnership with”* (Phase1_04). Trust is crucial for successful collaboration, as organisations make themselves vulnerable and, therefore, must have confidence in another business’s character. Therefore, repeat collaboration demonstrates greater trust between organisations involved (Goerzen, 2007).

Nonetheless, there are challenges in fostering trust online. Participants have highlighted instances where the lack of trust in the digital platform becomes a challenge to fostering collaboration. As explained by a participant, *“there’s been so many scandals with people using your data, and so*

people are reluctant to give you the data” (Phase1_11). Extant literature report that the greater the extent of digitalisation of ordinary services, the lower the degree of trust and acceptance towards the digital technology (Trang et al., 2015). Thus, suggesting that developing a digital collaborative platform that is too advanced compared to current collaborative processes may be perceived as riskier and increases distrust towards the digital platform, resulting in the reluctance of business stakeholders in adopting digital collaborative behaviours (Trang et al., 2015). Micro-DMOs seeking to advance towards having a digital collaboration platform should consider a staged transformation, while incorporating the business stakeholders throughout the process. Communication here, becomes key in strengthening trust (Farsari, 2018).

Overall, The three different aspects of trust identified provide empirical evidence that supports how trust may transpire differently in online settings, specifically within a tourism context (Brown et al., 2014). In particular, it supports the notion that trust needs to be communicated through three main elements. First, having shared business understanding (organisational identity, willingness to collaborate, willingness to set goals, awareness of mutual needs and roles, etc.). Second, having a strong sense of organisational ethics between online collaborators. Last, having a standardised and reliable ICT that facilitates communication of trustworthiness (technology user-friendliness and network security etc.). As such, contributing to the discussions on digitally supported DMOs (Fyall & Garrod, 2019; Gretzel, 2022).

4.5 Control over shared information

Participants identify control as a crucial aspect of digital collaboration. Two forms of control emerge from the data: ‘security control’ and ‘functionality control’. Digital collaboration brings both concerns and opportunities. Security control relates to the concerns organisational database as *“people like to have control. I have found companies are always quite protective of their information and their websites”* (Phase1_26) but *“often times organisations they don't totally have control”* (Phase1_11). Stakeholders often compete on who has control over shared resources (Fyall et al., 2012). With more digitalised forms of collaboration, controlling resources, particularly organisational data, becomes a greater concern as control is often powered by the DMO managing the digital platform (Gawer, 2021). Future considerations for digital collaboration need to address the privacy concerns and allow business stakeholders to have control over what information are being shared directly or indirectly with others.

Despite the concerns, digital collaboration can also provide an opportunity for greater control. The research also identified ‘functionality control’ in Phase 3. Functionality control refers to the digital platform’s technical capabilities as experienced by platform users. For example, a participant mentions, *“being able to edit my own information live on the site gives me control. I can change things as and when they happen”* (Phase3_11). Businesses also desire *“the ability to look at the data”* (Phase3_13) and mentioned having access and control on the shared data as the *“most powerful tool... Because it tells you what kind of demand is coming in.”* (Phase3_12). Current micro-DMO websites do not allow business stakeholders to edit and update their organisation information. Changes are made through the DMOs who then type in the changes. This process is time consuming and limits the control of what information is presented on the DMO’s website. Having a level of control on the digital platform allows business stakeholders to access data for decision making when developing their business strategies (Önder & Berbekova, 2021). Nonetheless, forms of control in digital collaboration must maintain the delicate balance between the concerns of security control and the opportunities of functionality control. Providing access to more data may give rise to greater security issues. Nonetheless, having some degree of control over shared resources is crucial for organisations to pursue cooperative strategies and ultimately, achieve competitive advantage in the long-term (Bahar et al., 2022).

1 **Table 1**

2 Summary and contributions of prominent studies related to micro-DMOs and digital collaboration in comparison to this paper.

Reference	Purpose	Context					Findings
		Collaboration antecedents	Technology	Micro-DMO	Empirically validated		
Fyall et al. (2012)	Conceptualise the types of DMO collaboration strategies.	✓	✓				<ul style="list-style-type: none"> • Destination collaboration strategies: <ol style="list-style-type: none"> 1. “Organic” (without a DMO-led strategy) 2. “mediated intra-destination” (facilitated by a DMO in the destination) 3. “mediated intra- and inter-destination” (facilitated by a DMO between destinations)
Estêvão et al. (2020)	Examine the factors of DMOs' digital platform adoption.			✓	✓		<ul style="list-style-type: none"> • Motivations for adoption: competitive advantage, “one-stop-only” platform for visitors. • Challenges of adoption: Lack of skills, resources, collaboration and e-readiness. • Perceived benefits of adoption: Enhanced communication, marketing, and profits. • Future perspectives: Greater DMO collaboration and technology adoption.
Gretzel (2022)	Conceptualise the roles of a smart DMO (i.e. the integration of technology in DMO governance)	✓		✓			<ul style="list-style-type: none"> • Smart DMO roles: mobiliser, match-maker, manager, sensor, shapeshifter and steward. • Proposes DMOs to facilitate collaboration.
Ma (2008)	Conceptualise digital collaboration in tourism literature.	✓		✓			<ul style="list-style-type: none"> • Advantages of digital collaboration: access to wider market, added value, reduced stock, and enhanced communication. • Disadvantages of digital collaboration: unequal resource commitments, unbalanced management, different quality standards and loss of creative solution.
Qiu et al. (2022)	Conceptualise a collaboration evaluation framework based on tourism literature.	✓	✓				<ul style="list-style-type: none"> • Collaboration evaluation framework based on collaboration context, process, outcome and impact. Collaboration process requires relational norms and joint actions. • Future research direction includes collaboration innovation and the integration of multiple collaboration frameworks.
Sigala (2014)	Identify the metrics of performance evaluation in DMO e-marketing collaboration	✓		✓	✓		<ul style="list-style-type: none"> • Performance evaluation should include both financial and non-financial metrics. • e-collaboration strategy should be business-specific.

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

Sorokina et al. (2022)	Explore the role of DMOs in the development of smart destinations.	✓	✓				<ul style="list-style-type: none"> • DMOs need to fulfil a new role i.e. smart leadership. • DMOs can control how their stakeholders are integrated and represented through smart functions on their digital platform. • Smart destination pillars: technology, sustainability, e-governance, liveability. Does highlight the importance of establishing collaboration.
Zach (2016)	Identify the factors affecting micro-DMO collaboration.	✓	✓	✓	✓		<ul style="list-style-type: none"> • Leadership as antecedent for micro-DMO non-digital interorganisational collaboration.
Research gap							<ul style="list-style-type: none"> • Lack of research with empirical findings exploring digital collaboration for a DMO. • Past research briefly mentions the need for digital collaboration as a DMO role. Without examining how to. • Far less research exploring the context of micro-DMOs which make up most of the DMOs.
							This research adds on to existing literature by identifying:
This paper	Identify the antecedents of digital collaboration on a DMO's digital platform	✓	✓	✓	✓	✓	<ul style="list-style-type: none"> • Business stakeholders need to be integrated on a DMO's digital platform. • Digital collaboration should go beyond e-marketing. Destination stakeholders are motivated to digitally collaborate on a DMO's enhanced digital platform for the ease of access for marketing, knowledge sharing and networking. <p>The antecedents of digital collaboration on a DMO's enhanced digital platform: mutuality, leadership, trust, and control. Additional levels of trust and control towards the digital platform are observed.</p>

5 Conclusions

This study addresses the gaps in the tourism management and marketing literature by gaining a greater understanding on the antecedents of digital collaboration on a micro-DMO's digital platform (Estêvão et al., 2020; Gretzel, 2022; Llewellyn, 2021; Wondirad et al., 2020). The study is methodologically unique as it adopted a sequential qualitative research approach guided by design thinking principles, and developed and trialled a digital platform to facilitate understanding of the factors necessary for successful digital collaboration (Griffin et al., 2015; Tussyadiah, 2014). In line with that of an action design research. The research is novel and timely as it provides a deeper understanding on the pressing issue of technology integration for DMO collaboration, as affirmed by Llewellyn (2021). Furthermore, by pursuing this research, the relevance of DMOs can be maintained while promoting tourism management practices that are aligned with the 17th United Nations Sustainable Development Goals, which focuses on the need to pursue inter-organisational collaboration for sustainable development.

Theoretically, the study contributes to the scarce literature on technology facilitated collaboration in the tourism context by building on past research by Estêvão et al. (2020) and (Qiu et al., 2022). By integrating digital platform theories from outside the tourism literature (Hein et al., 2020; Muzellec et al., 2015) and focusing on micro-DMOs, this paper provides empirical evidence on the need for DMO's to transform their B2C website into a B2B2C digital platform (Llewellyn, 2021). In fact, prior research has neglected to examine the active role of business stakeholders on a DMO's digital platform as demonstrated in **Table 1** (Molinillo et al., 2018; Qiu et al., 2022). A framework for digital collaboration is developed (Figure 2) based on the research findings. This research identified that the current state of DMO websites should be transformed into an enhanced multi-sided digital platform. The study demonstrated that multi-sided platforms are more effective, thus contributing to a greater understanding of the interacting interdependent elements—human and technology—that can impact a digital collaborative culture. Furthermore, the findings prove that business stakeholders seek to collaborate directly on the digital platform and are motivated to collaborate digitally for knowledge sharing, networking and marketing as shown in Figure 2. Therefore, business stakeholders are necessary when considering the development of DMOs' digital channels.

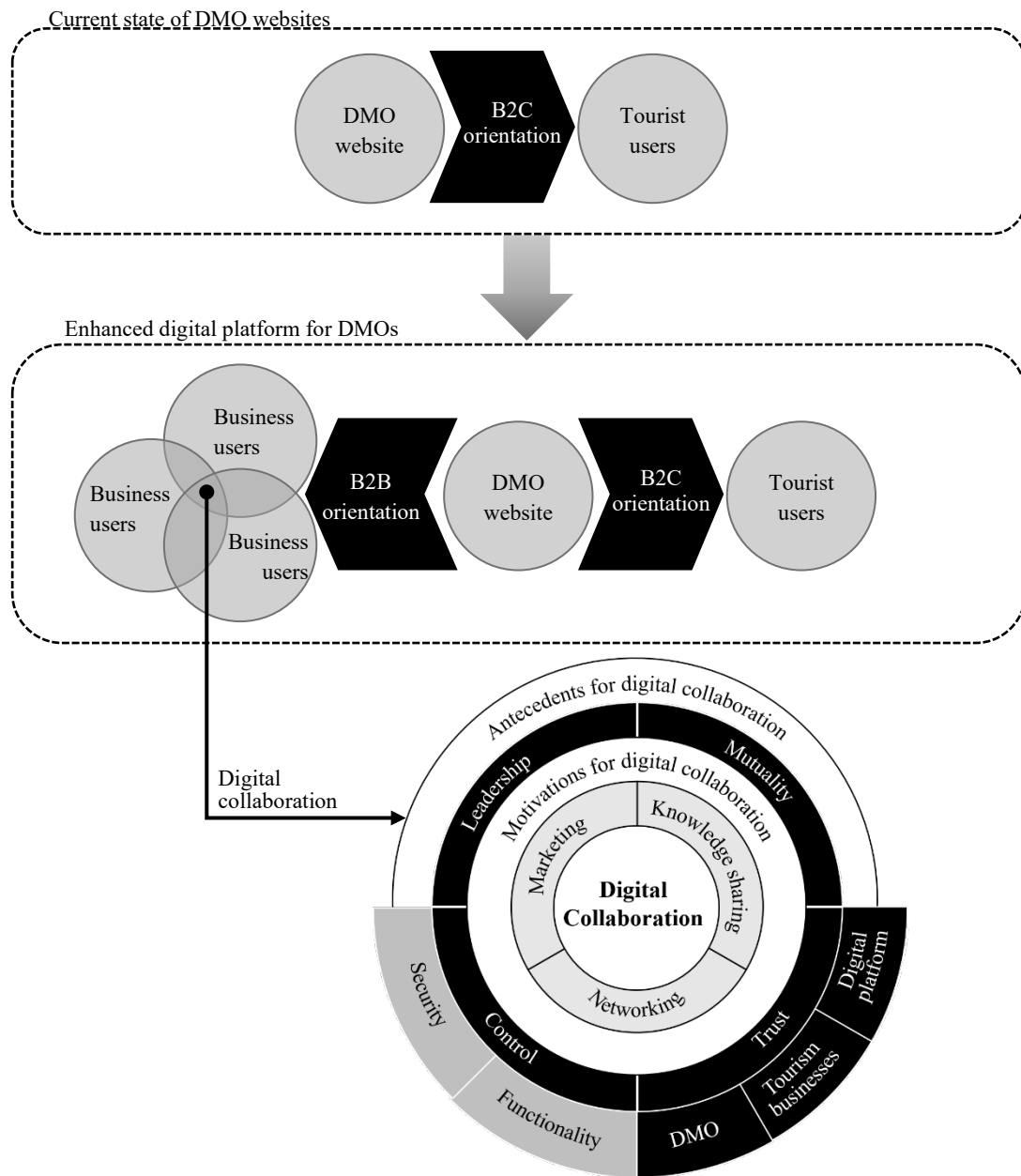


Figure 2: Framework for an enhanced DMO digital platform for digital collaboration.
*Tourist users are beyond the scope of the study

Additionally, we found that while digital collaboration is underpinned by similar elements to non-digital collaboration (e.g., mutuality, trust, control and leadership) (Önder & Berbekova, 2021; Peroff et al., 2017; Zach, 2016), addition layers to these elements are found specific to digital collaboration (Figure 2). In particular, the element of trust is seen to be more complex and multi-

layered in digital collaboration. Besides trust towards the DMO and trust towards other organisations (Czernek & Czakon, 2016; Farsari, 2018), an additional layer of trust, i.e. trust towards the digital platform has rarely been presented in past tourism research. Furthermore, past research on non-digital collaboration commonly identify mutuality from a “top-down” perspective (D’Angella & Go, 2009; Wong et al., 2011). In contrast, digital collaboration is seen to be more successful with a “bottom-up” approach, with smart leadership playing a greater role than an organisation’s characteristics (Sorokina et al., 2022; Zach, 2016). Suggesting that digital collaborations under micro-DMOs are established within more flexible relationship structures, driven by effective leadership. This research also identifies how control is key for digital collaboration (i.e. security control and functionality control), a neglected area of study (Thomson et al., 2009; Tritto & Fun, 2019). Particularly for businesses seeking control over shared data and the strategic use of data in developing new product developments. These antecedents present the major aspects that micro-DMOs need to consider. Further contributing to a better understanding of DMOs’ digital platform characteristics for platform designers, developers, and DMOs who want to reap the benefits of collaboration and technology.

Nonetheless, some limitations in the study include the single regional case of Surrey’s tourism stakeholders. Future research could explore digital collaboration framework in different tourism contexts and explore the individual elements (trust, control, and leadership etc) on digital platforms with greater depth. Addition factors may emerge due to the differing environmental conditions. Future research could also investigate the degree of digitalization (i.e. reduced human interaction) and the degree of digital collaboration, a concern highlighted from the information systems literature (Trang et al., 2015). Additionally, recognising the multisided aspect of the digital platform, a deeper understanding of the relationship between visitor and business users on a DMO’s digital platform could be explored. With recent global developments, such as the COVID-19 pandemic, the tourism sector is seeing a transformational shift from physical or hybrid forms of communication to a complete digitalisation of daily communications (OECD, 2020). Hence, there is a crucial need to understand and adopt digital and collaborative approaches for destination management (OECD, 2020).

Impact statement

This study provides tourism practitioners with guiding principles on how best to integrate technology in destination management. This research focuses on micro-DMOs which make up

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

79% of the total DMOs. We suggest DMOs to include business stakeholders in their digital strategy development. In particular, by transforming a micro-DMO's website into a multi-sided platform which allows business stakeholders to collaborate digitally for knowledge sharing, networking and marketing. Transformation however, should be in phases with micro-DMOs to first consider having a tourism business only section. This research helps UX designers and micro-DMOs in identifying critical elements for a digital collaboration platform, i.e., mutuality, trust, control and leadership. In fact, these guiding principles have proven to be successful as our case study micro-DMO, Visit Surrey has permanently transformed their visitor-only website into a more inclusive platform which now caters to business stakeholders' needs.

Author contributions

Husna Zainal-Abidin: Conceptualisation, Methodology, Investigation, Writing – original draft.
Caroline Scarles: Writing – review & editing. Christine Lundberg: Writing – review & editing.

Acknowledgement

The authors would like to thank our research collaborators Visit Surrey, FdK Design Consultants and Minted Box and to the University of Surrey for funding this research

References

- Abou-Shouk, M. A. (2018). Destination management organizations and destination marketing: Adopting the business model of e-portals in engaging travel agents. *Journal of Travel & Tourism Marketing*, 35(2), 178–188. <https://doi.org/10.1080/10548408.2017.1350254>
- Asadullah, A., Faik, I., & Kankanhalli, A. (2018). *Digital Platforms: A Review and Future Directions*. 15.
- Attride-Stirling, J. (2001). Thematic networks: An analytic tool for qualitative research. *Qualitative Research*, 1(3), 385–405. <https://doi.org/10.1177/146879410100100307>
- Bahar, V. S., Nenonen, S., & Starr Jr, R. G. (2022). Coopetition with platforms: Balancing the interplay of cooperation and competition in hospitality. *Tourism Management*, 88, 104417. <https://doi.org/10.1016/j.tourman.2021.104417>
- Benson, A. M., & Blackman, D. (2011). To distribute leadership or not? A lesson from the islands. *Tourism Management*, 32(5), 1141–1149. <https://doi.org/10.1016/J.TOURMAN.2010.10.002>

- Beritelli, P., & Laesser, C. (2019). *Why DMOs and tourism organizations do not really 'get / attract visitors': Uncovering the truth behind a cargo cult.* <https://doi.org/10.6084/m9.figshare.9924428>
- Bramwell, B., & Lane, B. (2000). Collaboration and partnerships in tourism planning. In B. Bramwell & B. Lane (Eds.), *Tourism Collaboration and Partnerships Politics, Practice and Sustainability* (1st ed., pp. 1–19). Channel View Publications. https://ebookcentral.proquest.com/lib/surrey/detail.action?docID=1024794#goto_toc
- Brandão, F., Breda, Z., & Costa, C. (2019). Innovation and internationalization as development strategies for coastal tourism destinations: The role of organizational networks. *Journal of Hospitality and Tourism Management*, 41, 219–230. <https://doi.org/10.1016/j.jhtm.2019.10.004>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Brown, H. G., Poole, M. S., & Rodgers, T. L. (2014). Interpersonal traits, complementarity, and trust in virtual collaboration. *Journal of Management Information Systems*, 20(4), 115–138. <https://doi.org/10.1080/07421222.2004.11045785>
- Canavari, M., Fritz, M., Hofstede, G. J., Matopoulos, A., & Vlachopoulou, M. (2010). The role of trust in the transition from traditional to electronic B2B relationships in agri-food chains. *Computers and Electronics in Agriculture*, 70(2), 321–327. <https://doi.org/10.1016/j.compag.2009.08.014>
- Chim-Miki, A. F., & Batista-Canino, R. M. (2017). Tourism coopetition: An introduction to the subject and a research agenda. *International Business Review*, 26(6), 1208–1217. <https://doi.org/10.1016/j.ibusrev.2017.05.003>
- Choi, S., Lehto, X. Y., & O'Leary, J. T. (2007). What does the consumer want from a DMO website? A study of US and Canadian tourists' perspectives. *International Journal of Tourism Research*, 9(2), 59–72. <https://doi.org/10.1002/jtr.594>
- Crick, J. M., & Crick, D. (2020). *Coopetition and COVID-19: Collaborative business-to-business marketing strategies in a pandemic crisis* (Vol. 88, pp. 206–213). Elsevier. <https://doi.org/10.1016/j.indmarman.2020.05.016>
- Czernek, K., & Czakon, W. (2016). Trust-building processes in tourist coopetition: The case of a Polish region. *Tourism Management*, 52, 380–394. <https://doi.org/10.1016/j.tourman.2015.07.009>
- Czernek-Marszałek, K. (2018). Cooperation evaluation with the use of network analysis. *Annals of Tourism Research*, 72(February), 126–139. <https://doi.org/10.1016/j.annals.2018.07.005>
- Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

- D'Angella, F., & Go, F. M. (2009). Tale of two cities' collaborative tourism marketing: Towards a theory of destination stakeholder assessment. *Tourism Management*, 30(3), 429–440. <https://doi.org/10.1016/j.tourman.2008.07.012>
- de Bois, N. (2021). *The de Bois Review: An independent review of Destination Management Organisations in English* [Independent Review]. Department for Digital, Culture, Media & Sport United Kingdom.
- Estêvão, J. V., Carneiro, M. J., & Teixeira, L. (2014). Destination management systems: Creation of value for visitors of tourism destinations. *International Journal of Technology Management*, 64(1), 64–88.
- Estêvão, J. V., Carneiro, M. J., & Teixeira, L. (2020). Destination management systems' adoption and management model: Proposal of a framework. *Journal of Organizational Computing and Electronic Commerce*, 30(2), 89–110. <https://doi.org/10.1080/10919392.2020.1724765>
- European Commission. (2020). *User guide to the SME definition*. Publications Office. <https://data.europa.eu/doi/10.2873/255862>
- Falk, M. (2017). Gains from horizontal collaboration among ski areas. *Tourism Management*, 60, 92–104. <https://doi.org/10.1016/j.tourman.2016.11.008>
- Faraj, S., Jarvenpaa, S. L., & Majchrzak, A. (2011). Knowledge collaboration in online communities. *Organization Science*, 22(5), 1224–1239. <https://doi.org/10.1287/orsc.1100.0614>
- Farsari, I. (2018). A structural approach to social representations of destination collaboration in Idre, Sweden. *Annals of Tourism Research*, 71, 1–12. <https://doi.org/10.1016/j.annals.2018.02.006>
- Fesenmaier, D. R., & Xiang, Z. (Eds.). (2017). *Design Science in Tourism*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-42773-7>
- Foris, D., Florescu, A., Foris, T., & Barabas, S. (2020). Improving the Management of Tourist Destinations: A New Approach to Strategic Management at the DMO Level by Integrating Lean Techniques. *Sustainability*, 12(23), 10201. <https://doi.org/10.3390/su122310201>
- Fyall, A., & Garrod, B. (2019). Destination management: A perspective article. *Tourism Review*, 75(1), 165–169. <https://doi.org/10.1108/TR-07-2019-0311>
- Fyall, A., Garrod, B., & Wang, Y. (2012). Destination collaboration: A critical review of theoretical approaches to a multi-dimensional phenomenon. *Journal of Destination Marketing and Management*, 1(1–2), 10–26. <https://doi.org/10.1016/j.jdmm.2012.10.002>

- Gajdošíková, Z., Gajdošík, T., Kučerová, J., & Magátová, I. (2016). Reengineering of Tourism Organization Structure: The Case of Slovakia. *Procedia - Social and Behavioral Sciences*, 230, 405–412. <https://doi.org/10.1016/j.sbspro.2016.09.051>
- Gawer, A. (2021). Digital platforms and ecosystems: Remarks on the dominant organizational forms of the digital age. *Innovation*, 24(1), 110–124. <https://doi.org/10.1080/14479338.2021.1965888>
- Goerzen, A. (2007). Alliance networks and firm performance: The impact of repeated partnerships. *Strategic Management Journal*, 28(5), 487–509. <https://doi.org/10.1002/smj.588>
- Gray, B. (1989). *Collaborating: Finding common ground for multiparty problems* (1st ed.). Jossey-Bass.
- Gray, D. E. (2013). *Doing research in the real world* (2nd ed.). London: SAGE. <https://doi.org/10.1007/s13398-014-0173-7.2>
- Gretzel, U. (2022). The Smart DMO: A new step in the digital transformation of destination management organizations. *European Journal of Tourism Research*, 30, 3002.
- Griffin, A., Swan, S., Luchs, M. G., Luchs, M. L., & Scott, S. (2015). *Design thinking: New product development essentials from the PDMA* (1st ed., p. 490). John Wiley & Sons, Inc. <https://ebookcentral.proquest.com/lib/surrey/detail.action?docID=4041673>
- Hein, A., Schreieck, M., Riasanow, T., Setzke, D. S., Wiesche, M., Böhm, M., & Krcmar, H. (2020). Digital platform ecosystems. *Electronic Markets*, 30(1), 87–98. <https://doi.org/10.1007/s12525-019-00377-4>
- Hristov, D., & Zehrer, A. (2015). The destination paradigm continuum revisited: DMOs serving as leadership networks. *Tourism Review*, 70(2), 116–131. <https://doi.org/10.1108/TR-08-2014-0050>
- Jørgensen, M. T. (2017). Developing a holistic framework for analysis of destination management and/or marketing organizations: Six Danish destinations. *Journal of Travel and Tourism Marketing*, 34(5), 624–635. <https://doi.org/10.1080/10548408.2016.1209152>
- Kasper-Fuehrer, E. C., & Ashkanasy, N. M. (2001). Communicating trustworthiness and building trust in interorganizational virtual organizations. *Journal of Management*, 27, 235–252.
- Leifer, L., & Meinel, C. (2019). *Design thinking research. Looking further: Design thinking beyond solution-fixation* (pp. 1–12). https://doi.org/10.1007/978-3-319-97082-0_1
- Li, Y., Hu, C., Huang, C., & Duan, L. (2017). The concept of smart tourism in the context of tourism information services. *Tourism Management*, 58, 293–300. <https://doi.org/10.1016/j.tourman.2016.03.014>

- Lincoln, Y. S., & Guba, E. G. (1995). *Naturalistic inquiry* (Vol. 75, p. 416). Sage Publications.
<https://uk.sagepub.com/en-gb/eur/naturalistic-inquiry/book842>
https://books.google.co.uk/books/about/Naturalistic_Inquiry.html?id=2oA9aWlNeooC
- Llewellyn, M. (2021). *DMO Review Responses: Full report*. Llewellyn McLaren Consulting.
- Luna-Nevarez, C., & Hyman, M. R. (2012). Common practices in destination website design. *Journal of Destination Marketing and Management*.
<https://doi.org/10.1016/j.jdmm.2012.08.002>
- Ma, C. (2008). E-collaboration: A universal key to solve fierce competition in tourism industry? *International Business Research*, 1(4), 65–71. <https://doi.org/10.5539/ibr.v1n4p65>
- Madlberger, M., & Roztocki, N. (2010). Digital cross-organizational collaboration: A metatriangulation review. *Proceedings of the Annual Hawaii International Conference on System Sciences*, 1–10. <https://doi.org/10.1109/HICSS.2010.149>
- Mariani, M. M., & Kylänen, M. (2014). The relevance of public-private partnerships in coopetition: Empirical evidence from the tourism sector. *International Journal of Business Environment*, 6(1), 106–125. <https://doi.org/10.1504/IJBE.2014.058026>
- Martinez, M. G., Zouaghi, F., Marco, T. G., & Robinson, C. (2019). What drives business failure? Exploring the role of internal and external knowledge capabilities during the global financial crisis. *Journal of Business Research*, 98(August 2018), 441–449. <https://doi.org/10.1016/j.jbusres.2018.07.032>
- McCabe, S., Sharples, M., & Foster, C. (2012). Stakeholder engagement in the design of scenarios of technology-enhanced tourism services. *Tourism Management Perspectives*, 4, 36–44. <https://doi.org/10.1016/j.tmp.2012.04.007>
- Molinillo, S., Liébana-Cabanillas, F., Anaya-Sánchez, R., & Buhalis, D. (2018). DMO online platforms: Image and intention to visit. *Tourism Management*. <https://doi.org/10.1016/j.tourman.2017.09.021>
- Muzellec, L., Ronteau, S., & Lambkin, M. (2015). Two-sided Internet platforms: A business model lifecycle perspective. *Industrial Marketing Management*, 45(1), 139–150. <https://doi.org/10.1016/j.indmarman.2015.02.012>
- Ness, H. (2009). Governance, Negotiations, and Alliance Dynamics: Explaining the Evolution of Relational Practice. *Journal of Management*, 46(3), 451–480.
- Neutzing, M., Parker, M., & Pratt, E. (2011). Conceptions of learning to teach through a constructivist environment. *Research Quarterly for Exercise and Sport*, 82(1), A49–A49.
- Newman, S. M., & Larkin, E. (2004). *Intergenerational relationships conversations on practices and research across cultures* (E. Larkin, Ed.). New York : Haworth Press.

- OECD. (2020). *Tourism policy responses to the coronavirus (COVID-19)*. OECD.
https://read.oecd-ilibrary.org/view/?ref=124_124984-7uf8nm95se&Title=Covid-19:
 Tourism Policy Responses
- Önder, I., & Berbekova, A. (2021). Web analytics: More than website performance evaluation?
International Journal of Tourism Cities. <https://doi.org/10.1108/IJTC-03-2021-0039>
- Perelygina, M., Kucukusta, D., & Law, R. (2022). Digital business model configurations in the
 travel industry. *Tourism Management*, 88, 104408.
<https://doi.org/10.1016/j.tourman.2021.104408>
- Peroff, D. M., Deason, G. G., Seekamp, E., & Iyengar, J. (2017). Integrating frameworks for
 evaluating tourism partnerships: An exploration of success within the life cycle of a
 collaborative ecotourism development effort. *Journal of Outdoor Recreation and
 Tourism*, 17, 100–111. <https://doi.org/10.1016/j.jort.2016.10.001>
- Qiu, H., Chen, D., Yang, J., Zhang, K., & Liu, T. (2022). Tourism collaboration evaluation and
 research directions. *Tourism Recreation Research*, 1–8.
<https://doi.org/10.1080/02508281.2021.2023838>
- Saito, H., & Ruhanen, L. (2017). Power in tourism stakeholder collaborations: Power types and
 power holders. *Journal of Hospitality and Tourism Management*, 31, 189–196.
<https://doi.org/10.1016/j.jhtm.2017.01.001>
- Saunders, M. N. K., Thornhill, A., & Lewis, P. (2012). *Research methods for business students*
 (P. Lewis & A. Thornhill, Eds.; 6th ed., p. 728). Harlow : Pearson.
- Shin, H., Jeong, M., & Cho, M. (2021). The impact of smart tourism technology and domestic
 travelers' technology readiness on their satisfaction and behavioral intention.
International Journal of Tourism Research, 23(5), 726–742.
<https://doi.org/10.1002/jtr.2437>
- Sigala, M. (2014). Evaluating the performance of destination marketing systems (DMS):
 Stakeholder perspective. *Marketing Intelligence and Planning*, 32(2), 208–231.
<https://doi.org/10.1108/MIP-08-2013-0131>
- Song, J. Y., & Wen, I. (2021). Factors Affecting DMO's Website Use Intention, and Visiting
 Intention: A SEM Model on the Impact of E-Destination Image and DMO's Website
 Design. *J. of Tourism and Hospitality Management*, 9(4). <https://doi.org/10.17265/2328-2169/2021.04.001>
- Sorokina, E., Wang, Y., Fyall, A., Lugosi, P., Torres, E., & Jung, T. (2022). Constructing a smart
 destination framework: A destination marketing organization perspective. *Journal of
 Destination Marketing & Management*, 23, 100688.
<https://doi.org/10.1016/j.jdmm.2021.100688>
- Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced
 digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691.
<https://doi.org/10.1016/j.tourman.2022.104691>

- Spagnoletti, P., Resca, A., & Lee, G. (2015). A design theory for digital platforms supporting online communities: A multiple case study. *Journal of Information Technology*, 30(4), 364–380. <https://doi.org/10.1057/jit.2014.37>
- Stenbacka, C. (2001). Qualitative research requires quality concepts of its own. *Management Decision*, 39(7), 551–556. <https://doi.org/10.1108/EUM0000000005801>
- Thomson, A. M., Perry, J. L., & Miller, T. K. (2009). Conceptualizing and measuring collaboration. *Journal of Public Administration Research and Theory*, 19(1), 23–56. <https://doi.org/10.1093/jopart/mum036>
- Trang, S., Busse, S., Schmidt, J., Falk, T., & Marrone, M. (2015). The Danger of Replacing Human Interaction in Is-Driven Collaborative Consumption Services. *European Conference on Information Systems (ECIS)*, 1–16. <https://doi.org/10.18151/7217503>
- Tritto, A., & Fun, N. C. S. (2019). Destination management through stakeholders' collaborations. Instruments, products, and case studies. In N. Kozak & M. Kozak (Eds.), *Tourist Destination Management* (pp. 101–121). Springer, Cham. https://doi.org/10.1007/978-3-030-16981-7_6
- Tussyadiah, I. P. (2014). Toward a theoretical foundation for experience design in tourism. *Journal of Travel Research*, 53(5), 543–564. <https://doi.org/10.1177/0047287513513172>
- UNWTO. (2007). *A practical guide to tourism destination management* (p. 162). World Tourism Organization. <https://doi.org/ISBN: 978-92-844-1243->
- Uşaklı, A., Koç, B., & Sönmez, S. (2017). How 'social' are destinations? Examining European DMO social media usage. *Journal of Destination Marketing & Management*, 6(2), 136–149. <https://doi.org/10.1016/j.jdmm.2017.02.001>
- Veal, A. J. (2011). *Research methods for leisure and tourism: A practical guide* (4th ed.). arlow : Financial Times Prentice Hal. <https://books.google.co.in/books?id=cKXw5EPrf3kC>
- Volgger, M., & Pechlaner, H. (2014). Requirements for destination management organizations in destination governance: Understanding DMO success. *Tourism Management*, 41, 64–75. <https://doi.org/10.1016/j.tourman.2013.09.001>
- Wang, Y., & Zhao, L. (2019). Eliciting user requirements for e-collaboration systems: A proposal for a multi-perspective modeling approach. *Requirements Engineering*, 24(2), 205–229. <https://doi.org/10.1007/s00766-017-0285-7>
- Weber, C., Weidner, K., Kroeger, A., & Wallace, J. (2017). Social value creation in inter-organizational collaborations in the not-for-profit sector-give and take from a dyadic perspective. *Journal of Management Studies*, 54(6), 929–956. <https://doi.org/10.1111/joms.12272>

- Wondirad, A., Tolkach, D., & King, B. (2020). Stakeholder collaboration as a major factor for sustainable ecotourism development in developing countries. *Tourism Management*, 78, 104024. <https://doi.org/10.1016/j.tourman.2019.104024>
- Wong, E. P. Y., Mistilis, N., & Dwyer, L. (2011). A model of Asean collaboration in tourism. *Annals of Tourism Research*, 38(3), 882–899. <https://doi.org/10.1016/j.annals.2010.12.008>
- Wood, D. J., & Gray, B. (1991). Toward a comprehensive theory of collaboration. *The Journal of Applied Behavioral Science*, 27(2), 139–162. <https://doi.org/10.1177/0021886391272001>
- Wu, Z. (2019). Online and Offline Collaborative Management in O2O Services. *Proceedings of the 3rd International Seminar on Education Innovation and Economic Management (SEIEM 2018)*. Proceedings of the 3rd International Seminar on Education Innovation and Economic Management (SEIEM 2018), Penang, Malaysia. <https://doi.org/10.2991/seiem-18.2019.16>
- Zach, F. (2016). Collaboration for Innovation in Tourism Organizations: Leadership Support, Innovation Formality, and Communication. *Journal of Hospitality & Tourism Research*, 40(3), 271–290. <https://doi.org/10.1177/1096348013495694>
- Zach, F., & Racherla, P. (2011). Assessing the value of collaborations in tourism networks: A case study of Elkhart County, Indiana. *Journal of Travel and Tourism Marketing*, 28(1), 97–110. <https://doi.org/10.1080/10548408.2011.535446>
- Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2019). Digital collaboration: A solution for destinations. *E-Review of Tourism Research (ERTR)*, 16(2/3). <https://ertr.tamu.edu/files/2019/02/333-929-1-SM.pdf>

Appendices

Appendix A

Sample characteristics

Table 2: Sample characteristics

Participant	Participant Job title	Type of stakeholder	Gender
Phase1_01	Marketing officer	Local authority	F
Phase1_02	Manager	Arts and Heritage	F
Phase1_03	Director	Arts and Heritage	F
Phase1_04	Marketing officer	Arts and Heritage	F
Phase1_05	Manager	Parks and Gardens	F
Phase1_06	Marketing officer	Parks and Gardens	F
Phase1_07	Director	Parks and Gardens	F
Phase1_08	Director	Arts and Heritage	M
Phase1_09	Marketing officer	Parks and Gardens	F
Phase1_10	Marketing officer	Tourism consultant	F
Phase1_11	Manager	DMO	F
Phase1_12	Marketing officer	Arts and Heritage	F
Phase1_13	Marketing officer	Parks and Gardens	F
Phase1_14	Manager	Parks and Gardens	F
Phase1_15	Deputy manager	Local authority	M
Phase1_16	Director	Arts and Heritage	M
Phase1_17	Director	Arts and Heritage	F
Phase1_18	Director	Festivals	M
Phase1_19	Director	Platform developer/tourism consultant	M
Phase1_20	Marketing officer	Arts and Heritage	M
Phase1_21	Web administrator	DMO	F
Phase1_22	Deputy Manager	DMO	F
Phase1_23	Editor	Publications	F
Phase1_24	Director	Parks and Gardens	M
Phase1_25	Manager	Festivals	M
Phase1_26	Development officer	Local authority	F
Phase1_27	Sales officer	Arts and Heritage	F
Phase3_01	Director	Festivals	M
Phase3_02	Manager	DMO	F
Phase3_03	Marketing officer	Arts and Heritage	F
Phase3_04	Marketing officer	Arts and Heritage	F
Phase3_05	Marketing officer	Local authority	F
Phase3_06	Marketing officer	Local authority	F
Phase3_07	Director	Tour Operator	F
Phase3_08	Manager	Restaurant	M
Phase3_09	Department Manager	Hotel	M
Phase3_10	Officer	Tour operator	M

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

Phase3_11	Curator	Local attraction	M
Phase3_12	Department Manager	Hotel	F
Phase3_13	Department Manager	Hotel	M

Appendix B

Interview guide for businesses stakeholders

There are two main sections to the interview structure. Firstly, the introduction section for interviewee and interviewer to better understand each other. Secondly, the researcher will ask open ended questions to the participants to inquire questions based on the research aims. There are four research aims as shown in the numbered list in section two.

First section:

- Researcher and research introduction. A participant consent form should be given and signed.
- Interviewee introduce himself/herself and the organisation

Second section:

- **Critique the role in which DMOs become points of consolidation and collaboration for local businesses and organisations.**
 - Can you explain what collaboration means to you and your organisation?
 - Do you think it has been a successful collaboration? Why? What are the criteria that you feel makes it successful? Can you describe what a successful collaboration looks like and what is a non-successful collaboration looks like?
 - Who do you often deal with in collaborating?
 - What do you think it takes to collaborate?
 - What do you think about the current collaboration of your organisation and the DMO? (opportunities, challenges) follow up, do you have other examples from previous jobs?
- **Analyse and consolidate information on current existing digital communication platforms available to DMOs.**
 - Tell me about your experience in using digital platforms for your organisation.
 - What are the available platforms that you are using as a DMO. Are there any platforms that they would like to use and why would they want to use that?
 - What do you think is the best platform to have? what facilities would make you feel satisfied?
 - What is the role of your DMO?

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

- What do you envision the role of a DMO to be in the future? To undertake the role, what kind of platform do you need
- **Critique the role of digital platforms as mechanisms for realising cultures of sharing and collaboration between local businesses.**
 - In terms of collaborating, how effective is the current platform?
 - What are the benefits of a digital platform for collaboration/?
 - What are the challenges to collaboration that you are facing while using the current platform? Can you give an example? (of how that challenge happens. Because usually with examples are when you can use the quote as evidence)
- **Identify the characteristics and operational capabilities of next generation digital platforms that DMOs need to have as part of their functions.**
 - What do you envision, as an ideal platform that can help you with a successful collaboration? Can you give an example of a platform that you think could benefit collaboration between businesses?

Appendix C

Business personas

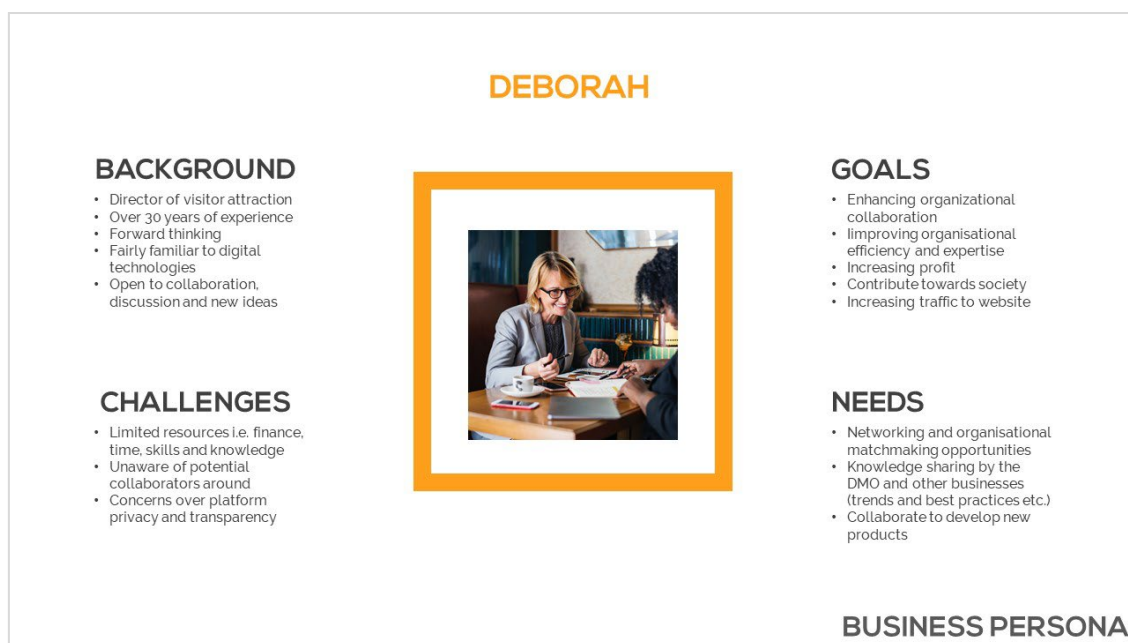


Image 1: Deborah as a key business stakeholder persona

385


STEPHEN

BACKGROUND

- Director of non-profit visitor attraction
- Over 15 years of experience
- Fairly familiar with digital technologies
- Minimal risk taker

CHALLENGES

- Lack of finance is the biggest obstacle
- Big reliance on volunteers for daily operations
- Not having enough support from policy makers
- Not being able to take on the full potential of social media and best practices due to lack of resources i.e time, staff and skills



GOALS

- Maintain business sustainability
- Tap into different markets
- Enhance collaborative efforts

NEEDS

- Better access to policy makers (increase voice)
- Knowledge sharing (detailed description of best practices)
- Access to resources
- Management platform (managing volunteers)
- Greater involvement and effort from a DMO

BUSINESS PERSONA

386

387
388

Image 2: Stephen as a key business stakeholder persona


CHANTELLE

BACKGROUND

- Head of Marketing of visitor attraction
- 6 years of working experience
- Passion for tourism and the community
- Extrovert and hardworking

CHALLENGES

- Constant need to do multiple entries of similar updates
- Lack of affordable staff training
- The opportunity cost of physical meeting times
- Not knowing which marketing channels would be best to use



GOALS

- Increase awareness of organisation to potential consumers
- Develop creative marketing campaigns and engage with the best channels of communication
- To have better marketing skills and management of time

NEEDS

- Better social media integration on digital platform
- Integration of data to reduce time updating on multiple channels
- Knowledge sharing and access to resources (i.e marketing templates)
- Management platform (reduce time spent meeting face-to-face)
- Easy access to marketing collaborations (radios, publications etc.)

BUSINESS PERSONA

389

390

391

Image 3: Chantelle as a key business stakeholder persona

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

Appendix D

Examples of the digital platform webpages for business stakeholders

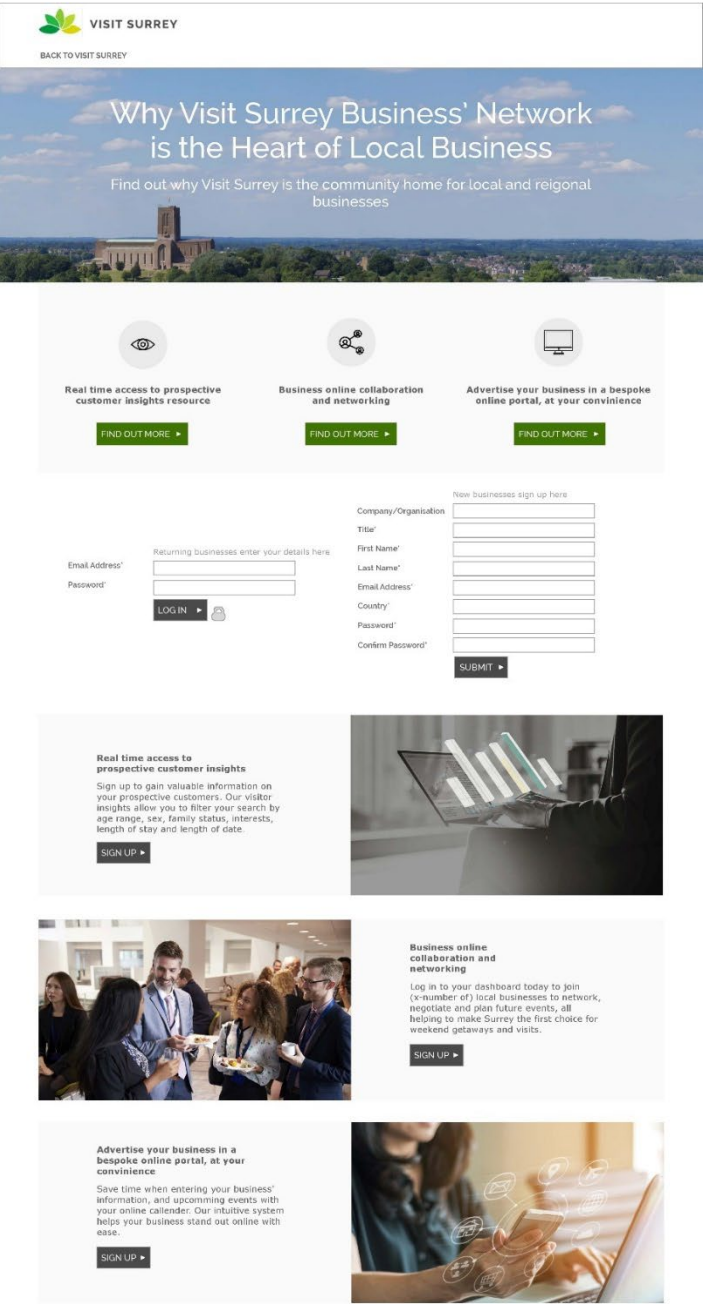
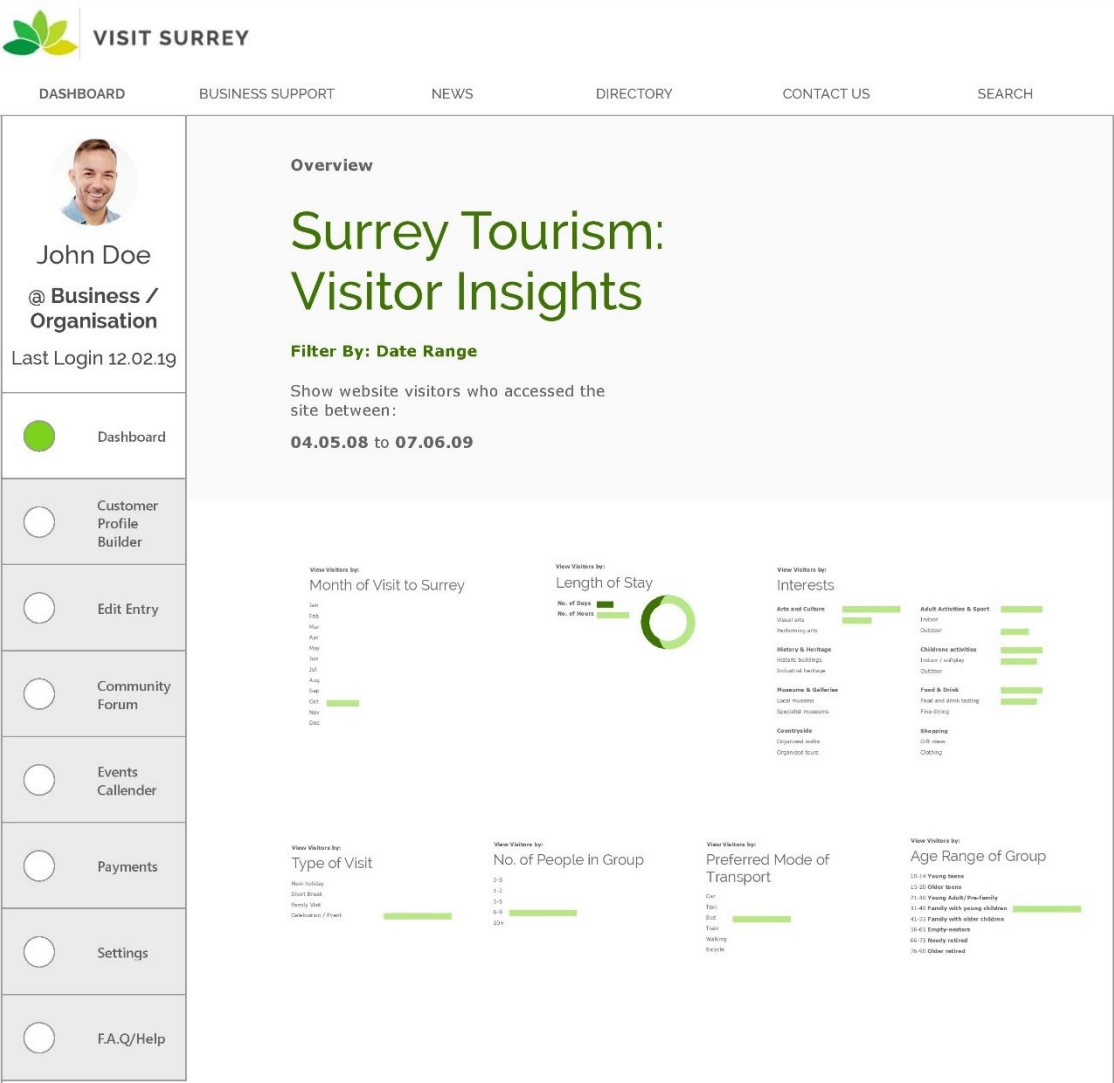


Image 4: Business-only landing page design on a DMO's trial digital platform

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

398

399



400

401 *Image 5: Dashboard webpage design on a DMO's trial digital platform*

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>

402 Appendix E

403 Examples of findings from Phase 1 and Phase 3 interviews

404 **Table 3**

405 Examples of quotes from research findings

Findings		Phase 1	Phase 3
Motivations for collaboration	Marketing	<p><i>"other than making you [business] visible to people that haven't yet seen you, which is the marketing role, they [DMOs] could look at joining things up in the area. I think it all comes down to marketing really in one way or another." (Phase1_25)</i></p> <p><i>"I think you know ways in which either members or those organisations those businesses can engage with the site so that could be advertising promotion etc." (Phase1_08)</i></p>	<p><i>"according to this, we can decide who will do different events... I think it's really interesting because you can create promotions...based on obviously the timing, the time of year and the length of stay" (Phase3_09)</i></p> <p><i>"A small vineyard just starting out, they could set up an arrangement with a local hotel group to market and promote their wines, that sort of thing. So, it is those partnership ideas, which I think are brilliant." (Phase3_11)</i></p>
	Knowledge sharing	<p><i>"If other places have insights that maybe you don't have...It's an opportunity in sharing best practice." (Phase1_13)</i></p> <p><i>"it's a brilliant way to knowledge share. And so yes, I think you would need to open up the remit to as many relevant organizations as you as you possibly can get them to sign into it." (Phase1_06)</i></p>	<p><i>"to know who our customers are, what are their interests, why they're coming, how many people, how often, and so on. I think this is really useful for the business side" (Phase3_09).</i></p> <p><i>"the idea is good, that you're encouraging people to share best practice and get involved in where businesses in the community have got needs or wants" (Phase3_13)</i></p>
	Networking	<p><i>"...they [DMOs] have networks, and they can reach out to their networks that we can possibly hope to engage with" (Phase1_19)</i></p> <p><i>"Really useful I mean so many networks that I belong to are virtual networks and they are just so valuable because you can just you have a problem and you can just put it out and you get immediately." (Phase1_03)</i></p>	<p><i>"through the network itself. Potential collaboration with other businesses to make new ideas or making contacts are very important." (Phase3_09)</i></p> <p><i>"it's exactly this, opportunity for a business collaboration. So yeah, it's a way for people to connect that wouldn't necessarily otherwise be able to, and because they're all part of this online community, they've already got a common ground" (Phase3_11)</i></p>

Antecedents for digital collaboration	Mutuality	<p><i>“coalition of the willing...I'm not a fan of people feeling the obligation to attend. I think you know you get best value when people are there because they want to be there.” (Phase1_08)</i></p> <p><i>“working together to achieve mutually beneficial goals” (Phase1_17)</i></p> <p><i>“when you find it mutually exclusive and beneficial in what you're trying to achieve, and a message. Then it's incredibly powerful.” (Phase1_10)</i></p>	<p><i>“I like the idea actually of the collaboration... Through the network itself. So potential collaboration with other businesses to make new ideas or making contacts are very important” (Phase3_09)</i></p> <p><i>“if other people are talking about things or somebody else puts up an idea and I think, wow, I can get involved in that...you've got to be part of this community to make it work. There's no point in being a passive bystander” (Phase3_11)</i></p>
	Leadership	<p><i>“I would say it's having some kind of a leader that can really demonstrate and sell it adds to everyone. That's much better as a whole. So, I really believe much better as a group rather than individuals, you're much stronger.” (Phase1_21)</i></p> <p><i>“I think you've got to have a good leader, you've got to have someone who is organized and he's checking up” (Phase1_11)</i></p>	<p><i>“you've got to get some people who are going to champion it, be kind of culture carriers...getting some of those people to champion their existing culture, their existing practices to other people to encourage them.” (Phase3_13)</i></p> <p><i>“bring together businesses and organizations in the local area to be a community” (Phase3_07)</i></p>
	Trust/ distrust	<p><i>“I think that's probably one of the key words actually, trust. And you've got to be able to trust the DMO to deliver what you want for your own business.” (Phase1_10)</i></p> <p><i>“The DMO has a certain a respect and it has a position that other people don't have. It's seen as an authority so as long as it has a strong presence online, I think it would be somewhere people would choose to go to find their information out.” (Phase1_14)</i></p>	<p><i>“because you're all part of [DMO name], they should have a certain level of trustworthiness... it just makes that first hurdle a bit easier to get over if you want to approach somebody about something” (Phase3_03)</i></p> <p><i>“it's an organization who is in charge of managing the tourism in the area and connecting different businesses within the tourism sector and making tourism better basically in the destination. Promoting the destination outside and so on. So yeah, I think this is the role for the DMO.” (Phase3_09)</i></p>
	Technology	<p><i>“there's been so many scandals with people using your data, and so people are reluctant to give you the data... you need great technology, great platform to be working on.” (Phase1_11)</i></p> <p><i>“Disruptive technology. People want as few hurdles as possible.” (Phase1_20)</i></p>	<p><i>“I could see this being a really good platform for them to share what they're doing and encourage others to... And some of the resources that were there, I'm guessing for small businesses particularly might be useful for them.” (Phase3_13).</i></p>

			<i>Well I love the whole lot. I think the way, you've just got it, you've done a fantastic job.</i>
	Businesses	<p><i>"There has to be trust, there has to be perceived mutual benefit that you're actually, by collaborating, you're increasing the opportunity for both of you to prosper. Trust will be a key thing." (Phase1_25).</i></p> <p><i>"there's lots of different things going on, and I think it's easier to have a conversation about things with people that you know that you are already in partnership with" (Phase1_04)</i></p>	<p><i>"to some extent, because you're all part of [the DMO digital platform], you think they should have a certain level of trustworthiness...you sort of feel that almost automatically a part of your relationship has been brokered. So, it's easier to say to somebody, "Hello, I know that you're on the digital platform as well." You just instantly feel that there's kind of a relationship there. So, it just makes that first hurdle a bit easier to get over if you want to approach somebody about something, I suppose. Kind of feel a bit like you're on the same gang, so it's a good place to start." (Phase3_03)</i></p>
Control	Security	<p><i>"people like to have control. I have found companies are always quite protective of their information and their websites" (Phase1_26)</i></p> <p><i>"everyone's concerned about data, sharing data and obviously we've got the GDPR. So, it's hard to share data, but everyone wants their own statistics and their own analysis they want. So, it's harder. It's harder, but it depends in what capacity really." (Phase1_21)</i></p>	<p><i>"the idea is just great. The idea of having this data...if it's about general data, yeah of course yes. I think we should do this. I'm working with data as well so I know the importance of businesses being able to share data." (Phase3_09)</i></p> <p><i>"I would regard this like an official website, and is safe, secure... I can manage the event" (Phase3_07)</i></p>
	Functionality	<p><i>"there's much more flexibility in the technology now, for people to feel they've got more control, I think it's helping in terms of business collaboration... I think the other thing that's really important which is a good breakthrough is having the ability for people to join in with you and have a microsite. so, goes back to what I was saying about businesses and local authorities, people want to have control over their information." (Phase1_11)</i></p> <p><i>"It would be fantastic to have a digital platform for collaboration. As long as we can get access. We are sort of disabled here as the council provide our IT and so often we get access violations because they don't like to, So I don't get access...I want complete access." (Phase1_06)</i></p>	<p><i>"being able to edit my own information live on the site gives me control. I can change things as and when they happen" (Phase3_11)</i></p> <p><i>"the ability to look at the data" (Phase3_13)</i></p> <p><i>"This is very convenient, I think it's very convenient. There are some times, even when we update information on website, we need to ask who are responsible for this website update. It's not efficient. So, this is very convenient and efficient way to manage and to keep it updated." (Phase3_07)</i></p>

Zainal-Abidin, H., Scarles, C., & Lundberg, C. (2023). The antecedents of digital collaboration through an enhanced digital platform for destination management: A micro-DMO perspective. *Tourism Management*, 96, 104691. <https://doi.org/10.1016/j.tourman.2022.104691>