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Religious Motivation at the Core of Route Preferences in Pilgrimage Decision-Making

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Religious Motivation at the Core of Route Preferences in Pilgrimage Decision-Making

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The doctoral candidate declares that there are no conflicts of interest related to this thesis.

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- **Chapter 3 – Methodology:** conceptual and methodological grounding for the models examined.
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- Methodological design of the study
- Data collection
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- Interpretation of results and scientific writing

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"Ser peregrino significa partir todos os dias, recomeçar sempre, reencontrar o entusiasmo e a força de percorrer as várias etapas do percurso que, apesar das fadigas e dificuldades, sempre abrem diante de nós novos horizontes e panoramas desconhecidos. Este é precisamente o sentido da peregrinação cristã: estamos em caminho à descoberta do amor de Deus e, ao mesmo tempo, à descoberta de nós mesmos, através duma viagem interior, mas sempre estimulados pela multiplicidade das relações" (Papa Francisco).

Once a pilgrim, always a pilgrim…

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ABSTRACT

This doctoral thesis investigates the decision-making processes of pilgrims traveling along the Portuguese ways. It focuses on the influence of multiple factors on route choice, including individual motivations (religious, secular, and non-religious), cultural background (pilgrims' countries of origin), type of travel (individual versus group), physical route characteristics (starting point, route length, and mode of travel), external conditions (such as seasonality), demographic variables (gender, age, and employment status), and the country-level Christian religiosity of pilgrims. The analysis centers on two specific routes: the Portuguese Central way, traditionally associated with religious motivations, and the Portuguese Coastal way, which has become increasingly attractive to secular and cultural tourists in recent years.

In this context, the descriptive analysis of the Pilgrims' Welcome Office data reveals a steady growth in the number of pilgrims on the Portuguese routes, with the Portuguese Central way becoming the third most traveled route after 2018. As of 2024, the French way remains the most popular (47.38%), followed by the Portuguese Central way (19.14%) and the Portuguese Coastal way (14.98%), with the latter showing the highest growth rates since 2017 (Pilgrim's Welcome Office, 2024). This growth can be attributed to several factors: the increasing popularity of pilgrimages, particularly to *Santiago* way; the historical authenticity and strong Jacobean tradition of the Portuguese ways; their scenic and cultural richness, including medieval towns and heritage sites; and significant public and private investments in infrastructure, such as hostels, hotels, and restaurants.

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These trends raise important research questions: Have pilgrims' route preferences changed significantly in recent years? What are the key factors driving these decisions? To address these questions, the thesis identifies four main gaps:

Gap 1: although religious tourism and pilgrimage have received considerable academic attention, there remains a lack of studies examining how religious, secular, and non-religious motivations and cultural influence pilgrims' decision-making processes and destination choices. While several studies have analyzed motivations in religious tourism. In particular, little attention has been paid to how these motivations interrelate and impact decision-making, especially when choosing between a more religious route and a more tourism-oriented ways;

Gap 2: even though various studies have analyzed route choice in tourism, emphasizing aspects, such as road types, travel times, and scenic features, less attention has been devoted to the specific factors influencing route decisions in pilgrimage contexts. In particular, the role of route attributes (start point, route length, and mode of travel), external factors (seasonality), and social interactions (i.e. individual versus group) in such decisions remain underexplored, especially when pilgrims choose between more religion oriented and more tourism-oriented ways;

Gap 3: although existing studies explore aspects, such as route attributes, country-level Christian religiosity, motivations, and social interactions, few provide a comprehensive understanding of how these variables, together with demographics (e.g., age, gender, employment status), collectively influence decision-making in religious tourism. This is especially true in the context of choosing between more religious and more tourism-oriented ways;

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Gap 4: finally, although the literature has examined the individual effects of route types, travel times, motivations, external factors, social interactions, demographic variables, and the country-level Christian religiosity, there is a lack of studies offering a holistic view of how these factors interact in decision-making within religious tourism. This is especially relevant when pilgrims choose between a more religious route (e.g., the Portuguese Central way) and a more tourism-oriented route (e.g., the Portuguese Coastal way). Despite existing research on isolated variables, there is still a need to integrate these diverse elements to explain the complexity of pilgrimage route choice, which is key to understanding preferences and behaviors of different pilgrim profiles.

Based on the literature review and the identified motivations, we thoroughly explored the research questions and hypotheses, with the main goal of addressing and filling the gaps in existing knowledge.

A key gap in literature is the lack of studies examining how different types of motivations (such as religious, non-religious, and secular), as well as cultural backgrounds influence pilgrims' decision-making when choosing between more spiritual or more tourism-oriented pilgrimage routes. To address this gap, the study formulates the first research question (Q1): What are the key factors influencing pilgrims' decision-making processes when choosing between more spiritual and more tourism-oriented pilgrimage routes? In response to this question, two hypotheses are proposed. Hypothesis 1 ($H1_a$): Religious, non-religious, and secular motivations influence the choice between a more religious route (Portuguese Central way) and a more tourism-oriented route (Portuguese Coastal way).

Hypothesis 1b ($H1_b$): Cultural influences have an impact on pilgrim's decision to choose between the Portuguese Central way and the Portuguese Coastal way.

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Secondly, despite the existence of studies identifying factors that influence destination decision-making in tourism, we identified a gap in the literature concerning the role of route attributes in the specific context of pilgrimage tourism.

Another important gap in literature concerns the limited focus on the role of physical attributes of pilgrimage routes in influencing decision-making processes. While several studies in tourism have examined aspects, such as route types, distances, and scenic features, there is a lack of empirical research specifically addressing how such route characteristics impact pilgrims' choices in religious tourism contexts. To fill this gap, the following research question is posed:

Question 2 (Q2): How do physical attributes of the route influence pilgrims' choices between a more religious and a more tourism-oriented route? (chapter 5 and 6).

To investigate this question, three hypotheses are formulated:

Hypothesis 2 (H2): Route length has a positive impact on the choice between a more religious route (Portuguese Central way) and a more tourism-oriented route (Portuguese Coastal way).

Hypothesis 3 (H3): The starting point has a positive impact on the choice between a more religious route and a more tourism-oriented route.

Hypothesis 4 (H4): The pilgrim's mode of travel has a positive impact on the choice between a more religious route and a more tourism-oriented route.

A third gap identified in the literature relates to the limited empirical evidence on how external and social factors affect decision-making in pilgrimage tourism. Although some research in general tourism has addressed aspects, such as seasonality and social dynamics, few studies have examined how these elements influence pilgrims' route choices specifically within the framework of religious travel. To address this gap, the study proposes the following research question:

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Question 3 (Q3): How do external factors, such as seasonality, influence route choice behavior among pilgrims in the context of pilgrimage tourism?

In response, the study formulates Hypothesis 5 (H5): Seasonality has a positive impact on the choice between a more religious route and a more tourism-oriented route.

A fourth gap addressed in this study concerns the limited empirical attention given to the role of social interactions in influencing pilgrims' choices of pilgrimage routes. While social context is acknowledged in broader tourism literature, there remains a lack of focused investigation on how traveling individually versus in a group may shape decisions in the specific context of religious tourism. To explore this issue, the following question is proposed:

Question 4 (Q4): How do social interactions (individual versus group travel) affect route choice behavior among pilgrims? (chapter 5 and 6). In response, the study formulates: Hypothesis 6 (H6): Social interactions, namely traveling individually or in a group, have a positive impact on the choice between a more religious route and a more tourism-oriented route.

Additionally, although motivations, route characteristics, and social interactions have been the subject of several studies, there is still a notable gap regarding the influence of demographic characteristics, such as age, gender, and employment status, on route choice in pilgrimage tourism. A more integrated understanding of how these individual-level variables affect decision-making remains underexplored.

Objective 3: To analyze how demographic variables influence pilgrims' behaviors and decision-making in pilgrimage tourism. This leads to the next research question:

Question 5 (Q5): How do demographic variables influence pilgrims' behaviors and decision-making in pilgrimage tourism? (chapter 5 and 6). To investigate this, the following is proposed:

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Hypothesis 7 (H7): Demographic variables have a positive impact on the choice between a more religious route and a more tourism-oriented route.

Finally, although some studies have examined variables, such as motivations or route characteristics, few have investigated how macro-level factors, the country-level Christian religiosity, influence individual decision-making in religious tourism. This represents a critical gap, particularly in understanding how the country-level Christian religiosity affects preferences for more spiritual versus more tourism-oriented pilgrimage routes. To address this gap, the following research question is proposed:

Question 6 (Q6): How does the country-level Christian religiosity influence pilgrims' behaviors and decision-making processes in the context of pilgrimage and religious tourism? In response, the study formulates: Hypothesis 8 (H8): The country-level Christian religiosity has a positive impact on the choice between a more religious route and a more tourism-oriented route.

To verify the hypotheses, a quantitative analysis was used, with data from pilgrim records (Pilgrim's Welcome Office, 2022), and Pew Research Center (PRC, 2023). In terms of econometric analysis, logistic regression and multilevel logistic regression were used. The dependent variable represents the pilgrims' choice between two ways: a more religiously oriented route (Portuguese Central way) and a more tourist-oriented route (Portuguese Coastal way). Logistic regression was used to calculate the likelihood of choosing one route based on several independent variables, including motivations, physical characteristics of the way, social interactions, seasonality, and demographic characteristics of the pilgrims. Given the data structure, the study employed multilevel regression. One of the methodological innovations of this thesis lies in its use of multilevel binary logistic regression models, which allow for the simultaneous analysis of individual (micro-level) and national (macro-level) variables. This

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approach makes it possible to assess not only personal motivations, demographics, and behavioral factors, but also the influence of a pilgrim's country of origin, particularly in terms of national context or identity. The findings reveal that while individual motivations strongly influence route preference, the country of origin also plays a significant role, validating the use of multilevel analysis in religious tourism research. This mixed approach not only fills important gaps in theoretical knowledge within the fields of tourism, consumer behavior, and religious studies, but also provides practical insights for destination managers and policymakers. These findings can support strategic planning, infrastructure development, and the long-term sustainability of the Portuguese ways.

Key findings indicate that the Portuguese Central way is predominantly chosen by pilgrims with strong religious motivations, especially those traveling longer distances or starting from traditional entry points like *Tui*. In contrast, the Portuguese Coastal way is chosen by younger pilgrims, women, and those with secular or cultural motivations. Contrary to expectations, seasonality and traveling in groups did not significantly influence route choice.

Moreover, one of the most surprising and significant findings of this study is that country-level Christian religiosity did not exert a statistically significant influence on route choice. These challenges prevail in the religious tourism literature, which often posits a strong correlation between national religious context and spiritually motivated behavior. Although it was hypothesized that pilgrims from more religious countries would be more inclined to choose the Portuguese Central way, traditionally associated with spiritual depth, the empirical results did not support this. Instead, the analysis indicates that individual-level motivations and personal context outweigh country-level Christian religiosity as determinants of behavior.

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There are several plausible explanations for these unexpected results. First, country-level Christian religiosity has become increasingly individualized and decoupled from national identity, particularly in the context of globalization.

Second, pilgrimage motivations are multifaceted, and many pilgrims today engage in religious routes not only for religious reasons, but for cultural, or introspective purposes. Even pilgrims from highly religious countries may choose the Portuguese Coastal way due to its scenic appeal, accessibility, or social atmosphere, rather than choosing based on spiritual alignment.

Third, the country-level Christian religiosity, while useful for broad sociological comparisons, may not adequately capture the nuances of individual belief systems, practices, or spiritual intentions. A person from a country with high aggregate the country-level Christian religiosity may not personally identify with institutional religion, while someone from a secularized society may pursue deeply meaningful spiritual experiences.

Finally, this result may reflect the broader democratization of pilgrimage experiences, in which traditional religious symbolism coexists with modern values, such as self-discovery, wellness, and cultural tourism. This reinforces the relevance of individual-level analysis and supports the thesis's central argument: that pilgrimage decision-making is better explained by a continuum of motivations and situational factors than by the country-level Christian religiosity alone.

The study contributes theoretically by challenging binary distinctions between religious and secular pilgrims. Instead, it proposes a continuum model of motivation that better captures the complexity of modern pilgrimage behavior. It also validates the role of national cultural background as a significant moderator of decision-making, thereby extending classical tourism theories, such as the push-pull model.

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The first group, religious motivated pilgrims, typically chooses the Portuguese Central way, as it is perceived as more traditional and religiously significant. These pilgrims are primarily driven by spiritual or religious reasons, seeking authenticity, sacred heritage, and a deeper connection with the religious meaning of the journey. For this segment, marketing strategies should emphasize the religious legacy of the route, including its historical relevance, access to churches, and opportunities for spiritual reflection. Investments in infrastructure should focus on maintaining religious monuments, improving facilities near sacred sites, and collaborating with religious institutions, such as dioceses and parishes to enhance the overall spiritual experience. The second group consists of culturally and scenically motivated pilgrims, who are more likely to choose the Portuguese Coastal way. These pilgrims are generally driven by a combination of cultural curiosity, appreciation of nature, leisure, and personal well-being. For this segment, communication efforts should highlight the route's scenic landscapes along the Atlantic coast, rich cultural diversity, local gastronomy, and opportunities for relaxation and social interaction. Infrastructure planning should prioritize signage, accessibility, rest areas, and tourism-related services that align with this more touristic profile. Engagement with local tourism boards, municipalities, and hospitality providers is essential to meet the expectations of this group.

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RESUMO

Esta tese doutoral investiga os procesos de toma de decisión dos peregrinos que percorren as vías portuguesas. O estudo céntrase na influencia de múltiples factores na elección da ruta, incluíndo as motivacións individuais (relixiosas, seculares e non relixiosas), o contexto cultural (países de orixe dos peregrinos), o tipo de viaxe (individual ou en grupo), as características físicas da ruta (punto de partida, lonxitude e modo de viaxe), as condicións externas (como a estacionalidade), as variables demográficas (xénero, idade e situación laboral) e relixiosidade cristiá a nivel de país dos peregrinos. A análise concéntrase en dúas rutas específicas: o Camiño Portugués Central, tradicionalmente asociado ás motivacións relixiosas, e o Camiño Portugués da Costa, que se volveu cada vez máis atractivo para turistas seculares e culturais nos últimos anos.

Neste contexto, a análise descritiva dos datos da Oficina do Peregrino revela un crecemento constante no número de peregrinos nas vías portuguesas, sendo o Camiño Portugués Central o terceiro máis percorrido despois de 2018. En 2024, o Camiño Francés continúa a ser o máis popular (47,38%), seguido do Camiño Portugués Central (19,14%) e do Camiño Portugués da Costa (14,98%), sendo este último o que amosou as taxas de crecemento máis elevadas desde 2017 (Pilgrim's Welcome Office, 2024). Este incremento pode explicarse por varios factores: a crecente popularidade das peregrinacións, especialmente do Camiño de Santiago; a autenticidade histórica e a forte tradición xacobea das vías portuguesas; a súa riqueza paisaxística e cultural, que inclúe vilas medievais e bens patrimoniais; e os importantes investimentos públicos e privados en infraestrutura, como albergues, hoteis e restaurantes.

Estas tendencias xeraron cuestións de investigación importantes: Mudaron significativamente as preferencias dos peregrinos con respecto ás rutas nos últimos anos? Cales son os principais

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factores que conducen estas eleccións? A tese propúxose abordar estas cuestións e, para iso, identificou catro lacunas principais na literatura existente sobre o tema. A continuación, preséntanse as catro principais eivas na literatura identificadas na tese, que limitan a comprensión dos factores que influencian as decisións dos peregrinos ao elixir entre rutas máis espirituais ou máis orientadas ao turismo.

Eiva 1: A pesar de que o turismo relixioso e as peregrinacións recibiron unha considerable atención académica, aínda hai unha falta de estudos que investiguen como as motivacións relixiosas, no relixiosas e seculares e culturais inflúen nos procesos de toma de decisión e a elección de destino neste contexto. A literatura existente non explora de maneira adecuada como estas motivacións se mesturan e impactan nas decisións, especialmente cando se escolle entre unha ruta máis relixiosa e outra máis orientada ao turismo.

Neste sentido, a eiva 2 destaca a necesidade de investigar en maior profundidade como as características físicas das rutas, como a lonxitude, o punto de partida e o modo de viaxe, inflúen nas decisións dos peregrinos ao escoller entre diferentes itinerarios.

Eiva 2: A pesar de que varios estudos analizaron a elección de rutas no turismo, cunha especial atención en aspectos como tipos de ruta e tempos de viaxe, hai unha escaseza de estudos dedicados aos factores específicos que influencian a elección de rutas en contextos de peregrinación. Particularmente, o papel dos atributos das rutas (punto de partida, lonxitude da ruta e modo de viaxe), factores externos (estacionalidade) e interaccións sociais (individual versus grupo) nas eleccións dos peregrinos está pouco explorado, especialmente no contexto de eleccións entre rutas máis orientadas á relixión e outras máis orientadas ao turismo.

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A eiva 3 pon de relevo a falta de investigación sobre como factores externos, como a estacionalidade e as interaccións sociais, afectan as eleccións das rutas polos peregrinos no contexto das peregrinacións.

Eiva 3: A pesar de que existen estudos que exploran aspectos como atributos das rutas, relixiosidade cristiá a nivel de país, motivacións e interaccións sociais, poucos proporcionan unha comprensión abranxente de como estas variables, xunto con variables demográficas (como idade, xénero, situación laboral), influencian colectivamente a toma de decisión no turismo relixioso. Isto é particularmente importante no contexto de eleccións entre rutas relixiosas e máis turísticas.

A eiva 4 refírese á escasa exploración de como as variables demográficas, como a idade, o xénero e o situación laboral, así como a relixiosidade cristiá a nivel de país de orixe dos peregrinos, inflúen nas súas decisións ao elixir entre rutas máis relixiosas ou turísticas.

Eiva 4: Finalmente, a pesar de que a literatura examinou os efectos individuais de tipos de rutas, tempos de viaxe, motivacións, factores externos, interaccións sociais, variables demográficas e a relixiosidade cristiá a nivel de país de orixe dos peregrinos, aínda hai unha falta de estudos que ofrezan unha visión holística de como estes factores interactúan na toma de decisión no turismo relixioso. Comprender esta interacción é esencial para explicar a complexidade da elección da ruta de peregrinación, o que é crucial para entender as preferencias e comportamentos de diferentes perfís de peregrinos.

A partir da revisión da literatura e das motivacións identificadas, exploráronse en profundidade as preguntas e hipóteses de investigación, co obxectivo principal de abordar e cubrir as lagoas existentes no coñecemento. Unha lagoa fundamental é a falta de estudos que analicen como diferentes tipos de motivación (relixiosas, non relixiosas e seculares), así como os contextos

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culturais, inflúen na toma de decisións dos peregrinos ao elixir entre rutas máis espirituais ou máis orientadas ao turismo. Para abordar esta lagoa, formúlase a primeira pregunta: Q1: Cales son os factores principais que inflúen nos procesos de toma de decisión dos peregrinos ao escoller entre rutas máis espirituais e máis turísticas? Propoñense dúas hipóteses para esta cuestión ($H1_a$): As motivacións relixiosas, seculares e non relixiosas inflúen na elección entre unha ruta máis relixiosa (Camiño Portugués Central) e unha máis orientada ao turismo (Camiño Portugués da Costa) ($H1_b$): As influencias culturais impactan na decisión dos peregrinos ao escoller entre as dúas rutas.

A cuestión 2 busca investigar como os atributos físicos das rutas, como a lonxitude, o punto de partida e o modo de viaxe, influencian a elección dos peregrinos entre rutas máis relixiosas e máis turísticas.

Q2: Como os atributos físicos das rutas inflúen nas eleccións dos peregrinos entre rutas máis relixiosas e máis turísticas? A tese propón tres hipóteses (H2): A lonxitude da ruta ten un impacto positivo na elección entre o Camiño Portugués Central e o Camiño Portugués da Costa (H3): O punto de partida ten un impacto positivo na elección entre unha ruta relixiosa e unha máis orientada ao turismo (H4): O modo de viaxe do peregrino inflúe na elección entre as dúas rutas.

A cuestión 3 explora como factores externos, como a estacionalidade, influencian o comportamento de elección de ruta entre os peregrinos no contexto das peregrinacións.

Q3: Como factores externos, como a estacionalidade, inflúen no comportamento de elección de ruta entre peregrinos no contexto de turismo relixioso? A hipótese (H5): suxire que a estacionalidade ten un impacto positivo na elección entre as rutas.

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A cuestión 4 investiga como as interaccións sociais, nomeadamente viaxar de xeito individual ou en grupo, afectan as eleccións das rutas polos peregrinos.

Q4: Como as interaccións sociais (viaxar individualmente fronte a en grupo) afectan o comportamento de elección de ruta dos peregrinos? A hipótese (H6): propón que as interaccións sociais teñen un impacto positivo na elección entre rutas relixiosas e turísticas.

Obxective 3: Analizar como as variables demográficas inflúen nos comportamentos e nos procesos de toma de decisión dos peregrinos no contexto do turismo relixioso.

A cuestión 5 busca analizar como as variables demográficas, como idade, xénero e situación laboral, afectan o comportamento e as decisións dos peregrinos no contexto do turismo relixioso.

Q5: Como as variables demográficas (idade, xénero, situación laboral) inflúen no comportamento e na toma de decisión dos peregrinos no turismo relixioso? A hipótese (H7): suxire que estas variables teñen un impacto positivo na elección entre as rutas.

Por último, a Q6: Como o nivel de relixiosidade cristiá a nivel de país dos peregrinos inflúe nos seus comportamentos e decisións no contexto das peregrinacións? A hipótese (H8): suxire que o nivel de relixiosidade cristiá a nivel de país de orixe do peregrino impacta a elección entre rutas máis espirituais e máis turísticas.

Para probar estas hipóteses, a metodoloxía empregada será de carácter cuantitativo, utilizando datos recollidos pola la Oficina do Peregrino (2022) e do Pew Research Center (PRC, 2023).

En termos de análise econométrica, utilizáronse modelos de regresión lóxica e regresión lóxica multinivel. A variable dependente representa a elección dos peregrinos entre dúas vías: unha máis orientada á relixión (Camiño Portugués Central) e outra máis orientada ao turismo (Camiño Portugués da Costa). A regresión lóxica permitiu calcular a probabilidade de escoller

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unha ruta en función de variables independentes, incluíndo motivacións, características físicas da ruta, interaccións sociais, estacionalidade e características demográficas.

Dada a estrutura dos datos, aplicouse un modelo de regresión multinivel. Unha das innovacións metodolóxicas desta tese reside no uso de modelos de regresión lóxica binaria multinivel, que permiten a análise simultánea de variables a nivel individual (micro) e nacional (macro). Este enfoque posibilita avaliar non só as motivacións persoais, a demografía e os factores de comportamento, senón tamén a influencia do país de orixe do peregrino, especialmente en termos de contexto e identidade nacional.

Os resultados revelan que, mentres as motivacións individuais inflúen fortemente na preferencia pola ruta, o país de orixe tamén desempeña un papel significativo, validando o uso da análise multinivel no estudo do turismo relixioso. Este enfoque mixto non só cobre lagoas teóricas nos campos do turismo, do comportamento do consumidor e dos estudos relixiosos, senón que tamén ofrece implicacións prácticas para os xestores de destinos e responsables de políticas públicas. Estes achados poden apoiar a planificación estratéxica, o desenvolvemento de infraestruturas e a sustentabilidade a longo prazo das vías portuguesas.

Os resultados principais indican que o Camiño Portugués Central é escollido maioritariamente por peregrinos con fortes motivacións relixiosas, especialmente aqueles que percorren distancias longas ou comezan desde puntos tradicionais como Tui. Pola contra, o Camiño Portugués da Costa é preferido por peregrinos máis novos, mulleres e persoas con motivacións seculares ou culturais. En contra das expectativas, a estacionalidade e a viaxe en grupo non tiveron unha influencia significativa na elección da ruta.

Ademais, un dos achados máis sorprendentes deste estudo é que o relixiosidade cristiá a nivel de país de orixe do peregrino non exerceu unha influencia estatisticamente significativa na

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elección da ruta. Isto desafía a literatura sobre turismo relixioso, que adoita propoñer unha forte correlación entre o contexto relixioso nacional e o comportamento espiritual. Aínda que se formulou a hipótese de que os peregrinos procedentes de países máis relixiosos tenderían a escoller o Camiño Portugués Central, os resultados empíricos non o confirmaron. Pola contra, a análise mostra que as motivacións e o contexto persoal a nivel individual pesan máis que a relixiosidade cristiá a nivel de país como determinantes do comportamento.

Existen varias explicacións plausibles para estes resultados: en primeiro lugar, a relixiosidade cristiá a nivel de país tornouse cada vez máis individualizada e desvinculada da identidade nacional, especialmente no contexto da globalización; en segundo lugar, as motivacións de peregrinación son multifacéticas, e moitos peregrinos percorren rutas relixiosas non só por razóns espirituais, senón tamén culturais ou introspectivas; en terceiro lugar, as métricas de relixiosidade cristiá a nivel de país poden non reflectir as nuances das crenzas e intencións individuais; e, finalmente, este resultado pode reflectir a democratización das experiencias de peregrinación, nas que o simbolismo relixioso tradicional convive con valores modernos como a autodescoberta, o benestar e o turismo cultural.

O estudo achega unha contribución teórica relevante ao cuestionar as distincións binarias entre peregrinos relixiosos e seculares, propoñendo no seu lugar un modelo continuo de motivación que reflicte mellor a complexidade do comportamento peregrino contemporáneo. Ademais, valida o papel do contexto cultural nacional como un moderador significativo na toma de decisións, ampliando teorías clásicas do turismo como o modelo *push–pull*.

O primeiro grupo, formado por peregrinos motivados relixiosamente, adoita escoller o Camiño Portugués Central, percibido como máis tradicional e espiritualmente significativo. Estes peregrinos buscan autenticidade, patrimonio sagrado e unha conexión máis profunda co

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significado relixioso da viaxe. Para este segmento, as estratexias de marketing deberían destacar o legado relixioso da ruta, a súa relevancia histórica, o acceso a igrexas e as oportunidades de reflexión espiritual. Os investimentos en infraestrutura deberían centrarse na conservación de monumentos relixiosos, na mellora de instalacións preto de lugares sagrados e na colaboración con institucións relixiosas, como dioceses e parroquias, para potenciar a experiencia espiritual. O segundo grupo está composto por peregrinos motivados por razóns culturais e paisaxísticas, que tenden a escoller o Camiño Portugués da Costa. Estes peregrinos son impulsados por curiosidade cultural, aprecio pola natureza, lecer e benestar persoal. Para este segmento, as accións de comunicación deberían destacar as paisaxes atlánticas, a diversidade cultural, a gastronomía local e as oportunidades de descanso e interacción social. A planificación de infraestruturas debería priorizar a sinalización, a accesibilidade, as áreas de descanso e os servizos turísticos que se axusten a este perfil máis turístico. A colaboración con organismos de promoción turística, concellos e provedores de servizos de hospitalidade é esencial para satisfacer as expectativas deste grupo.

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CHAPTER 1: INTRODUCTION

One of the core issues in tourism research is understanding decision-making and the factors that positively or negatively influence travel behavior (McCabe et al., 2016; Damiasih, 2025). Travel decision-making is a complex, multi-layered process, where external and internal factors influence decisions about how often, how long, and where someone travels (Karl et al., 2020; Chen & Wei, 2024; Chen et al., 2025). In this context, the topic of religion has been receiving growing research attention in religious consumer behavior (Mathras et al., 2016; Rashid, 2018; Rebuya et al., 2020; Saini & Kumar, 2023; Shaw, 2024). Previous research indicates that religion influences both behavior and purchase decisions (Essoo & Dibb, 2004; Singh et al., 2021; Al-Amin & Omar, 2023; Rana et al., 2025).

In tourism, religion may influence the choice of destination and tourists' product preferences (Weidenfeld & Ron, 2008; Patwardhan et al., 2020; Alsawafi & Al Ghafri, 2023; Vu et al., 2024). The choice of destinations in religious tourism includes multiple factors that influence individuals' choices when deciding on a pilgrimage or religious travel destination, namely, religious significance, accessibility, safety, and infrastructure of the destinations. Religious tourism is considered one of the oldest forms of tourism. According to the United Nations World Tourism Organization (UNWTO), religious tourism is a segment with high potential that tends to represent around 20% of global tourism, which means that around 300 to 330 million tourists annually travel for religious motivations. For many countries, religious tourism around their historical and religious heritage is a significant part of their total tourism market. In the specific case of the pilgrimage phenomenon, we observe that it has been a focus of special attention in different areas of academic research (Margry, 2008; King, 2023). According to several authors, pilgrimage is a complex and dynamic phenomenon, with different implications at religious, political, social and territorial levels (Collins-Kreiner, 2020b; Polus et al., 2022;

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Suárez et al., 2024). These ways has experienced a surge in popularity in recent years, partly due to the availability of infrastructure and services that cater to the diverse needs of pilgrims. Reflecting a global trend, the number of pilgrims on these routes has consistently grown, interrupted only briefly by the COVID-19 pandemic. In 2024, the French way recovered to 236,381 (+7.55%), the Portuguese Central way with 95,491 (+7.62%), and the Portuguese Coastal way with a new record 75,758 (+43.55%). These numbers reveal that the French way continues to be the most important, however, the Portuguese ways, particularly the Portuguese Coastal way, are increasingly preferred pilgrimage way (Pilgrim's Welcome Office, 2024).

This evolution suggests a diversification in the preferences of pilgrims. Although the Portuguese Coastal way has been traveled since the Middle Ages, it only began to emerge as an alternative to the Portuguese Central way and the French way in recent years. This change may reflect broader transformations in pilgrimage dynamics, and this development creates significant issues. Have pilgrims' travel choices changed significantly in recent years? What factors have influenced these decisions? The physical and cultural characteristics of the routes themselves play a role in these decisions. How do elements, such as landscape, level of difficulty, infrastructure, heritage sites, and degree of country-level Christian religiosity influence the decision-making process?

While existing literature has extensively examined the motivations and behaviors of pilgrims, there remains a lack of empirical studies that simultaneously account for religious and secular motivations, specific physical attributes of pilgrimage routes, demographic factors, and the degrees of the country-level Christian religiosity when explaining route choices, particularly in the context of the Portuguese ways to *Santiago*.

In this sense, this thesis aims to address these gaps by testing eight hypotheses, structured across four main dimensions:

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1. Motivations: including religious, non-religious, and secular ($H1_a$)
2. Cultural influences ($H1_b$);
3. Physical and external factors: such as distance, starting point, mode of travel, and seasonality (H2 to H5);
4. Demographic characteristics and social factors: including social interactions, demographics, and country-level Christian religiosity (H6 to H8).

These hypotheses are detailed in Table 1.

This thesis seeks to advance both theoretical understanding and practical management of religious tourism by offering new insights into the factors shaping pilgrimage route choice, and informing destination planning, product development, and sustainable management strategies for religious routes. Destination managers and stakeholders can support strategic decision-making for religious destinations, such as infrastructure planning, development of complementary services, destination promotion and the long-term sustainability of religious tourism. To verify the hypotheses, a quantitative analysis was used, with data from pilgrim records (Pilgrim's Welcome Office, 2022) and Pew Research Center (PRC, 2023). In terms of econometric analysis, both logistic regression and multilevel logistic regression were used. The dependent variable represents the pilgrims' choice between two ways: a more religiously oriented route (Portuguese Central way) and a more tourist-oriented route (Portuguese Coastal way). Logistic regression was used to calculate the likelihood of choosing one route based on several independent variables, including motivations, physical characteristics of the way, social interactions, seasonality, and demographic characteristics of the pilgrims. Given the data structure, the study employed multilevel logistic regression. One of the methodological innovations of this thesis lies in its use of multilevel binary logistic regression models, which allow for the simultaneous analysis of individual (micro-level) and national (macro-level)

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variables. This approach makes it possible to assess not only personal motivations, demographics, and behavioral factors, but also the influence of a pilgrim's country of origin, particularly in terms of cultural and religious background (see Table 1).

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Table 1 Analytical Framework: Hypotheses, Descriptions, and Statistical Models for the Choice of Pilgrimage Ways

Hypothesis	Descriptions	Analysis
H_{1a}	Religious, non-religious, and secular motivations have a positive and significant impact on the choice between a religious way (Portuguese Central way) and a touristic Way (Portuguese Coastal way).	Logistic Regression Model and Multilevel Binary Logistic Regression Model
H_{1b}	Cultural influence has a positive and significant impact on the choice between a religious way (Portuguese Central way) and a touristic way (Portuguese Coastal way).	
H_2	Physical attributes, particularly route length (distance), have a positive and significant impact on the choice between a religious way (Portuguese Central way) and a touristic way (Portuguese Coastal way).	
H_3	Physical attributes, particularly the start point, have a positive and significant impact on the choice between a religious way (Portuguese Central way) and a touristic way (Portuguese Coastal way).	
H_4	Physical attributes, particularly the mode of travel, have a positive and significant impact on the choice between a religious way (Portuguese Central way) and a touristic way (Portuguese Coastal way).	
H_5	External factors, particularly seasonality, have a positive and significant impact on the choice between a religious way (Portuguese Central way) and a touristic way (Portuguese Coastal way).	
H_6	Social interactions, particularly whether pilgrims travel individually or in a group, have a positive and significant impact on the choice between a religious way (Portuguese Central way) and a touristic way (Portuguese Coastal way).	
H_7	Demographic variables have a positive and significant impact on the choice between a religious way (Portuguese Central way) and a touristic way (Portuguese Coastal way).	
H_8	Country-level Christian religiosity variables have a positive and significant impact on the choice between a religious way (Portuguese Central way) and a touristic way (Portuguese Coastal way).	Multilevel Regression Model

Source: Authors' own elaboration

The results of this thesis show that the Portuguese Central way is predominantly chosen by pilgrims with strong religious motivations, those traveling longer distances, those who begin their way in *T*ui, and those who travel by bicycle. Meanwhile, the Portuguese Coastal way is more frequently chosen by secular tourists, by younger pilgrims, and women. Seasonality and

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group travel have an insignificant impact on route choice. Finally, and contrary to expectations, country-level Christian religiosity does not significantly predict route choice.

In sum, the Portuguese Central way continues to represent the traditional religious character of the *Santiago* way, and in contrast, the Portuguese Coastal way is emerging as a more touristic way.

This thesis is structured into seven chapters, each addressing different aspects of the research (see Table 2).

Table 2 Structure of the Thesis

CHAPTERS
Chapter 1 Introduction
The current chapter provides the context and background for the study, identifies the research gaps, introduces the key research questions and hypotheses, and summarizes the methodology.
Chapter 2 Literature Review
This chapter reviews relevant literature and theoretical foundations related to consumer behavior and decision-making in tourism, with a particular focus on religious tourism and pilgrimage. This chapter also includes a review of relevant research on pilgrimage experiences and route choice.
Chapter 3 Methodology
In this chapter, detailed information on the research design is provided, including the data sources, sample characteristics, variables and measures (how each concept is operationalized), and statistical methods employed in the analysis (e.g., descriptive statistic, ANOVA, logistic regression, and multilevel binary logistic regression).
Chapter 4 Portuguese Ways
This chapter includes an overview of the Portuguese Central and Portuguese Coastal ways. It also presents a descriptive analysis of the databases.
Chapter 5 Logistic Regression
This chapter presents the analysis of results for Model I, Model II and Model III (testing $\boldsymbol{H1_a}$ through H7). It reports the estimated effects of motivations, physical attributes, external factors, social context, and demographic variables on pilgrims' route choice.
Chapter 6 Multilevel Binary Logistic Regression.
This chapter extends the analysis by incorporating the multilevel binary logistic regression models (Model IV, Model V, Model VI), to test H8 (country-level Christian religiosity), and to understanding the effect of country-level factors in pilgrims' route choice.
Chapter 7 Discussion, Conclusions, Recommendations and Limitations
The final chapter summarizes the key findings of the research and discusses their implications, revisiting the initial research questions. Recommendations are provided on how to better manage the Portuguese ways. Additionally, this chapter also acknowledges the limitations of the study and suggests directions for future research.
References and Annexes
References and Annexes are included at the end of the thesis.

Source: Authors' own elaboration

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CHAPTER 2: STATE OF THE ART[1]

In recent years, research on pilgrimage decision-making has gained significant attention in the fields of tourism and religious studies. Consumer behavior in tourism requires us to understand the various factors that influence individuals' choices, including destination choice, travel modes, and route preferences (Cohen et al., 2014; Singh & Bhuyan, 2024; Vu et al., 2024; Korov et al., 2024). In general, it is observed that tourists' decisions are influenced by psychological, social, and cultural motivations, which guide their preferences and the types of experiences they value (Rezende & Coelho, 2021; Rozenkowska, 2023). This area of research often employs behavioral models to explain the complex and dynamic nature of travel-related decision-making (Mamengko et al., 2024; Damiasih, 2025). One of the most critical aspects of consumer behavior in tourism is how tourists decide where to travel. This decision-making process is influenced by multiple factors, including personal motivations, perceived value of the destination, and socio-demographic characteristics, such as age, income, and religious affiliation (Cohen et al., 2014).

In the context of religious tourism, and particularly pilgrimage, motivations are strongly tied to religious and cultural significance, making destination choice a deeply personal and often spiritual process (Collins-Kreiner, 2020b; Carvache-Franco et al., 2024). Beyond deciding on a destination, the choice of religious route is not merely a logistical decision but an integral part of the journey (Shinde, 2007; Kim et al., 2020).

[1] Part of this chapter has been reproduced in: Conde, Rosa; Borges, Ana Pinto; Isabel, Neira; Vieira, Elvira Pacheco (2023):"Estimate tourism model choice for Pilgrim in the way of St. James: The Portuguese way". *Journal of Religious Tourism and Pilgrimage* 190 (2023): 1-22. https://arrow.tudublin.ie/creaart/190.
Conde, R., Lema, Y., Borges, A. P., Neira, I., & Vieira, E. P. (2025). *Tres modelos para mejorar la gestión del Camino de Santiago*. In A. González Molina et al. (Eds.), *Análisis del futuro del sector turístico y casos de éxito* (pp.313-332). Editorial Aranzadi.

To better understand pilgrimage behavior and tourism, it is essential to examine studies that explore general consumer behavior theories and models, consumer behavior within the tourism sector, travel decision-making processes, destination choices, religious tourism and pilgrimage dynamics, route selection, pedestrian preferences, and the various factors influencing consumer behavior and decision-making.

This chapter synthesizes the literature that underpins the thesis. It begins with foundations in consumer behavior and classic models (Section 2.1), then examines travel decision-making (Section 2.2) and destination choice (Section 2.3). It then turns to religion, religious tourism, pilgrimage, and motivations (Section 2.4), before focusing on factors that influence decision-making in religious tourism (Section 2.5).

2.1 CONSUMER BEHAVIOR

This chapter aims to introduce the concept and general models of consumer behavior, highlighting the internal and external factors that influence decisions, as a theoretical basis for understanding the behavior of pilgrims.

2.1.1 Consumer Behavior: Concepts and Definitions

Consumer behavior is a multidisciplinary field that can be defined as the decision-making process and physical activity involved in acquiring, evaluating, using, and disposing of goods and services (Khan, 2007; Haghshenas et al., 2013; Cohen et al., 2014; Schiffman et al., 2014; Woodside, 2017) and the decisions about the spending of their resources (Cuculeski et al., 2015). Many authors have defined the concept of consumer behavior, highlighting, for example, the definition proposed by Moutinho (1987), in which consumer behavior is “the process of acquiring and organizing information in the direction of a purchase decision and of using and evaluating products and services”. In turn, Jacoby (2001) completed this definition, considering that “consumer behavior refers to the acquisition, consumption, and disposal of time and

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offerings (goods, services, and ideas)". For its part, Juvan et al. (2017), added to the definition the experience, and consumer behavior, defining consumer behavior as the "process of selecting, purchasing, and using a product or service in order to satisfy one's needs and desires". Similarly, Stankevich (2017) defines consumer behavior as "the study of individuals, groups, or organizations and the processes they use to select, secure, use and dispose of products, services, experiences, ideas to satisfy needs and the impact that these processes have on the consumer and on society".

2.1.2 Consumer Decision-Making Process

The research into consumer behavior includes how consumers think, feel, and behave, as well as their decision-making processes and motivations, and the actions that result from those decisions (Schiffman et al., 2014). Consumer behavior is associated with individual decision-making, and involves problem recognition, information search, judgment, purchase and post-decision processes, customer satisfaction, loyalty and other behavioral intentions (Dixit et al., 2019). In general, consumer behavior refers to the decisions and actions taken by the consumers which influence their purchasing behavior (Goswami, 2020; Gupta et al., 2023). In this context, consumer behavior integrates insights from psychology, sociology, and economics to understand consumer attitudes and actions (Nicosia, 1966; Engel et al., 1968; Erasmus et al., 2001; Lee, 2005; Bray, 2008; Simpson et al., 2008; Hyde & Laesser, 2009; MacInnis & Folkes, 2010; Milner & Rosenstreich, 2013; Schiffman et al., 2014; Park et al., 2017; Chen et al., 2018; Kuchinka et al., 2018; Goswami, 2020; Ulker-Demirel & Ciftci, 2020; Rezende & Coelho, 2021; Rozenkowska, 2023). In this sense, several authors have included different moments in the purchase process in their research, such as Khan (2007) and Solomon (2010, 2020), where they have included rational and emotional aspects, pre- and post-purchase. On the other hand, other authors have integrated internal factors (personality, self-image, attitudes, family, culture,

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socioeconomic class), and external factors (time restrictions, emotional state, social and cultural elements) (Moutinho, 1987; Stankevich, 2017; Schiffman et al., 2014; Handayani et al., 2022; Lim et al., 2022). Dixit et al. (2019) added situational factors and marketing-mix to the model. The situational factors include contextual influence, such as mood of the day, time pressure and information searched. Additionally, marketing-mix refers to product, price, place and promotion.

In the consumer decision-making process, Moutinho (1987) identifies five stages:

1. Need (or problem) recognition: recognizing a gap between present and desired conditions;
2. Information search: gathering knowledge from both internal and external sources;
3. Evaluation of alternatives: comparing various items or services;
4. Purchase choice: selecting and purchasing the preferred option;
5. Post-purchase evaluation/behavior: reflecting on satisfaction and determining future choices.

Regarding to the interaction of the elements that influence consumer behavior (see Figure 1), the author has developed a model that describes a consumer decision process that begins with a need or motivation, evolves into goal-oriented behavior, and is inspired by how the consumer perceives his or her alternatives.

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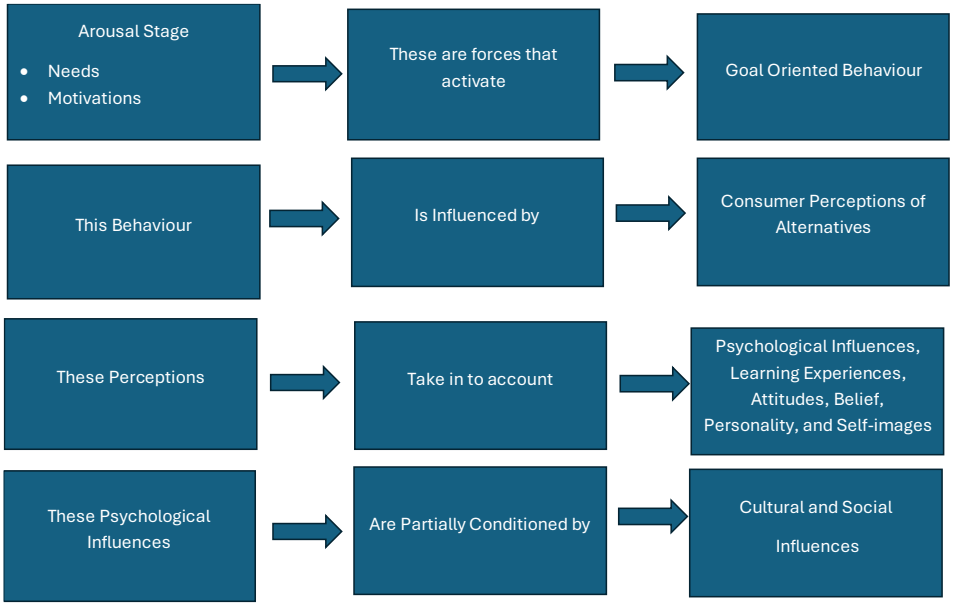
Figure 1 Interaction of Elements that Influence Consumer Behavior



Source: Adapted from Moutinho (1987)

These perceptions are influenced by psychological influences, which in turn are partially conditioned by social and cultural factors (Engel et al., 1995; Schiffman & Kanuk, 2010). Recent work also maps the evolution and emerging trends in consumer behavior research (Lim et al., 2022). In the first stage, the arousal stages include needs and motivations. These are the initial elements that activate behavior (Solomon, 2020). Consumer behavior is then directed towards achieving a specific goal, such as purchasing a product or having an experience (goal-oriented behavior) (Howard & Sheth, 1969). This behavior is influenced by consumer perceptions of alternatives, i.e., the way the consumer acts depend on how he/she perceives and evaluates the available options (Kotler & Keller, 2012). These perceptions take into account the psychological influences, learning experiences, attitudes, beliefs, personality, and self-images (Schiffman et al., 2010). For Moutinho (1987), the psychological influences are partially

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conditioned by cultural and social influences. Through the exploration of the concept of consumer behavior, a fundamental understanding of the models that study consumer decision-making can be developed. These models aim to refine and explain the complex and dynamic interactions between various influencing factors, which will be presented in the following sections.

2.1.3 Consumer Decision-Making Models

Many models have been developed to understand the relationship between different elements that influence consumer decision-making. The objective of these models is to try to give a distilled version of the complex relationship between the various factors that influence consumer decision-making (Horner & Swarbrooke, 2020). These models provide a framework for studying how consumers make decisions, what determines their preferences, and how they respond to diverse situations. They identify key elements that influence decisions, such as psychological, social, and situational factors (Nicosia, 1966; Erasmus et al., 2001; Milner & Rosenstreich, 2013; Goswami, 2020) and can also help evaluate how consumers compare alternatives and allocate their resources (time, money, and effort) (Cuculeski et al., 2015; Horner & Swarbrooke, 2020). Research on consumer behavior models emerged as a scientific field in the 1960s. Early work was characterized by theoretical gaps and fragmented applications across disciplines such as economics, marketing, and the behavioral sciences (Erasmus et al., 2001; Tešić & Bogetić, 2022). The interdisciplinary roots of the field are also reflected in economic psychology, which integrates economic and psychological perspectives on decision-making (van Raaij, van Veldhoven, & Wärneryd, 1988). More recent reviews provide an integrated overview of foundational purchasing behavior models developed since the 1960s (El Gozmir et al., 2024). Foundational contributions include the Engel–Kollat–

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Blackwell model (Engel et al., 1968) and the Howard–Sheth model (Howard & Sheth, 1969), marking the beginning of systematic studies of purchasing behavior.

Table 3 Consumer Behavior Models

Model	Authors	Descriptions
Model for the Psychological theory of the Underpinnings of Economic Behavior	Tarde (1902)	Emphasizes the role of psychological and social factors in economic decision-making. Rather than seeing economic behavior as purely rational and utility-maximizing, Tarde's theory suggests that social interactions, imitation, and emotions significantly shape consumer choices.
Psychological Analysis of Economic Behavior	Katona (1951)	Presents a seminal approach to understanding economic behavior through psychological principles, blending insights from psychology and economics.
Simon's Decision-Making Mode	Simon (1960)	In this model, the decision-making process consists of three stages of activities: Intelligence, design, choice. According to this author, decision-making is a cognitive process that can be "broken" down into simple and sequential steps.
Consumer Behavior Model	Andreasen (1965)	Aimed to understand consumer decision-making processes by examining both internal and external factors influencing behavior. Andreasen's model integrates psychological, sociological, and economic perspectives.
Nicosia Model	Nicosia (1966)	The decision-making process is the communication process that occurs between a brand and the consumer.
Consumer Behavior and Decision-Making Model	Engel, Kollat, and Blackwell (1968)	The stages of the decision-making process are input, information processing, decisions, and a set of variables that will influence the decision-making process. The decision-making process consists of five stages: recognition of needs, research, evaluation of alternatives, purchase, and evaluation.
Purchaser Behavior Model	Howard and Sheth (1969)	This theory explains consumers' behavior over a period. The authors identify the elements consumers use in their decision-making process: the motives, alternatives, and decisions that occur when motives are present. This model suggests three levels of decision-making by consumers: Extensive problem-solving, limited problem-solving, and habitual behavior.
Consumer Behavior and Product Performance: An Alternative	Narayana and Markin (1975)	These authors describe consumer behavior as an "evoked set," which includes and categorizes all brands that may come to their awareness. They also present a conceptual framework for consumer behavior when they have various brands available for the decision-making process.

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Table 3 Consumer Behavior Models (continuation)

Model	Authors	Descriptions
Theory of Rational Action	Fishbein and Ajzen (1975)	The consumer behaves rationally, evaluating what they lose and gain from expressing their attitudes.
Information Processing Model	Bettman (1979)	Provides a systematic approach to understanding how consumers make decisions under various conditions, focusing on the role of information processing and cognitive effort in consumer decision-making.
Theory of Reasoned Action Model	Ajzen and Fishbein (1980)	It is a foundational model in understanding consumer behavior, particularly in predicting behavior intentions based on attitudes and social norms. Explains behavior as driven by behavioral intentions, which are shaped by attitudes and subjective norms.
Economic Behavior Integration Model	van Raaij (1981)	Offers a comprehensive framework that integrates economic and psychological elements to explain consumer behavior. The model seeks to bridge gaps between traditional economic theories, which often assume consumers are entirely rational, and psychological insights that account for emotional, social, and cognitive influences on purchasing decisions.
Consumer Experiential Model	Holbrook and Hirschman (1982)	Represents a shift from traditional cognitive approaches to consumer behavior by emphasizing the experiential, emotional, and symbolic aspects of consumption. Holbrook and Hirschman argue that consumer behavior is not only a rational process of evaluating products based on utility, but also an emotional, hedonic experience influenced by fantasies, feelings, and fun.
Keeney's Four-Stage Decision-Making	Keeney (1982)	Considers the different stages of the decision-making process: structuring the decision problem (generating alternatives and specifying objectives), evaluating the potential impacts of each alternative, determining decision-maker preferences (values), and assessing and comparing alternatives.
Dynamic Discrete Choice Model	Rao and Vilcassim (1985)	Provides a framework for analyzing consumer decision-making over time, particularly in situations where previous choices impact future decisions. This model is widely applied in marketing and economics to understand patterns in sequential decision-making, such as brand loyalty, product usage, and repeated purchase.

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Table 3 Consumer Behavior Models (continuation)

Model	Authors	Descriptions
Innovation Adoption Model	Gatignon and Robertson (1985)	A significant framework in understanding how consumers adopt new products or innovations. This model identifies the factors that influence the rate and extent of innovation adoption in the marketplace and provides insights into the stages consumers go through before they fully embrace a new product or service.
Consumer Decision Model	Howard (1989)	It is a comprehensive framework designed to understand the intricate processes involved in consumer decision-making. This model emphasizes the various stages consumers go through when making purchasing choices and highlights the internal and external factors influencing these decisions.
Technology Acceptance Model	Davis (1989)	It is a widely recognized framework used to explain and predict user acceptance of technology. The model aims to identify the key factors that influence an individual's decision to adopt and use new technologies, making it particularly relevant in today's rapidly evolving digital landscape.
Brand Choice Model	Lee (1990)	Offers a comprehensive framework for understanding the decision-making processes that consumers undergo when selecting brands. This model underscores the significance of various psychological and contextual factors that influence brand preference and selection.
A New Perspective on Choice	Rassuli and Harrell (1990)	Views choice and purchase as stages within a process, rather than just the consumer's final decision-making actions.
Theory of Trying Model	Bagozzi and Warshaw (1990)	Provides a nuanced framework for understanding consumer behavior, particularly regarding the process of trying to engage with a product or service. This model shifts the focus from mere intentions to the actual effort made by consumers to perform a behavior, making it particularly relevant in contexts where the outcome is uncertain or involves risk.
Dual Causation Paradigm Model	Lea and Webley (1991)	Provides a comprehensive framework for understanding consumer behavior by examining the interplay of cognitive and emotional factors that influence purchasing decisions. This model posits that consumer behavior is driven by two distinct but interrelated causal ways: rational (cognitive) and emotional (affective) influences.
Model of Consumption Values	Sheth, Newman and Gross (1991)	Introduces five consumer values that influence behavior: functional, social, conditional, emotional, and epistemic values, which impact consumer decisions.

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Table 3 Consumer Behavior Models (continuation)

Model	Authors	Descriptions
Theory of Planned Behavior	Ajzen (1991)	Expands on the earlier Theory of Reasoned Action and incorporate additional elements that contribute to a more comprehensive understanding of behavior, intention and action.
Demand for Status Goods Model	Mason (1992)	Explores how consumers' desire for status influences their purchasing behavior, particularly concerning luxury or status-oriented goods. This model is grounded in the idea that consumer behavior is not solely driven by functional needs or preferences, but also by social factors and the desire to signal status to others.
Basic Consumer Decision-Making Model	Schiffman and Kanuk (1993)	Provides a foundational framework for understanding how consumers make purchasing decisions. This model outlines a series of stages that consumers typically go through when faced with a purchasing choice, emphasizing the complexity and variety of factors that influence these decisions.
A-B-C-D Paradigm Model	Raju (1995)	Provides a structured framework for understanding consumer behavior by focusing on four critical components: Attitude, Beliefs, Consequences, and Decisions. This model highlights the interconnectedness of these elements in shaping consumer actions and preferences.
Decomposed Theory of Planned Behavior Model	Taylor and Todd (1995)	Expands upon the original Theory of Planned Behavior by breaking down the components that influence an individual's behavioral intention into more specific elements. This model is particularly useful in understanding consumer behavior in various contexts, including technology adoption, service usage, and other decision-making processes.
Cognitive-Affective Purchase Model (CAC)	Quintanilla and Berenguer (1998)	Offers a comprehensive framework for understanding consumer decision-making by integrating both cognitive (rational) and affective (emotional) components involved in the purchasing process. This model emphasizes that consumer behavior is not solely influenced by logical reasoning, but also significantly shaped by emotions and feelings.
Assael Model	Assael (1998)	This model is particularly significant as it emphasizes the complexities of consumer behavior, integrating both cognitive and emotional aspects while considering different types of buying situations.
Consumer Behavior Symbolic Culture Model	Páramo (1999)	The consumer decisions are not solely based on functional attributes of products but are deeply rooted in the social and cultural contexts that shape individual identities and perceptions.

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Table 3 Consumer Behavior Models (continuation)

Model	Authors	Descriptions
Consumer Perceived Value	Sweeney and Soutar (2001)	Focuses on consumer satisfaction and the importance of understanding consumer values and needs. Their work is primarily known for the development of the Customer Value Model, which identifies various dimensions of value that influence consumer decision-making and satisfaction
Consumer Decision-Process Model	Blackwell, Miniard and Engel (2002)	Offers a comprehensive framework for understanding the stages that consumers go through when making purchasing decisions. This model emphasizes the dynamic nature of consumer behavior and integrates various factors influencing the decision-making process.
Uses & Gratifications Theory Model in the context of e-consumer Behavior	Luo (2002)	Offers a framework for understanding how consumers actively seek out and engage with online content and services to fulfil their specific needs and desires. This theory posits that consumers are not passive recipients of information but active participants in the media consumption process, making choices based on the gratifications they seek.
Strategic Online Customer Decision-Making	Smith and Rupp (2003)	This internet-centric model considers the impact of websites, the sociocultural environment online, and the psychological factors associated with the digital realm.
Consumer Psych Economic Model (MPC)	Rodríguez-Vargas (2005)	Recognizes that consumer choices are influenced by both cognitive (psychological) and economic considerations, making it a valuable tool for analyzing the complexities of consumer behavior in various market contexts.
Purchase Behavior Model	Kotler and Keller (2006)	Essential for marketers as it provides insights into how consumers navigate their purchase decisions, from recognizing a need to post-purchase evaluation.
McKinsey's Dynamic Model of the Consumer Decision Journey	Court, Elzinga, Mulder and Vetnik (2009)	This model is more circular than sequential and includes four stages: initial considerations, active evaluation or potential purchase research; closure, when consumers choose a specific brand; and post-purchase, when consumers experience the product or service.
Consumer Purchase Behavior Model	Hoyer and McInnis (2010)	Emphasizes the interplay of various internal and external factors that influence consumer behavior throughout the purchasing process.
Luxury Consumption Model	Wiedmann, Behrens, Klarmann and Hennigs (2014)	Explores the psychological, social, and economic factors that influence how consumers perceive, value, and ultimately engage in luxury consumption.

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Table 3 Consumer Behavior Models (continuation)

Model	Authors	Descriptions
Consumer Behavior Model (when consumers are faced with total depletion of a food product)	Yangui and Hajtaïeb (2015)	Provides insights into the psychological and behavior dynamics at play when consumers encounter a situation where their preferred food item is unavailable, highlighting their decision-making processes and subsequent actions.
Compensatory Consumer Behavior Model	Mandel, Rucker, Levav and Galinsky (2017)	Emphasizes the concept of compensation, where consumers may be willing to overlook a negative aspect of a product if it is balanced by a positive feature, influencing their overall evaluation and choice.
Online Purchase Intention Model	Virgilio and Antonelli (2018)	Explores the factors that influence consumers' intentions to make purchases through online channels. As e-commerce continues to grow, understanding these intentions is vital for businesses seeking to optimize their online strategies and enhance consumer engagement.
Green Purchase Behavior Model	Gilal, Zhang, Gilal, and Gilal (2020)	Explores the motivations and factors that drive consumers to make environmentally friendly purchasing decisions. As sustainability becomes increasingly important in consumer markets, understanding the dynamics of green purchasing behavior is essential for businesses aiming to promote eco-friendly products and practices.
Consumer Online Purchase Intention Model	Vasilica (2021)	With the rapid growth of e-commerce, understanding these intentions is vital for businesses aiming to optimize their online presence and marketing strategies.
Consumer Financial Behavior	Warchlewska (2024)	Consists of five elements: type of consumer, type of financial product, motivation, abilities, and opportunities, and the factors determining them may be both economic and noneconomic.

Source: Adapted from Stankevich (2017); Paz and Vargas (2023); Warchlewska (2024)

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The literature presents various classifications of consumer behavior models, encompassing both traditional and contemporary dimensions. Table 3 presents a chronological list of key authors who have contributed to consumer behavior models from 1935 to 2024. The traditional dimensions include economic, psychological, and sociological models, which generally assume that consumers are rational decision-makers who follow a structured decision-making process based on logical reasoning and utility maximization (Engel et al., 1968; Howard & Sheth, 1969; Schiffman et al., 2014; Solomon, 2020). Traditional economic, psychological, and sociological models have often assumed consumers to be rational decision-makers guided by structured and utility-maximizing processes; however, such approaches have been criticized for neglecting the role of emotions in decision-making (Bell, 2011).

From the perspective of economic models, rational consumers make decisions to maximize utility (satisfaction) by considering price, income, and product quality. Within tourism research, such approaches conceptualize behavior in terms of structured choice and utility maximization (Decrop, 2014). These models typically assume a homogeneous market in which product attributes and pricing are primary determinants of consumer behavior, and consumers are presumed to have complete information about the market and available products (Goswami, 2020). The economic models also include the *effects* of price reductions (i.e., lower prices lead to increased purchases), the *substitution effect* (a decline in the price of a substitute product reduces the utility of the originally preferred product), and the *income effect* (an increase in income or financial resources leads to a higher quantity of goods purchased) (Khan, 2007). However, these models assume the homogeneity of the market, and buyer behavior, focusing primarily on price and product features while ignoring psychological and social factors that significantly influence consumer decision-making (Jeng & Fesenmaier, 2002; Khan, 2007; Correia & Pimpão, 2008; Goswami, 2020).

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Psychological models include internal mental processes, such as motivation, perception, and attitudes. One widely used framework is the Theory of Planned Behavior (TPB) (Ajzen, 1991), which explains behavior through attitudes, subjective norms, and perceived behavioral control (Ulker-Demirel & Ciftci, 2020). In this sense, target behavior can be influenced by changing underlying beliefs and attitudes through various information sources or reference groups (Yuzhanin & Fisher, 2016). The TPB proposes that behavior is determined by three types of beliefs: behavioral beliefs (beliefs about the likely consequences of the behavior), normative beliefs (beliefs about the expectations of others), and control beliefs (beliefs about factors that may facilitate or hinder the behavior). Together, these beliefs influence behavioral intention (Ajzen, 1991; Lam & Hsu, 2006; Bosnjak et al., 2020; Rozenkowska, 2023). In this context, attitude can be defined as a learned predisposition to respond in a consistently favorable or unfavorable manner toward an object (Fishbein & Ajzen, 1975), and within the TPB, behavioral beliefs contribute to attitudes toward the behavior (Ajzen, 1991; Sniehotta et al., 2014).

Although the TPB is generally considered a psychological model, it integrates key social influence elements, such as subjective norms, which refer to the perceived social pressure to perform or avoid a specific behavior. This pressure is influenced by others' expectations and the individual's motivation to comply with them, and it can influence behavioral intention, particularly when individuals are motivated to follow social norms (Sniehotta et al., 2014; Bosnjak et al., 2020). In this context, perceived behavioral control refers to an individual's perception of their ability to perform a given activity (Lam & Hsu, 2006; Rozenkowska, 2023). In the TPB, perceived behavioral control contributes directly to behavioral intention, and individuals who perceive higher control are generally more likely to translate intentions into action (Ajzen, 1991; Lam & Hsu, 2006; Bosnjak et al., 2020). Beyond the TPB, sociological

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models emphasize the influence of social institutions, such as family, culture, and reference groups. They highlight how social norms and group dynamics shape consumer behavior, providing a collective perspective for analyzing purchasing decisions (Kotler, 2000; Melnyk et al., 2021).

From a complementary perspective, foundational models have sought to capture the dynamic and interactive nature of consumer decision-making. One of the earliest frameworks is the Nicosia Model of Consumer Behavior (Nicosia, 1966), which emphasizes how marketing communication shapes consumer attitudes and, ultimately, purchase decisions (Cuculeski et al., 2015; Correia & Pimpão, 2008; El Gozmir et al., 2024). Another influential framework is the Engel–Kollat–Blackwell (EKB) model, introduced in 1968, which became a reference by integrating psychological and environmental influences into the consumer decision-making process (Engel et al., 1968). The EKB model conceptualizes consumer behavior through information inputs, internal processing and control, and environmental influences, and it typically describes a sequence of stages such as need recognition, information search, evaluation of alternatives, choice, and post-purchase evaluation (Engel et al., 1968; Milner & Rosenstreich, 2013; Horner & Swarbrooke, 2020). A third frequently cited framework is the Howard–Sheth Model of Buyer Behavior (Howard & Sheth, 1969), which explains consumer decisions through psychological, social, and environmental components and highlights the multidimensional nature of the decision-making process (Khan, 2007; Tešić & Bogetić, 2022; Correia & Pimpão, 2008). The model distinguishes between inputs (stimuli), perceptual and learning constructs (e.g., motives, attitudes, and perception), outputs (purchase decisions), and exogenous variables (e.g., personality, social class, and financial status), which shape decision-making indirectly and vary across individuals (Khan, 2007). Across these foundational models,

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consumers are often assumed to possess knowledge of the market and available products (Milner & Rosenstreich, 2013).

As mentioned above, consumer behavior has been applied in different contexts, namely tourism, which has been gaining increasing relevance, given the particular nature of travel-related decisions, characterized by the high involvement, emotional charge and intangibility of the tourist product. Unlike everyday consumption, tourism often involves complex planning, social influences and experienced expectations, making it a distinct and multifaceted aspect of consumer behavior research. This topic will be developed in the next section.

2.1.4 Consumer Behavior in Tourism

Consumer behavior in tourism (often referred to as travel behavior) examines how tourists make decisions related to travel choices, such as where to travel, whether to travel, what to do, when to travel, how long to stay, and how much to spend (Nuraeni et al., 2015). It focuses on the activities involved in obtaining, consuming, and evaluating tourism and travel services (Decrop, 2014), and it encompasses all stages of the tourist experience: pre-visit, on-site, and post-visit (Dixit et al., 2019). Tourism consumer behavior can be defined "as the ensemble of its acts, attitudes and decisions regarding choosing, buying and consuming tourism products and services, and also its post-consuming reactions" (Fratu, 2011). Understanding tourism consumer behavior and its determinants is important for designing marketing actions and improving tourist satisfaction and outcomes (Fratu, 2011; Correia et al., 2013). Recent methodological developments also reflect the increasing use of configurational approaches to study complex relationships in tourism and hospitality research (Kumar et al., 2023).

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2.1.4.1 Determinants of Tourist Behavior

According to Moutinho et al. (2011), it is necessary to understand: (1) how people perceive destinations, air travel, and travel distance; (2) how they learn to consume and travel; (3) how they make travel decisions; and (4) how personality affects those decisions. According to Fratu (2011), these factors can be grouped in three categories: (1) personal factors, such as tourists' personality, self-image, attitudes, perceptions, individual lifestyle and family lifestyle, age and work situation, which influence directly tourism consumers and are formed by all the characteristics, beliefs, convictions, and habits; (2) social factors, including culture, social class, and reference groups that have a great impact on behavior because they define the individual, and (3) situational factors, for example, time, physical and social ambiance, and state of mind.

2.1.4.2 Evolution of Theoretical Models of Tourist Behavior

To identify the factors influencing consumer behavior in tourism, it is essential to understand the evolution of theoretical models and the limitations of early frameworks grounded in classical assumptions. Early models were often static and linear, portraying decision-making as a rational sequence of steps. However, Jeng and Fesenmaier (2002) suggest that these models fail to represent the dynamic, interactive, and adaptive nature of tourist decision-making. According to the authors, travel decisions are not made all at once in a rational sequence but unfold continuously throughout the travel experience, and tourists may change their plans due to situational changes or preferences. These approaches do not fully capture the complexity of consumer behavior in tourism (Hyde & Laesser, 2009). To address these limitations, subsequent research has proposed a range of theoretical models to explain and predict tourist decision-making by accounting for psychological, social, and contextual influences (Decrop & Snelders, 2005). The following sections summarize the most influential contributions.

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Among these contributions, one of the most influential is Crompton's (1979) seminal model, which identified nine motives underlying tourist behavior and provided a foundational framework for understanding travel motivations. He classified seven of them as socio-psychological motives:

1. Escape from a perceived mundane environment;
2. Self-exploration and evaluation;
3. Relaxation;
4. Prestige;
5. Regression;
6. Enhancement of kinship relationships;
7. Facilitation of social interaction.

The remaining two motives, novelty and education, were categorized as cultural motives. In turn, Moutinho (1987) developed a model that encompasses four parts:

1. Pre-decision process, and the decision process. These stages includes environmental influence, personality, motivations, lifestyle, attitude, and family influence;
2. Preference structure, include the travel stimuli, evoked set, choice criteria, perceived risk, decisions, and purchase;
3. Post-purchasing evolutions, include the post-purchasing information, cost-benefit analysis, expectations, satisfaction or dissatisfaction;
4. Future decision-making.

Additionally, Fodness and Murray (1999) proposed and tested a model of tourist information search behavior that emphasizes how travelers use different information search strategies during vacation planning. Their framework links information search strategies to (i)

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search contingencies (e.g., trip characteristics and situational constraints), (ii) tourist characteristics, and (iii) search outcomes, highlighting that information search is a dynamic process in which travelers combine multiple sources rather than following a purely linear sequence (Fodness & Murray, 1999).

Later, Woodside, MacDonald, and Burford (2004) extended existing consumer behavior models in tourism by proposing a grounded theory of leisure travel that recognizes travel decision-making as a complex, iterative, and multi-faceted process rather than a simple linear sequence. According to this perspective, tourists' choices emerge from interactions among personal characteristics, travel motivations, cognitive and contextual influences, information processing, and experiences accumulated over time, reflecting the dynamic nature of travel decisions. This approach emphasizes that leisure travel behavior cannot be fully understood through static or unidimensional frameworks but requires models that incorporate multiple interacting components and their evolution throughout the travel cycle. Additionally, tourism consumption systems perspectives highlight that the travel experience involves a set of interconnected decisions and behaviors, typically including destinations; route/mode to and within destinations; accommodations; on-site activities; places visited; attractions; and purchases such as gifts and souvenirs (Woodside & Dubelaar, 2002).

Furthermore, Hyde and Laesser (2009) in their *Structural Vacation Theory*, presented several key assumptions about holiday planning:

1. Timing (when the vacation takes place);
2. Duration (how long it lasts);
3. Destination (where the trip goes);
4. Travel group (who accompanies the traveler);
5. Activities (what is done during the vacation);

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6. Travel mode (how people get there).

According to the authors (Hyde & Laesser, 2009), these elements form a coherent structure that collectively shapes decision-making, highlighting that holidays are not the result of a series of isolated choices, but of an integrated planning process. More broadly, consumer behavior in tourism encompasses decision-making processes, motivations, experiential components, and post-consumption behavior (Cohen et al., 2014). For enhanced understanding, Table 4 summarizes various models of consumer behavior and decision-making, along with their core principles and the contributions made by different authors.

Table 4 Consumer Tourism Models

Model	Authors	Key Concept	Main Contribution
Vacation Tourist Behavior Model	Moutinho (1987)	Staged view of tourism decision-making.	Proposes a structured framework covering pre-decision/decision processes, preference formation, post-purchase evaluation, and implications for future decisions.
Model of Tourist Information Search Behavior	Fodness and Murray (1999)	Information search in vacation planning.	Develops and tests a model explaining how tourists search for and use information, highlighting differences in information source use and search strategies.
Model of Travel Decision-Making	Woodside, MacDonald, and Burford (2004)	Dynamic and non-linear travel decision-making.	Dynamic, non-linear travel decision-making | Advances a grounded, process-oriented view of leisure travel behavior, emphasizing iterative decisions and feedback effects rather than linear choice sequences.
Consumer Complaint Behavior in Hotel Services	Ngai et al. (2007)	Cross-cultural complaint behavior	Empirically examines differences between Asian and non-Asian hotel guests' complaint behavior and identifies factors associated with complaining responses.
Tourist Worry Scale (TWS)	Larsen et al. (2009)	Travel worry/risk-related concerns	Develops and validates the Tourist Worry Scale to measure travel-related worries (e.g., crime, accidents, general risk perceptions).

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Table 4 Consumer Tourism Models (continuation)

Model	Authors	Key Concept	Main Contribution
Structural Vacation Theory	Hyde and Laesser (2009)	Vacation structure and planning styles	Conceptualizes vacations as structured sets of interrelated decisions and identifies macrostructures of planning (e.g., structured, flexible, unplanned).
Dark Tourism Motivation Model	Farmaki (2013)	Psychological reasons behind "dark tourism".	Analyzes why tourists visit historical death sites and tragic landmarks.
Behavior Model for Cultural Tourism	Sánchez-Sánchez et al. (2021)	Cultural tourists and loyalty to a destination.	Confirms the importance of socio-cultural variables and the experience of tourists in loyalty-building.
Sustainable Green Tourism Model	John, B. (2025)	Sustainability in tourism.	Investigates policies and incentives that lead to sustainable.
Agritourism Behavior Model	Chiang et al. (2025)	7Ps framework in rural tourism.	Examine agritourism marketing strategies and consumer behavior.
Millennial Tourist Destination Choice Model	Nguyen and Lien (2025)	Social identity theory in tourism.	Examine how generational influence affects millennial tourists' domestic travel choices.
Multi-Objective Game Theory Model	Torkabadi et al. (2025)	Profitability and sustainability in tourism.	Use game theory to balance business profitability and sustainable practices.
Family Tourists' Behavior Model	Mirtaghian et al. (2025)	Decision-making in family travel.	Examine social and emotional factors shaping family tourism choices.

Source: Author's own elaboration

Despite the extensive research into tourism consumer behavior, the field faces several challenges: (1) research fragmentation: many studies apply general marketing and management theories to tourism contexts without fully accounting for the distinctive characteristics of tourism behavior (Cohen et al., 2014); (2) limited comparability across studies: tourist decision-making involves multiple interdependent choices (e.g., travel type and destination), and the diversity of market segments (e.g., adventure vs. heritage tourists) complicates efforts to compare findings and generalize results; (3) methodological limitations: a large share of

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research relies on quantitative, self-reported methods (e.g., surveys and structural models), which may not always capture the depth and contextual complexity of decision-making and can be affected by intention–behavior gaps (Nieto-García et al., 2024); and (4) limited longitudinal evidence: relatively few studies follow the same travelers over time or across multiple trips (Cohen et al., 2014).

Having analyzed the main theories of consumer behavior in tourism, the next step is understanding the travel decision-making and destination choice.

2.2 TRAVEL DECISION-MAKING

Understanding how tourists make decisions and what influences their behavior is fundamental in tourism research (Hyde & Laesser, 2009; McCabe et al., 2016; Le & Le, 2018; Damiasih, 2025). Tourists' decision-making processes are complex and involve numerous sub-decisions, which unfold continuously, from the initial consideration of whether to travel, to decisions about where to go, with whom to travel, when to travel, how long to stay, and how much to spend (Smallman & Moore, 2010; Álvarez & Brida, 2019; Hewage & Chandralal, 2023). In this context, the travel decision-making process can be described as an evolving and dynamic management of information within the broader framework of travel planning (Juvan et al., 2017). Additionally, Björk and Jansson (2008) argue that going on vacation can be seen as an overall decision-making process that includes several different decisions that are all results of separate 'smaller' decision-making processes, further emphasizing the fragmented and layered nature of travel-related choices. In the case of travel decisions, we observe that they are not independent but involve a set of interrelated sub-decisions. For example, destination choice and the choice of travel party are often linked and vary across tourist segments, reflecting heterogeneous decision patterns (Wu et al., 2011). More broadly, travel decision-making can be examined across phases of the travel cycle, distinguishing between pre-trip planning, on-site

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experience, and post-trip evaluation (Dixit et al., 2019). In the pre-trip phase, decisions before departure consider a range of factors, including whether to travel, destination choice, travel dates, travel party members, mode of transportation, trip duration, accommodation choice, travel route, budget, and information about the destination. These pre-trip decisions tend to be more constrained once commitments are made. In contrast, during the on-site phase, travelers make more adaptive decisions regarding activities, such as dining choices, shopping, and the purchase of souvenirs.

These choices are often high-involvement and carry emotional and experiential significance (Dellaert et al., 1998; Hyde & Laesser, 2009; Liu et al., 2019; Kemperman, 2021). Tourist choices also tend to involve considerable financial and time investment and are associated with personal expectations and satisfaction. As such, travel decision-making is more complex than most routine consumer purchases (Horner & Swarbrooke, 2020). When consumers "purchase" a holiday or travel experience, they are purchasing an experience, not a tangible product, one that will create lasting memories and emotions. In this sense, according to Goswami (2020) there are two key moments that must be considered during the decision-making process: (1) initial consideration, examination of alternatives, and final selection; and (2) influencing elements that include psychological, social, and environmental cues (e.g., marketing and media exposure).

The on-site experience involves what happens during the trip, including participation in activities, consumption of services, and potential adjustments to initial plans. Finally, the post-trip phase involves overall satisfaction, feedback mechanisms (such as word-of-mouth and e-word-of-mouth), and intentions for future travel (Seow et al., 2024). This feedback not only influences the traveler's own future decisions, including revisit intentions, but can also affect the travel choices of friends and family. A positive trip experience may increase the probability

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that the traveler will return to the same destination (i.e., revisit intention) or choose similar types of destinations in the future. In contrast, negative experiences can discourage revisits and weaken recommendation intentions (Karakan & Birdir, 2023; Riptiono et al., 2023; Seow et al., 2024). Finally, the post trip phase, which involves overall satisfaction, feedback mechanisms (such as word-of-mouth and online reviews) and intentions for future travel (Juvan et al., 2017).

It is also observed that tourist decision-making is shaped by multiple influences that can be grouped into five main areas: (1) psychological influences, including motivations (e.g., relaxation or adventure), perceived risk, and past travel experience; (2) social and cultural influences, such as family dynamics, reference groups, social class, and culture/subculture, which shape preferences and perceived appropriateness of travel choices. Moutinho (2000) categorizes these influences into several key areas, including roles and family influences (e.g., family dynamics and expectations that affect travel decisions), reference groups, social class (which can determine what types of travel are accessible), and culture/subculture. Cultural norms may also shape preferences for culturally framed experiences, such as food-related practices and meanings (Long, 2004); (3) economic factors, including budget constraints, exchange rates, disposable income, and perceived value-for-money, which directly influence travel-related decisions. These economic aspects may determine not only whether individuals travel, but also how they travel, for instance, by choosing budget-friendly destinations, traveling off-season, or opting for shorter trips when financial resources are limited (Kotler et al., 2017); (4) technological factors, as digital technologies have transformed tourist behavior by facilitating access to information and peer-generated content. Online reviews and social media platforms play a crucial role in shaping perceptions and supporting decision-making, empowering consumers to make more autonomous and informed travel choices (Ngai et al.,

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2007); and (5) seasonal and environmental factors, including weather conditions, climate patterns, and seasonal constraints (e.g., holidays or school breaks), which influence both the timing and feasibility of travel (Pizam & Mansfeld, 1999; Sirakaya & Woodside, 2005).

2.2.1 Travel Decision Models

Considering these challenges, researchers have often focused on specific aspects of tourism travel decision-making and developed various models to better understand these choices (Horner & Swarbrooke, 2020). Over time, several conceptual theories have emerged in the study of tourist decision-making, including gravity and econometric models, psychological motivation/value theories, information processing theory, attitude theory, and conjoint analysis (Jeng & Fesenmaier, 2002; Björk & Jansson, 2008; Wong & Farooq, 2019; Damiasih, 2025). In this context, Decrop (2006) suggested that travel decision-making models can be grouped into three main types: (1) microeconomic models, (2) cognitive models, and (3) interpretive models. The microeconomic models adopt the classical economics view, that aim to maximize utility (satisfaction) within certain destinations. These models emphasize the role of socioeconomic variables (income, travel cost, exchange rates) and structural constraints (e.g., limited vacation days, school holidays) in decision-making. According to McCabe et al. (2016), these economic models require including variables like income, family size, or work schedule to explain and predict tourism choices. In contrast, cognitive models focus on the internal behavior processes of travelers. These models examine how travelers perceive, learn, decide and analyze how a person searches for information (e.g., destinations, prices, reviews), how they form perceptions of each alternative, and how they evaluate pros and cons to make a choice. Finally, interpretive models emphasize the subjective meanings, social contexts, and lived experiences that shape travel decisions, often drawing on qualitative and constructivist perspectives (Decrop, 2006).

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The work of Jeng and Fesenmaier (2002) exemplifies this approach by describing travel decision-making as a temporal, sequential, and contingent process, where each decision depends on information gathered during previous stages. This implies a complex cognitive process where new information (from advertisements, travel blogs, friends' suggestions, etc.) can alter one's plans at various points. In turn, cognitive models also account for individual differences in perception and thought. A traveler's motivations, personality traits, and past experiences will shape how they interpret information: for example, an adventure-seeker may focus on attributes, such as wilderness and physical challenges, whereas a traveler motivated by relaxation is more likely to prioritize safety, comfort, and convenience. These models also explore the impact of diverse information sources, especially the growing influence of online reviews and social media, on the traveler's decision process. In essence, cognitive models delve into the mind of the tourist, mapping out the decision journey from the spark of inspiration to the final booking, highlighting the roles of knowledge, mental evaluation, and learning (Moutinho, 1987; Decrop, 2006). In contrast, interpretive models (also referred to as experiential or behavior models) change perspective from how decisions should be made (as in rational models) or the step-by-step mental process (as in cognitive models). These models emerged from critiques of earlier approaches and often rely on qualitative insights, or case studies, to capture the complex context of decision-making.

For instance, an individual's travel history might profile their perceptions of a destination's risk, which in combination with a friend's recommendation (social influence) and a discounted fare (economic factor) leads to the final choice, a combination that a simple model might not predict. Decrop and Snelders (2005) emphasize the role of personal travel styles and habits:

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travelers develop their own decision-making *style* (some are habitual planners, some are spontaneous, some are risk-averse, etc.), and these styles influence how decisions are approached. In addition, destination choice research shows that tourists evaluate alternatives based on preferred destination attributes and perceived utility, which can be examined through preference-based approaches (Hsu et al., 2009). Evidence from tourism research also indicates that perceived value and overall satisfaction influence post-trip responses and future behavioral intentions (e.g., revisit intention and recommendations), highlighting the importance of measuring satisfaction and understanding its drivers for destination management (Correia et al., 2013; Seow et al., 2024). Recent work by Santos et al. (2022) highlights factors like personal travel motivations and destination image, reaffirming that beyond quantifiable factors, a traveler's emotional connection and perception of a destination can be decisive in the travel decision process. In essence, interpretive models present tourism decision-making as contextual, fluid, and subjective. They are often less about creating a predictive formula and more about understanding the narrative of a traveler's decision: what matters to them, how they experience the choice, and how they reconcile various influences to arrive at a decision. In line with more recent developments, Oan-Oon and Choibamroong (2025) propose a combination of traditional economic and psychological theories. They introduce concepts like the *"bandwagon effect"* (the tendency of individuals to do, or believe, things because many others do) into the Theory of Planned Behavior paradigm.

In summary, travel decision-making is a complex process involving multiple stages, diverse influencing factors, and both cognitive and emotional processes. Researchers have developed various models and theories to capture this complexity, evolving from rational economic models to more holistic frameworks. Table 5 provides an overview of some of the

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decision-making models in tourism literature, with their authors, core descriptions, and contributions.

Table 5 Decision-Making Models in Tourism (chronological overview of key contributions)

Authors	Descriptions	Major contribution(s)
Wahab et al. (1976)	A tourist makes a rational decision to maximize the utility and, thus, assesses the costs and benefits of his/her actions before committing themselves to a purchase.	Recognition of unique product aspects of tourism. Incorporates psychological and economic theories. Includes needs, motivations, destination image, the spontaneity of purchase decision, the influence of risk and uncertainty, and influences of family and friends that define unique aspects of tourism into tourism decision process models.
Schmoll (1977)	Tourists are rational decision-makers. Traveler decision processes are affected by travel stimuli, personal and social determinants, and exogenous variables.	Specifies the links between various components and the impact of each choice on the decision. The decision-making process contains multiple subsequent processes.
Ajzen and Fishbein (1980)	Behavioral intention is a basic model.	The model allows the assumption that objects can be evaluated based on multiple attributes that generate costs and benefits at different levels.
Mayo and Jarvis (1981)	Decisions are dynamic processes and change according to circumstances. The traveler's decision-making process includes travel opportunities, communication efforts, customer goals, and intervening variables	Travel decisions are influenced by a combination of social and psychological factors. Emphasizes the role of group and family in choice decisions.
Mathieson and Wall (1982)	The tourist is a rational decision-maker who wants to maximize utility. Travel decision-making is a process consisting of various stages.	This model incorporates theories from several social science fields, including psychology, economics, and sociology.
van Raaij and Francken (1984)	Joint decision-making is the central part of the tourists' decision process.	The importance of post-purchase evaluation on decision-making styles later.
Moutinho (1987)	Travel decisions are affected by external forces, especially reference groups, social classes, culture, and subculture. Post-purchase evaluations have an impact on subsequent purchase behaviors.	Integrates many theories of consumer behavior literature into the tourist decision-making model.
Woodside and Lysonski (1989)	Destination choice is a result of a categorization process. Post-purchase evaluations play an important role in subsequent decisions.	Integration of various disciplines in a model of tourist decision-making.
Um and Crompton (1990)	Attitudes play an important role in destination decision processes.	Conceptualization, operationalization, and empirical testing of attitudes in real destination choice processes.

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Table 5 Decision-Making Models in Tourism (chronological overview of key contributions) (continuation)

Authors	Descriptions	Major contribution(s)
Ajzen and Driver (1992)	**Human behavior is the function of intentions and perceived behavioral control.**	**Successful application of the theory of planned behavior leisure situations.**
Woodside and MacDonald (1994)	Tourist choices are not always rational. Considered the first researchers to provide a comprehensive framework for vacation decision-making.	Recognizes individual decision-making styles.
Jeng and Fesenmaier (1997)	Describe travel decision-making as a temporal, successive, and contingent process.	The travelers make a sequence of decisions over time, and each decision depending on the results or information from prior ones. This implies a complex cognitive progression where new information can alter one's plans at various points.
Fesenmaier and Jeng (2000)	The model identifies a temporal hierarchy of vacation decisions, which they labelled as core, secondary, and tertiary decisions.	Highlights the existence of multiple, hierarchically structured vacation decisions.
Woodside and King (2001)	Employed the Woodside and MacDonald (1994) model. Analysis of the vacation decision-making proceeds.	They employed the concept of a purchase consumption system.
Jeng and Fesenmaier (2002)	Decision-making is multi-dimensionality, sequentially, and contingency.	In this model, vacation decision-making is a complex process involving many decisions.
Hyde and Lawson (2003)	Identified an alternative hierarchy of vacation decision-making: first and secondary destinations, then travel routes, then attractions and activities.	Hierarchy of vacation decision-making.
Decrop and Snelders (2005)	A grounded typology of vacation decision-making.	Emphasizes the role of personal travel styles and habits: travelers develop their own decision-making *style* (some are habitual planners, some are spontaneous, some are risk-averse, etc.), and these styles influence how decisions are approached.
Woodside (2006)	The analysis was that an individual's choices in leisure and discretionary pursuits are more the result of causal historical factors than the result of rational or bounded rational decision-making.	The model of vacation as a facet of an individual's ecological system sought to explain how vacation decision-making proceeds.
Correia and Pimpão (2008)	Identified two major phases of decision-making: (1) a pre-decision stage and (2) a post-decision stage.	Explores an integrative model to examine the relationship between tourism decisions and their cultural background. The results reveal that culture affects tourist decisions.

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Table 5 Decision-Making Models in Tourism (chronological overview of key contributions) (continuation)

Authors	Descriptions	Major contribution(s)
Hyde and Laesser (2009)	Use the structural theory of the vacation incorporating five premises: (1) vacations have structure, (2) many vacationers seek structure to their vacation experiences, (3) three alternate macrostructures exist amongst vacations, (4) vacation microstructure consists of a composite of elements chosen by the vacationer, and (5) vacation macrostructure impacts on microstructure decision-making.	Identifies three vacation macrostructures – stay-put vacations, arranged touring vacations, and freewheeling touring vacations.
Correia et al. (2011)	Impact of culture on tourist decision-making styles.	Explore an integrative model to examine the relationship between tourism decisions and their cultural background. The results revealed that culture affects tourist decisions.
McCabe et al. (2016)	New general model based on dual system theory.	Tourism decision - making is a dynamic process in which both systems may be involved to account for different types of choice strategies, and to recognize the individual and contextual factors that influence choice processes.
Stylos (2020)	Demonstrates the importance of technological advancements in shaping tourist decision-making.	Technological advancements play a structural role in tourist decision-making processes, with digital technologies and cyber-physical systems becoming extensions of a tourist's self.
Dai et al. (2022)	Travel inspirations in tourism decision-making	This study conceptualizes travel inspiration as a motivational state that drives a prospective tourist to bring newly obtained travel ideas into realization.
Santos et al. (2022)	Interpretive models present tourism decision-making as contextual, fluid, and subjective.	Highlights factors like personal travel motivations and destination image, reaffirming that beyond quantifiable factors, how a person imagines and emotionally connects with a destination can be decisive.
Hinlayagan et al. (2023)	Determines the factors influencing tourism decision-making.	The study reveals the factors influencing tourist decision-making on choosing a cultural destination are the "Quality Value Accommodation and Accessibility"; "Cultural Attractions"; "Price Buyer"; "Destination Image"; and "Safety and Security". Quality Value Accommodation and Accessibility are the most important factors while safety and security are the least.
Chen and Wei (2024)	Exploring the role of Artificial Intelligence in travel decision-making	The study indicates that AI-driven informativeness and AI-based recommendations have a significant influence on travel decision-making. On the other hand, social media does not have a significant impact on travel decision-making.

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Table 5 Decision-Making Models in Tourism (chronological overview of key contributions) (continuation)

Authors	Descriptions	Major contribution(s)
Gulati (2024)	Exploring the generational influence on social media-based tourist decision-making.	This study aims to explore how social media affects decision-making among tourists and whether there is a potential effect of age, which is studied through generations. This indicates all the generations behave in a similar manner irrespective of them being older or younger, and age does not moderate social media's impact on decision-making among Indian tourists.
Christensen et al. (2024)	The role and impact of generative artificial Intelligence (AI) consumers' tourism decision-making processes.	The results indicate that many consumers chose error-filled AI tourism itineraries over other options because they trust the AI to be more impartial and customized than the other sources.
Oan-Oon and Choibamroong (2025)	The proposal combines traditional economic and psychological theories.	They introduce concepts like the *"bandwagon effect"*, the tendency of people to do (or believe) things because many others do into the Theory of Planned Behavior paradigm. In summary, travel decision-making is complex with many stages, factors, and cognitive-emotional processes.

Source: Adapted from Correia and Pimpão (2008); Sirakaya and Woodside (2005); Hyde and Laesser (2009)
Source: Author's own elaboration

Understanding how travelers choose their destinations and the factors that influence these decisions is fundamental to the study of travel behavior and decision-making in tourism. The next sub-chapter provides a review of the literature on destination choice, with a focus on key theoretical perspectives and the principal factors that influence travelers' destination choice. By analyzing these perspectives, this chapter not only synthesizes the main contributions of the literature but also contributes to understanding of how pilgrims make decisions regarding the choice of a religious destination.

2.3 DESTINATION CHOICE

Destination choice is widely acknowledged as a core component in tourists' decision-making processes and has been the focus of numerous studies on tourism behavior (Dellaert et al., 1998; Oppermann, 1999; Wu et al., 2011; Karl & Reintinger, 2017; Álvarez & Brida, 2019; Campos-Soria et al., 2021; Pan et al., 2021; Pandey & Joshi, 2021; Janchai & Suvittawat, 2025).

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This decision is often perceived as difficult and complex due to the variety of factors involved and the personal significance of the travel experience (Lam & Hsu, 2006; Kyriakaki et al., 2020). The destination choice is a key component of the travel decision-making process, during which potential travelers evaluate multiple alternatives and choose one location to visit. These choices are important in determining tourism competitiveness because they reflect a destination's ability to attract tourists and are a primary sign of its success (Moscardo et al., 1996; Utari et al., 2024). Understanding how travelers make this choice is essential for both tourism researchers and the tourism industry. Given its importance, it is not surprising that several tourist behavior studies focus on destination choice (Crompton, 1979; Um & Crompton, 1990; Woodside et al., 2004; Sirakaya & Woodside, 2005; Hsu et al., 2009; Saraniemi & Kylänen, 2011; Saito & Strehlau, 2018; de la Ballina Ballina, 2021; Pan et al., 2021; Janchai & Suvittawat, 2025). More recently, research has continued to examine destination selection within new decision environments, including the growing role of technology and information sources in shaping destination perceptions and choices (Kokash et al.,2024). With the evolution of research that has been seen in this area, several researchers have defined destination choice as complex but having a central role in travel behavior studies.

2.3.1 Conceptual Perspectives on Destination Choice

The concept of destination choice can be interpreted through four distinct theoretical perspectives: (1) economic geography-oriented, (2) marketing management-oriented, (3) consumer-oriented, and (4) cultural (Saraniemi & Kylänen, 2011). For example, Dellaert et al. (1998) argue that destination choice is influenced by the activities available, destination attributes (e.g., price level, accessibility, climate, health, safety, residents' attitudes toward tourists, existence of language barriers, scenery, availability and quality of accommodation, air quality), and traveler characteristics (number of people traveling as a group, traveler income,

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age and possible relationships to people in certain destinations). Similarly, Björk and Jansson (2008) highlight this view by noting that destination choice is frequently conceptualized as a multi-attribute decision: tourists are seen as evaluating the value proposition of each destination. In this line, Hsu et al. (2009) and Wu et al. (2011) both conceptualize destination choice as the selection of one option from a set of alternatives, influenced by motivational and contextual factors. Additionally, Saraniemi and Kylänen (2011) expand the understanding of destinations, defining them as "a set of institutions and actors located in a physical or a virtual space where marketing-related transactions and activities take place", thereby challenging the traditional producer–consumer dichotomy.

2.3.2 Determinants and Attributes of Destination Choice

Recent studies emphasize that destination choice depends on both individual preferences and destination attributes. Álvarez and Brida (2019) indicate that the destination choice "depends on their personal tastes (characterized by their preferences for goods and services) and certain characteristics of other tourists (called crowding types), on the degree of inertia of the individuals and relevant information about the characteristics of visitors to other destinations". More recently, Utari et al. (2024) emphasize destination attributes and describe them as "components or external factors (outside the individuals or the visitors) that are attached to the destination alternatives". These attributes include "quality of destination (image and promotion), travel distance, travel time, and cost". With the aim of modeling the decision-making process of choosing a tourist destination, a set of models were developed that have evolved to this day (Kim & Lee, 2017; Saito & Strehlau, 2018; Zhou et al., 2023; Zihan et al., 2024; Ni et al., 2025). In the research on destination choice models, two main approaches are generally adopted. The first assumes that tourists do not evaluate multiple destinations simultaneously, but their choices are based on limited information, considering only a subset

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of perceived or accessible alternatives. The second approach assumes that tourists evaluate destinations by comparing the attributes of competing alternatives and making trade-offs across these attributes, typically within a discrete choice or utility-based framework in which destinations are assessed simultaneously as part of a defined choice set.

2.3.3 Approaches to Modeling Destination Choice

One of the earliest models following this logic was proposed by Meyer (1979). This model reflects the idea that travelers do not consider all possible destinations. Initially, the traveler has a list of destinations (potential options) in mind. After applying preliminary screening criteria, they create a set of considerations set for a limited number of destinations that they consider to final decisions. There are two reasons for that. First, the availability of information is restricted. Travelers do not have all the information about the destinations. Second, travelers have restrictions, such as budget and time constraints or personal preference.

In contrast, the second approach assumes that tourists consider multiple possible destinations and make a rational choice by comparing attributes and maximizing utility (Woodside & Lysonski, 1989; Um & Crompton, 1990; Karl & Reintinger, 2017; Kemperman, 2021). The basic assumption of this approach is that destinations are perceived by tourists as bundles of attributes (e.g., destination type, accommodation options, crowding, friendliness of the local population, and price level) and that these attributes are grounded in the destination's physical reality (Kemperman, 2021). Similarly, Kim and Lee (2017) describe tourists as decision-makers who construct an objective function based on variables such as attractiveness, travel costs, geographic factors, and personal socioeconomic characteristics. This results in a utility function that tourists use to evaluate and rank destination alternatives. One of the most influential models within this rational framework is that of Woodside and Lysonski (1989), which integrates concepts such as awareness sets, evoked sets, and inertial versus innovative

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traveler behavior. In their framework, destination choice involves five processes: (1) the formation of initial beliefs about destination attributes (i.e., subjective beliefs about a destination's attributes); (2) the decision to take a pleasure trip, which initiates the active destination choice process and triggers trip planning under "situational constraints" (e.g., available budget, time off work, or vacation purpose), leading some destinations to be ruled out due to practical limits; (3) the development of an "evoked set" from a broader awareness set of destinations; (4) additional information search and the formation of more refined beliefs about each destination in the evoked set; and (5) the final choice of a specific travel destination from the alternatives thoroughly considered. However, this linear and rational framework has been criticized for oversimplifying how travelers make real-world decisions. Decrop and Snelders (2005) criticize the previous model because they consider that it simplifies reality. In practice, travelers sometimes make iterative decisions. During travel planning, travelers may develop their choice set again when they come across an unexpectedly attractive destination, or they may make their final decision based on an impulse. To address this complexity, Woodside et al. (2004) offered a perspective that includes multiple stages and feedback: (1) forming a consideration set and eventually the choice itself; (2) understanding the motives and situational conditions that affect that choice; (3) the research and use of information in making the choice (including what sources are consulted, how alternatives are compared); and (4) a post-choice stage that summarizes the results of the travel experience related to that choice. Moreover, Woodside et al. (2004) identified seven key trip components that influence and are influenced throughout: (i) the destination(s) chosen (some trips involve more than one destination); (ii) the route taken and modes of travel used; (iii) the accommodations chosen at the destination; (iv) the activities they will be participating in at the destination; (v) the regions or areas visited

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within the destination; (vi) the attractions seen (including restaurants and entertainment); and (vii) the gifts or purchases made to take home.

In addition to the two approaches described above, one of the most widely applied theories when choosing a destination is the approach of the Theory of Planned Behavior (TPB) proposed by Ajzen (1991). This framework explains how individual decisions are influenced by three core factors: attitude toward the behavior, subjective norms (social pressure), and perceived behavioral control. Applied to destination choice, a traveler's attitude reflects their evaluation of various attributes of a destination, such as attractions, climate, cost, and perceived enjoyment. Within this framework, Lam and Hsu (2006) showed that a tourist is more likely to choose a destination when they have a positive attitude toward it and when friends and family support the choice. Subsequently, Martin and Woodside (2012) proposed a structure-and-process perspective for seemingly unstructured leisure-travel decisions, highlighting how multiple interacting influences (e.g., personal characteristics, situational context, and social cues) to explain how these elements influence destination choice and travel behavior. Other models were also developed, such as the dynamic Agent-Based Model (ABM) proposed by Álvarez and Brida (2019), which demonstrates how tourists make destination choices. The model aims to capture the complex and dynamic nature of this decision, considering tourists autonomous with individual preferences, behaviors, and interactions, allowing for emergent patterns based on both individual and social dynamics. In more recent years, researchers have increasingly turned to hybrid models that integrate different theoretical perspectives.

For example, Ni et al. (2025) develop a context-specific hybrid choice model that extends traditional utility-based approaches by incorporating uncertainty-related perceptions in intra-destination public transport. Their findings highlight that tourists' choices are shaped not only by conventional trade-offs (e.g., time and cost) but also by an "uncertainty premium" associated

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with perceived risk and reliability of local transport services. This illustrates a broader shift toward more realistic and multidimensional representations of tourist decision-making, acknowledging that rational evaluation interacts with contextual and uncertainty-related factors in shaping travel-related choices.

In summary, researchers have identified several factors that complicate the destination choice process. First, choosing a travel destination involves uncertainty and perceived risk (Fodness & Murray, 1999; Fuchs & Reichel, 2011). Second, the complexity of traveler preferences introduces variability. Tourists must weigh multiple criteria, such as cost, travel time, and climate, while also considering emotional and psychological aspects like anticipated enjoyment or cultural affinity. Third, any destination choice model needs to incorporate a wide range of variables, from individual traveler characteristics (age, income, personality), travel-specific factors (reason for travel, length of stay) as well as destination-specific characteristics (attractions, image, accessibility). Including all these variables and their interactions in one model is a significant challenge for researchers (Decrop & Snelders, 2005) ; Pandey & Joshi, 2021; Kemperman, 2021). In Table 6, some of the destination choice models in tourist literature are summarized, including the authors, and major contributions.

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Table 6 Destination Choice Models in Tourism (chronological overview of key contributions)

Authors	Major contribution(s)
Meyer (1979)	This author developed a model called Theory of Destination Choice Set Formation under Informational Constraints. Introduced the concept of choice set formation as a distinct and critical phase in the destination decision-making process. Highlighted the role of informational constraints and cognitive limitations in determining tourist behavior. Established theoretical foundations for subsequent studies in tourism, consumer behavior, and transportation planning that incorporate bounded rationality and stepwise decision-making.
Woodside and Lysonski (1989)	The destination choice is not a single decision but a multi-stage process. They incorporate marketing and behavior theory. This model integrates five sets of processes: (1) subjective beliefs about the destination's attributes; (2) decisions to make a pleasure trip;(3) evolution of an *evoked set*; (4) formations of subjective beliefs; and (5) choice of a specific destination.
Um and Crompton (1990)	Conceptualized destination choice as a sequential process in which travelers form awareness, evaluate alternatives, and select a destination, highlighting the staged nature of evaluation and narrowing of options.
Moscardo et al. (1996)	Explored holiday destination choice by relating travel motivations to activity preferences. Rather than focusing exclusively on demographic or economic aspects, they suggested that comprehending individuals' travel motivations and their preferred activities is critical for predicting the destination choice.
Eymann and Rønning (1997)	Develop a micro econometric model of tourists' destination choice, concluding that respondents generally prefer destinations located relatively closer to their domicile. This preference indicates that the distance from a tourist's domicile effectively influences the 'shadow price' of travel, which may limit or expand the maximal radius of accessible destinations.
Seddighi and Theocharous (2001)	Integrates both economic and behavior factors to explain tourist destinations choice. Incorporated socio-political risk as a critical determinant of destination choice, an underexplored area at the time. Expanded traditional economic models by integrating destination image and tourist perception variables, aligning economic modeling with insights from consumer behavior theory. Provided a multidisciplinary approach, bridging economics, psychology, and tourism studies in destination choice modeling.
Woodside et al. (2004)	Offered a perspective that includes multiple stages and feedback: (1) forming a consideration set and eventually the choice itself; (2) understanding the motives and situational conditions that affect that choice; (3) the research and use of information in making the choice (including what sources are consulted, how alternatives are compared); and (4) a post-choice stage that summarizes the results of the travel experience related to that choice.
Lam and Hsu (2006)	Apply the Theory of Planned Behavior (TPB) in destinations choice. Findings showed that past behavior, subjective norms, and perceived behavioral control, but not attitude, had a direct impact on destinations choice. Attitude did not play any significant role in affecting the behavioral intention of choosing a destination.
Huang and Cai (2011)	Developed a model with five components: 1) barriers to transitional travel, 2) motivations for transitional travel, 3) internal inputs, 4) external inputs, and 5) destination choice.

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Table 6 Destination Choice Models in Tourism (chronological overview of key contributions) (continuation)

Authors	Major contribution(s)
Mutinda and Mayaka (2012)	Developed a destination choice model for domestic tourists. Finding that the factors that motivated residents in the choice of domestic tourism destination in rank order include knowledge and adventure; economic concerns; personal safety; destination information; travel arrangement; destination features; family and friends; leisure and relaxation; religious and cultural considerations and travel bragging.
Jacobsen and Munar (2012)	This study provides empirical evidence of self-reported impacts of selected electronic and other information sources on international tourists' destination choices. It is shown that traditional information provisions, such as direct word-of-mouth, Web 1.0 sources and own experience are highly resilient and influential in shaping tourists' decisions when choosing a destination for their summer holidays, particularly in well-known areas.
Lee and Tussyadiah (2012)	Examine how the differences in the level of familiarity with the host country (i.e., informational familiarity and experiential familiarity) influence sub-destination choice in terms of its scale and popularity. The results indicate that (1) teens and people in their 50s and above were interested in visiting more popular places, and (2) tourists with greater travel experience in the country tended to visit larger and less popular destinations.
Martin and Woodside (2012)	Incorporates psychological, social, environmental aspects, traveler's demographic and personal motivations, and lifestyle that influence the destination choice.
Clifton et al. (2016)	Development of destination choice models for pedestrian travel. One of the first to model the destination choice dimension of pedestrian travel behavior within a regional context. Conclude that distance is the major influence on pedestrian destination choice.
Álvarez and Brida (2019)	Developed a dynamic Agent-Based Model (ABM) to simulate tourists' destination choices, allowing for the analysis of individual behavior and interactions that influence overall travel patterns.
Campos-Soria et al. (2021)	Investigated environmental attitudes in tourists from different countries of origin when they make their holiday choice.
Nowacki et al. (2023)	Developed a model that integrates attitudes towards the environmental ecosystem and green tourism, personal and social norms regarding pro-environmental behavior, perceived behavior control, perceived green image of destinations (PGID), behavioral intentions regarding green holiday destinations (GHD). The research allowed us to validate this model for the Gen Z demographic and to compare samples from two culturally diverse countries, namely Poland and India, with distinct backgrounds. The results of the study have vital implications for both theory and practice.
Zhou et al. (2023)	Using TikTok as a tourist destination choice. The model introduces the variable of perceived trust, using age as a moderating variable to examine the differences between Millennials and Generation Z. The results also revealed that there are significant differences in the factors that influence the choice of destination for Millennials and Generation Z using TikTok.
Utari et al. (2024)	Tourist destination choice during health crisis. The results show that health and hygiene are the main factors in destination choice, while destination image and experience have no effect on tourist choices during a pandemic.

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Table 6 Destination Choice Models in Tourism (chronological overview of key contributions) (continuation)

Authors	Major contribution(s)
Zihan et al. (2024)	This study investigates the impact of the cultural distance affecting tourism destinations choice. The results show that cultural distance has evident impact on destination choice, which is heterogeneous across different regions and different travel distances. Specifically, most short-haul tourists prefer culturally similar areas, but a small proportion differs. While most long-haul tourists prefer culturally diverse areas
Kokash et al. (2024)	This study investigates the impact of Virtual Reality (VR) in tourist destination decision-making. It reveals the significant role of hedonic motivations and the unexpected prominence of habitual behaviors in destination decision.
Ni et al. (2025)	Developed a context-specific hybrid choice model to examine how uncertainty shapes tourists' preferences for intra-destination public transport. Introduced the notion of an "uncertainty premium," showing that choices reflect not only standard utility trade-offs (e.g., time and cost) but also perceived uncertainty and reliability of local transport services, highlighting the role of risk-related perceptions in travel-related decisions within destinations.

Source Author's own elaboration

The study of destination choice is particularly relevant in the context of religious tourism and pilgrimage, where the decision-making process involves not only practical components, but religious motivations. Pilgrims often choose a destination based on symbolic, historical, and religious significance, including sacred sites, or spiritual traditions associated with the place. In this context, the destination choice may be influenced by internal factors, such as faith or personal and external factors like route accessibility, and route attributes. In the next chapter, we discuss in religion, religious tourism, pilgrimage, and motivations.

2.4 THE CONCEPT OF RELIGION, RELIGIOUS TOURISM, PILGRIMAGE, AND MOTIVATIONS

2.4.1 Religion and Tourism

Religion has historically affected human mobility (Nyaupane et al., 2015). According to Ateeq-ur-Rehman and Shabbir (2010), religion is defined as a strong belief in a supernatural power that controls human destiny or an institution to express belief in a divine power, highlighting both personal faith and institutional structures. On this topic, Bruce (2011)

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emphasizes that religion is “beliefs, actions, and institutions which assume the existence of supernatural entities with powers of action, or impersonal powers or processes with moral purpose”. This definition emphasizes the presumed presence of the divine and its influence on human behavior, combining doctrinal belief, ritual practices, and organized systems that shape how individuals engage with the world. Religion is widely recognized as one of the oldest and most enduring motivations for travel, forming a significant segment of the global tourism industry (Rinschede, 1992; Coleman & Eade, 2004; Fourie et al., 2015; Štefko & Mudrík, 2015; Božić et al., 2016; Bideci & Albayrak, 2016; Albayrak et al., 2018; Sy Su, 2018; Tkaczynski & Arli, 2018; Luz, 2020; Rebuya et al., 2020; Singh & Bhuyan, 2024). Religious tourism encompasses pilgrimages, visits to sacred sites, and participation in spiritual events, and continues to attract millions of travelers each year. Beyond its cultural and spiritual significance, religious tourism also generates substantial economic benefits for host destinations (Graave & Heijman, 2017; Budovich, 2023; Choe & Bagadion, 2024; Singh & Bhuyan, 2024). Religious events and sacred places contribute to destination branding, shape tourism policies, and support local economies through increased spending and infrastructure development (Timothy & Olsen, 2006; Olsen, 2013; Albera & Eade, 2017; Amaro et al., 2018; Olsen, 2019; Iliev, 2020). In several regions, religious tourism represents a cornerstone of the tourism sector, driving both domestic and international visitor flows (Albayrak et al., 2018; Budovich, 2023; Choe & Bagadion, 2024; Singh & Bhuyan, 2024). The studies by Timothy and Olsen (2006) and Collins-Kreiner (2010b) focus on the relationship between religion, tourism and economic development, showing that religious tourism involves much more than visiting sacred sites. It also entails cultural and economic exchanges that affect both tourists and host communities. Given its growing significance, religious tourism has expanded in recent

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years. This growth is driven by different causes, including the increased interest of travelers in discovering different religions and cultures (Iliev, 2020; Muruganantham & Patro, 2025).

Given this context, it is necessary to contextualize what religious tourism is. One of the first definitions was proposed by Rinschede (1992) who described it as a form of tourism exclusively or strongly motivated by religious reasons. Along similar lines, Sharpley and Sundaram (2005) define religious tourism as travel motivated by faith or religious intent. For Blackwell (2007), religious tourism refers to travel in which religion is a primary motivator and travelers seek religious sites and related attractions. Expanding on this idea, Božić et al. (2016) state religious tourism refers not only to the form of tourism with strong- or single-minded religious motives of pilgrimage, but also to people who undertake non-pilgrimage tourist activities, such as traveling to religious sites for sightseeing, cultivation. Similarly, Collins-Kreiner (2010a) proposes that religious tourism can be categorized into two major types: (1) journeys of faith, where travelers participate in religious rituals or pilgrimages motivated by devotion, and (2) cultural religious tourism, which focuses on exploring religious heritage, traditions, and sites from a cultural perspective. In a similar vein, Heidari et al. (2017) define religious tourism as "not only to the form of tourism with strong or single-minded religious motivation of pilgrimage, but also to those non-pilgrimage tourist activities, namely as traveling to the religious sites for sightseeing". Liutikas (2020) defines religious tourism as a type of tourism in which participants are motivated either partially or entirely, by religious purposes. Following this perspective, Kumar et al. (2024) argues that religious tourism refers to individuals or groups embarking on journeys to religious destinations primarily intending to engage in religious activities and experiences, such as visiting religious sites, participating in religious rituals, and experiencing spiritual and religious enrichment. More recently,

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Muruganantham and Patro (2025) discuss the role of digital technologies in supporting the sustainable growth and management of religious tourism destinations.

As described above, over the past decades, definitions of religious tourism have evolved significantly. The conceptualizations not only focus on religious destinations but also emphasize the motivations of the tourist as a central element in defining this form of tourism (Albayrak et al., 2018). This shift reflects a broader understanding of religious tourism, encompassing both intentional spiritual journeys and culturally motivated visits to sacred places. Many tourists to religious sites are secular travelers (Timothy & Olsen, 2006), and their motivations are no longer limited to religious purposes. For instance, Finney et al. (2009) identify four groups of religious travelers: (1) seekers, who explore both religious and secular sites; (2) lotus eaters, who primarily visit secular destinations but may occasionally include a religious site; (3) pilgrims, who travel exclusively for religious reasons, focusing only on sacred sites; and (4) accidental tourists, who have no specific intention of visiting either religious or secular sites. This typology highlights different motivations within religious tourism, ranging from deeply spiritual intent to incidental or passive engagement with religious experiences. Similarly, Blackwell (2007), visitors to sacred sites can be classified as: (1) pilgrims visiting sacred sites that have meaning for them; (2) religious tourists; (3) secular tourists; (4) pilgrims visiting sacred sites that have non-religious meaning for them (tacked on to the end of pilgrimage), and (5) religious festival and religious event participants.

2.4.2 Pilgrimage Concepts and Historical Evolution

The interconnection between religion, tourism, and pilgrimage has long been explored in academic research, with references found well before the 1990s (Poria et al., 2003; Palmer et al., 2012; Nyaupane et al., 2015; Rashid, 2018; Iliev, 2020; Wang et al., 2020; Żywiołek et al., 2023). Having discussed the role of religion and religious motivations in shaping travel

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behaviors, it is also essential to examine how the concept of pilgrimage itself has evolved over time.

This evolution reflects broader social, cultural and experiential shifts that have influenced both the practice and interpretation of pilgrimage in contemporary contexts. In the evolution of the concept of pilgrimage we can highlight four phases:

1. Before 1990: Pilgrimage as Ritual Process. During this early stage, these concepts and theories were developed primarily by scholars in geography and anthropology. The pilgrimage was seen as a *ritual process* (Turner, 1973; Turner & Turner, 1978; Cohen, 1979). These works frame pilgrimage as a liminal and symbolic journey, deeply rooted in religious devotion and structured ritual practices.

2. Between 1990 and 2000. Pilgrimage as Tourism. Between 1990 and 2000, pilgrimages increasingly began as a form of tourism (Rinschede, 1992; Smith, 1992a; Eade, 1992), which highlighted the growing overlap between religious and touristic motivations. In this context, Smith (1992a) argued that the definition of the concept of pilgrimage would have to be reformulated to better understand the behavior of the true pilgrim. Cohen (1992) was the first author that introduced the concept of a pilgrim tourist, arguing that the distinction is not absolute but rather a matter of degree. The author also considered the distinction between formal pilgrimage and popular pilgrimage. Similarly, Smith (1992b) also stated that it would be necessary to define the concept of pilgrim tourist (or religious tourism), and the secular tourist. For this author, pilgrimage consists of "journeys undertaken in anticipation of a future betterment, but they need not necessarily be sacred". By this time, secular tourism began to be included in the definitions of pilgrimage. Secular tourism refers to travel to religious or spiritual sites by individuals not primarily motivated by religious devotion but for leisure and pleasure, meeting new people, and other motivations (Smith, 1992b; Timothy & Olsen, 2006). In line

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with these ideas, Barber (1993) analyzed the mixed concept of pilgrimage, which he called "hybridization". This concept incorporates both religious and secular elements. Today, pilgrims may be involved in prayer and rituals, but also in conventional tourism. This "hybridization" allows individuals to experience sacred sites with different levels of involvement. According to Murray and Graham (1997), pilgrimage is a religious phenomenon, but also a social construction and, inevitably, a cultural product.

3. Since the 2000s: Expanding Dimensions of Pilgrimage. From the early 2000s onward, the concept of pilgrimage has been significantly expanded to include spiritual, personal, cultural, and even political dimensions. Margry (2008) notes that pilgrimage can extend to various contemporary practices, including healing retreats, music festivals, political rallies, or even long-distance walks like pilgrimages in terms of personal significance. Aligning with this perspective, Shinde (2007) emphasizes that pilgrimage as a form of travel provides opportunities for people to visit sacred places and is a feature common to almost all societies. For Collins-Kreiner (2010b) pilgrimage is exceedingly subjective and influenced by personal and global factors. In this context, Di Giovine (2011) and Di Giovine & Choe (2019) emphasize this double nature of pilgrimage. Every pilgrimage involves an external journey to a sacred place and an internal journey of personal growth, and includes non-religious activities, often of a spiritual nature (Hyde et al., 2011).

4. Contemporary Perspectives: Božić et al. (2016) point out that religious visitors can be driven by a whole spectrum of different religious purposes but highlight that visitors can also be driven by non-religious motives, the secular motivation. In general, Durán-Sánchez et al. (2018) conceptualize pilgrimage as a multifaceted journey involving both external travel and internal reflection. More recently, King (2023) defines contemporary pilgrimage, "as a personal

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but relational process, involves an intentional setting out on a journey to very particular places, deemed sacred, special or holy".

With the growing increase of pilgrims in different destinations, pilgrimage sites have begun to attract an increasingly diverse type of visitors, not only devout pilgrims, but also secular tourists (Iliev, 2020). Within this scope, Collins-Kreiner (2018) argues that no destinations are intrinsically tied to religious motivations, meaning that two individuals may experience the same site in entirely different ways. She also suggests that the nature of pilgrimage is fluid and that rigid definitions are inadequate. Similarly, Iliev (2020) states that the relationship between religious tourism and pilgrimage needs to be considered in three broader approaches: (1) a spatial approach (pilgrims and other tourists sharing the same space with different behavior); (2) a historical approach (the relationship between religious and tourism); and (3) a cultural approach (pilgrimage and tourism as modern practices in a (post)modern world). This is aligned with the notion of post-secular religiosity, described by Nilsson and Tesfahuney (2016) as a form of personal faith that is less institutional and more individualized. The most recent research has focused on cultural aspects and environmental conservation. For instance, Das et al. (2024) identify a growing research emphasis on pilgrimage tourism as a means of fostering intercultural dialogue and preserving cultural heritage. There is a concern for environmental conservation (to protect the natural landscape of pilgrimage trails), responsible tourism practices (to reduce the impact of large crowds), and local community engagement (so that tourism benefits locals and respects local culture). In this way, pilgrimage sites serve as centers not only for religious practices, but also for cultural exchange, ensuring that increased tourism does not irreparably harm the sacred atmosphere or local communities. Moreover, the commercialization of religious sites raises ethical questions about preserving spiritual authenticity in the face of mass tourism (Tabash et al., 2023). Given the different definitions of

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pilgrimage that have developed over the years, different segmentations of pilgrims have also emerged.

One of the first segmentations was proposed by Smith (1992a), who classified pilgrims into three categories: devout pilgrims, tourist-pilgrims, and secular tourists. The first are motivated exclusively by religious devotion and are more pilgrims than tourists. The second, tourist-pilgrims (or religious tourists), combine religious and leisure experiences, and are more tourists than pilgrims. Finally, the third, secular tourists who visit sacred sites without any religious or spiritual intention. For this group, these places are not considered sacred. This classification makes it clear that many travelers cannot easily be called pilgrims or tourists, since they often fall somewhere on this spectrum, depending on the combination of motivations and activities. Regarding the second segmentation of pilgrims, Damari and Mansfeld (2016) identified four key types of modern pilgrims: the traditional pilgrim, who has religious beliefs and is motivated by faith and devotion; the modern pilgrim, who views pilgrimage as a personal journey of discovery or self-exploration; the postmodern pilgrim, who represents the most flexible and individualized form of pilgrimage; and individualized engagement with pilgrimage environments. Kurrat (2019) classified five types of pilgrims: (1) balance pilgrim; (2) crisis pilgrim; (3) time-out pilgrim; (4) transitional pilgrim; and (5) new start pilgrim. Another contemporary segmentation is provided by Collins-Kreiner and Kliot (2000), who identified five types of travelers to sacred places: (1) pious pilgrims; (2) more pilgrims than tourists; (3) pilgrims-tourists or religious tourists; (4) more tourists than pilgrims, and (5) secular tourists. Roszak (2022) and Roszak & Mróz (2024) argues that the concept of pilgrimage now encompasses a wide range of individuals who blend characteristics of both tourists and pilgrims. As a result, there is a growing perception that the predominant figure on contemporary

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pilgrimage routes is the *tourigrino*, a hybrid identity that merges elements of tourism and traditional pilgrimage.

In their recent study on the *Santiago* way, Suárez et al. (2024) identified four distinct clusters of pilgrims, based on their motivations and preferred activities. The first group, "wellness, pleasure, and social interaction", this group is predominantly composed of *Generation Z* individuals (ages 18 to 24), typically students of autonomous origin (*Galicia*). They are primarily motivated by activities related to sports (e.g., hiking, mountaineering, rafting), exploration of nature, and scientific or academic participation (e.g., conferences, seminars). Interestingly, they show less interest in traditional activities, such as buying handicrafts or learning new languages. This segment aligns with a more secular and lifestyle-oriented profile, where the *Santiago* way serves as a setting for personal enjoyment and social connection rather than spiritual reflection. The second group, "escape and emotional exploration", this group is predominantly composed "Millennials and Boomers", this group spans a wide age range (25 to 65+) and includes individuals with higher income levels and typically international backgrounds. They engage in a variety of activities but are less involved in academic or scientific pursuits. Their motivations reflect a desire for emotional exploration and meaningful experiences, positioning them as experience-driven travelers. Although their interests are distributed across several activity types, they tend to participate in religious events and handicraft-related activities, suggesting a blend of emotional, cultural, and spiritual engagement. The third group, the "Younger Senior and Traveler". This group consists of pensioners and retirees aged 55 to 64, mostly from Spain and other European countries, with education levels typically at the high school or vocational training level. Although this profile includes fewer university graduates, they show interest in language learning, indicating a continued engagement with self-development. They are moderately active and culturally

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curious, positioning themselves between traditional and modern pilgrimage profiles. Finally, the fourth group, “Older Senior”. Comprised of retirees aged 65 and above, this group reflects a more traditional pilgrim profile, with lower income levels and Spanish origin. Their motivations are strongly tied to agricultural or rural activities, language learning, and cultural engagement, but they show limited interest in physically demanding activities, such as hiking or adventure sports. This segment aligns most closely with the classic image of the religious pilgrim, albeit with evolving interests in cultural enrichment and heritage.

2.4.3 Pilgrimage Motivations

Having explored the concepts of religion, religious tourism, and pilgrimage, it becomes essential to consider the underlying reasons that drive individuals to engage in these forms of travel. In religious tourism, motivations often go beyond leisure or cultural interest, encompassing spiritual fulfilment, personal transformation, or a search for meaning. Travel motivations in religious tourism and pilgrimage are indeed more complex than in other forms of tourism. In general, these motivations can be divided into three main categories: (1) religious motivations, (2) non-religious motivations, and (3) mixed motivations. For example, for Buzinde et al. (2014) pilgrims' motivations are related to spiritual connectivity (devotion) and obtaining spiritual knowledge. In contrast, Božić et al. (2016) argue that visitors to a monastery have explicitly religious motives (especially love and respect for God) rather than secular motives. These findings indicate that certain sites or groups of pilgrims still fit the traditional model of pilgrimage motivation. While Kruger and Saayman (2016) identifies seven motivations (spiritual fulfilment, inner peace, inner healing, faith exploration, congregational togetherness, personal fulfilment and religious participation). The literature emphasizes that pilgrims are rarely motivated by a single reason. On the contrary, the decision to undertake a pilgrimage usually results from a combination of religious, cultural, social, and personal factors.

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For many pilgrims, religious and spiritual motivations remain central to the decision to embark on a pilgrimage. These often include practices such as prayer, expressions of faith, the fulfillment of religious obligations, or the pursuit of a spiritual experience (Hyde & Harman, 2011; Drule et al., 2012; Tsai, 2021; Liro, 2021; Rosak-Szyrocka et al., 2023; Hassan et al., 2023). Beyond religious and spiritual motivations, cultural and historical factors are also widely recognized. Many pilgrims are drawn to destinations that go beyond their own religious tradition, motivated by historical interest, architectural value, or the cultural heritage of sacred places (Collins-Kreiner & Kliot, 2000; Liro, 2021; Rosak-Szyrocka et al., 2023; Hassan et al., 2023).

Tourism and leisure motivations (secular motivations) are also highly relevant. Many pilgrims take the opportunity to explore new places and landscapes, visit family, enjoy local cuisine, participate in cultural events, socialize, or visit museums. These elements often complement the spiritual aspects of the journey, reflecting the increasingly hybrid nature of contemporary pilgrimage experiences, which combine religious devotion with general tourism practices (Collins-Kreiner & Kliot, 2000; Hyde & Harman, 2011; Drule et al., 2012; Vistad et al., 2020; Liro, 2021; Tsai, 2021; Hassan et al., 2022; Hassan et al., 2023). Terzidou (2020) highlights that experiences at sacred sites are co-created through complex interactions of humans and material environments, which contribute to diverse expressions of religious meaning beyond traditional ritual practices. Fleischer (2000) showed that pilgrims from different religious or cultural backgrounds may exhibit distinct patterns of consumption and behavior during their journey. Drule et al. (2012) found that among Orthodox Christian pilgrims visiting sacred sites, younger and more highly educated individuals tend to display both religious and secular motivations simultaneously. This reality may be due to the fact that education and urban life expose people to a wider range of interests, including culture and personal fulfillment, beyond

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religion. Rosak-Szyrocka et al. (2023) identify two main profiles of pilgrims: (1) those whose experience is predominantly religious, encompassing both traditionalists and liberal believers; and (2) those motivated by secular reasons, such as an interest in art, culture, or ethnology. The diversity of motivations in religious tourism is clearly reflected in the case of the *Santiago* ways. While traditionally associated with Christian pilgrimage and spiritual devotion, the *Santiago* way today attracts a wide range of travelers driven by varied purposes, from faith and self-discovery to cultural interest, physical challenge, or a desire for social connection. This multiplicity of motivations illustrates how modern religious routes, namely the *Santiago* way, have become complex spaces where the sacred and the secular often intersect. As observed by Lois-González and Santos (2015) the success of this way is "based on the fact that the new tourist mixes pilgrimage motivations (religious or spiritual motivations) with tourist motivations, such as the search for various landscapes, the need to mentally unwind and to escape from the pressures of daily life". For example, de la Torre et al. (2012) identified three types of motivations among pilgrims on the way of *Santiago*: (1) 40.6% of participants had exclusively religious motivations; (2) 50.8% combined religious motivations with other motives, including cultural, social, and sporting ones; and (3) only 8.6% had no religious motivations. In their empirical study, Schnell and Pali (2013) found that the pilgrims were moderately or not at all religious, with 39% citing spiritual reasons and 31% citing religious reasons for their journey. Additionally, 44% reported undertaking the pilgrimage for sport, and 26% for cultural or other motivations. In a similar view, Amaro et al. (2018) and Lopez et al. (2017) suggested that many pilgrims walk the *Santiago* way for mental renewal, a break from their routine, or as a form of stress relief. Castro-Fernández et al. (2016) argues that most pilgrims have religious motivations.

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Moreover, Kim et al. (2019) noted that older pilgrims (aged 65 and over), identified five motivations: (1) challenge and adventure (testing physical and mental limits, experiencing an adventure in adulthood); (2) spirituality and religious motivation (seeking spiritual growth); (3) cultural and historical curiosity (interest in the historical route, local culture and heritage along the way); (4) personal reflection and gratitude (using the pilgrimage to reflect on life, give thanks or find a solution to a problem), and (5) social connections (valuing the camaraderie with other pilgrims and meeting new people). In this scope, Casais and Sousa (2020) provided a classification of participants that reflects this reality: purist pilgrims are those primarily motivated by religious or spiritual reasons, while non-purist pilgrims are those motivated by secular, cultural, or mixed reasons (essentially, everyone else). Their work found that although the purist pilgrim still exists in the *Santiago* way, a large number of pilgrims come with non-religious motivations. Heiser (2021), through interviews with pilgrims, found that many individuals shape their religious or spiritual experiences along the *Santiago* Way. While pilgrims may not strictly follow the Catholic traditions associated, with the route, they often engage in symbolic practices and rituals, such as lighting candles, personal prayer, or carrying a symbol like the scallop shell (the emblem of the way) that help structure and give meaning to their journey. Lienau et al. (2022) examined the intensity and structure of religiosity and spirituality among German foot and bicycle pilgrims on *Santiago* way. The results revealed that these pilgrims exhibited significantly higher levels across all dimensions of religiosity, indicating a strong religious orientation within this group. Recently, Brumec et al. (2023) identified three primary motivations for pilgrimage: secular, spiritual, and religious. In line with this, Nelson-Becker et al. (2023) studied pilgrims aged 65 and older and found that, while pilgrimage has historically been associated with religion, it now serves a broader range of purposes for this age group. This aligns with the findings of Suárez et al. (2024), who identified

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multiple motivations, including physical, cultural, and social benefits, among pilgrims on the *Santiago* way. In the specific case of the Portuguese ways, and in line with the results described above, Fernandes et al. (2012) found that leisure were the primary motivations for 39% of walkers, slightly surpassing religious (35%) and cultural (33%) motivations. This indicates that most pilgrims perceive this experience more as a trek or cultural outing rather than a strictly religious pilgrimage. However, religious motivations have not disappeared; they continue to be an important part of the motivational mix, with faith being the main reason for about a third of pilgrims. What has changed is that many pilgrims now report multiple motivations rather than just one. Indeed, many pilgrims on this route are motivated by multiple factors. A similar result is observed in the work of Gomes et al. (2019) on the Portuguese Inland way. Most pilgrims have multiple motivations, i.e., 52% of pilgrims reported mixed motivations (a combination of spirituality, culture, leisure, etc.), while only 26% traveled for purely religious reasons and about 11% for purely cultural purposes. This result proposes that the modern pilgrim is neither fully religious nor fully secular, but rather something in between, valuing both spiritual and secular aspects (enjoying nature or achieving a personal goal). Silva and Borges (2019) examined pilgrims on the Portuguese ways and found a growing trend in cultural and sports motivations, while spiritual and religious motivations remain significant.

The popularity of the walking pilgrimage to *Santiago de Compostela* is often understood as a new kind of spiritual tourism rather than a revival of religious practice (Moulin-Stożek, 2019). In the context of religious tourism, choosing a religious route represents one of the major decisions pilgrims make, as it often reflects their motivations, expectations, and desired experiences. This decision is not only practical, but also symbolic, shaping the entire journey. In both pilgrimage and tourism more broadly, the concepts of route choice and pedestrian mobility play a crucial role in understanding traveler behavior. In particular, pedestrian route

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choice refers to the decision-making process involved in selecting a specific travel or pilgrimage route, especially when the journey is made on foot, emphasizing the interplay between personal intent, spatial perception, and experiential goals (Lourens, 2007; Vada et al., 2023).

2.4.4 Route Choice and Pedestrian Mobility in Pilgrimage

In pilgrimage and in tourism, the concepts of route choice and pedestrian mobility are important for understanding the traveler's behavior and experience. Pedestrian route choice refers to the decision-making process through which individuals select one route from a set of alternatives, particularly when traveling on foot. Pilgrimage routes often differ from conventional tourist routes because they involve symbolic, cultural, and religious elements. While a tourist might choose the fastest or most comfortable way to get to a destination, a pilgrim might deliberately choose a longer historical route because of its sacred importance or the ritual value of walking it. Walking is one of the most fundamental forms of human mobility. In the context of pilgrimage, walking is not just a means of getting from one location to another, it is often central to the spiritual experience (Mendel, 2010). Research on pedestrian networks highlights how walking-related infrastructure influences accessibility and broader sustainability outcomes (Jabbari et al., 2023). Ahmad and Al-Fagih (2024), review route-choice modelling in tourism and travel behavior, emphasizing that route selection can be influenced by multiple constraints and preferences (e.g., time, safety, and experiential attributes). This aligns with the conclusions of Davidsson Bremborg (2013), who shows how walking practices (e.g., silence) can create sacred space and shape pilgrims' spiritual experience. From this perspective, Mukhamadalieva and Tilyabaeva (2020) argue that the tourist route choice are organized and promoted can influence both the number and behavior of those who use them, with direct implications for local communities. In this context, Timothy and Boyd (2015) highlight the

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importance of strategic planning to ensure that the needs of pilgrims and visitors are met while preserving cultural and historical integrity. Such strategic planning should first and foremost include the practical needs of modern travelers and protect the heritage and sacredness that make a route special.

A clear understanding of pedestrian route choice requires establishing some key conceptual definitions first. Pedestrian mobility involves not only walking, but also the way that pilgrims interact with different elements, including the beginning and end of the route, and the interactions with the environment (Lynch et al., 2011). In this sense, Prato (2009) defined the route choice as the process of choosing a certain route within a set of alternative routes. As observed by Ahmad and Al-Fagih (2024) described route choice as the process of deciding from several options based on convenience, safety, scenery, and time. These definitions incorporated aspects, such as choosing the route or itinerary, as well as decisions about what to do along the way, like traveling at a specific time of day (Prato et al., 2012; Tong & Bode, 2022). After defining and contextualizing the fundamental theoretical concepts of this thesis, it is essential to understand the factors that influence consumer behavior as well as their decisions.

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2.5 THE FACTORS THAT INFLUENCE THE DECISION-MAKING IN RELIGIOUS TOURISM

Consumer behavior and decision-making are central to understanding why individuals choose specific products, services, or destinations. In tourism, these concepts explain why travelers choose a particular destination, being influenced by personal, social and situational factors (Deslandes, 2007; Fratu, 2011; Cuculeski et al., 2015; Bicalho et al., 2018; Damiasih, 2025). In the context of religious tourism and pilgrimage, additional spiritual and cultural motivations are included.

The factors that influence tourist decisions can be classified into three categories: (1) psychological factors intrinsic to the individual, (2) cultural and social factors and (3) situational or external factors related to the context of the decision (Fratu, 2011). Each of these factors plays a different role in tourist behavior. The first group, psychological factors, includes internal attributes and perceptions that influence an individual's travel choices. This category includes personal characteristics, such as personality, self-image, attitudes, motivations, perceptions, and lifestyle. The second group of factors influencing tourist decisions, according to Fratu (2011), consist of cultural and social influences, which include norms, values, and community dynamics that shape how individuals make travel choices. In relation to culture, it is observed that it defines tourism preferences by conveying values and norms shared by travelers. In this context, cross-cultural studies have shown that travelers' cultural backgrounds can significantly affect their choices of destination, activities, and travel style. Both Hofstede (2001) and Long (2004) highlighted the importance of cultural context in influencing how individuals plan their travel and their travel experiences. Tourist behavior cannot be fully understood without considering the cultural context (Hofstede, 2001; Long 2004). Social environments, especially family, play a key role in travel decision-making (Obrador, 2012; Ocke, 2013; Rojas-de-Gracia, 2025). Family structure and dynamics often determine how travel plans are formulated,

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particularly for multigenerational trips. Decrop (2006) notes that in multigenerational tourism (e.g., a trip involving grandparents, parents, and children), decisions are often made collectively. The needs and constraints of the family may determine the choices of destination, schedules, and activities. The third factor, situational or external factors, is related to the context of the decision. These factors are temporary conditions or context of specific circumstances that can significantly influence travel decisions.

Furthermore, in parallel with the three factors described above, it is also essential to consider the personal characteristics of travelers, particularly sociodemographic variables, including gender, age, income, education, and nationality. These attributes not only help define the tourist profile but also serve as moderating factors in the decision-making process. According to Frew and Shaw (1999), gender influences tourist preferences. Specifically, men and women exhibit different motivations for traveling and experience different levels of satisfaction. For example, Hudson (2000) reported that women tend to encounter greater time limitations for travel due to family responsibilities, whereas Khan (2011) noted that employment related time constraints more frequently affect men. In this line, Collins and Tisdell (2002) highlighted the influence of gender on travel life cycles. These disparities suggest that traditional gender roles and societal expectations may contribute to different travel patterns for men and women. In addition to gender, other sociodemographic characteristics, such as age, length of stay, and sources of information, also influence holiday preferences. These decisions are influenced by evolving social norms, family roles and personal priorities. Age is another affecting consumer behavior in tourism. In the context of age, Eby and Molnar (2002) found that older travelers in the United States tend to prefer road-trip experiences that emphasize comfort and cultural enrichment. Furthermore, Bernini and Cracolici (2015) showed that age also impacts travel spending. Although older tourists may travel more frequently, they tend to spend less on their travel.

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However, the segment of travelers over 50 is emerging as an important market for longer and more flexible trips, as these individuals generally have fewer family or work obligations and higher disposable income (Anderson & Langmeyer, 1982). Age can also influence which destination attributes are valued most. For example, younger tourists may place greater importance on entertainment and nightlife, while older travelers place greater importance on cultural events, heritage and historical sites, or even religious attractions (Almeida, 2020; Milićević et al., 2020). Other authors have also studied the influence of income and occupation, but some have found no significant differences in travel choices (Heung et al., 2001).

In the specific context of religious tourism, an individual's level of religious commitment is a crucial factor that influences travel decisions. Religion can significantly influence travel motivations, behaviors, and perceptions of religious destinations. Studies on religiosity have also examined gendered behaviors in religious activity, given its potential impact on pilgrimage participation. However, Loewenthal et al. (2002) offer a different perspective. They found no gender differences in religious activity, suggesting that, across all religions, women are not more religious than men. Francis and Wilcox (1996) further noted that strong religious beliefs often correlate with more traditional views on gender roles, which, in turn, may influence who participates in religious tourism (e.g., in some contexts, either women or men may be more likely to undertake pilgrimages based on religious motivations). In general, more religious individuals tend to integrate their faith into their destination choices. These individuals may prefer pilgrimage routes or destinations that offer strong spiritual significance over more tourist-oriented destinations. Pilgrimage is often perceived as a transformative experience, one that reinforces the importance of authentic religious settings and rituals (Collins-Kreiner, 2010a). A devout traveler may therefore choose a longer, more arduous pilgrimage path because it offers opportunities for prayer, reflection, and spiritual growth that may not be available on a more

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traditional journey. Particularly for pilgrims, several situational factors, such as time constraints, financial resources, infrastructure, and seasonality can influence their decision-making processes. Among these, time and financial limitations tend to be the most important factors, they directly influence the travel decisions in religious tourism (Fratu, 2011).

The state of infrastructure and the chosen mode of travel are another set of crucial external factors, particularly in pilgrimage contexts. Transportation availability, route conditions, and general accessibility can either facilitate or hinder the pilgrimage experience (Collins-Kreiner, 2010b). Despite these logistical considerations, walking remains the most traditional form of pilgrimage. A significant number of pilgrims view the act of walking as integral to their spiritual journey. Walking long distances on pilgrimage offers time for personal reflection and opportunities for social interaction with fellow travelers along the way (Mesters et al., 2014; Farias et al., 2019; Paydar & Fard, 2021; Malis et al., 2023). According to Silva and Borges (2019), for some pilgrims, walking is a way of getting to know the local culture and learning more about the history and traditions of the region. Other important factors that can influence decision-making are the individual characteristics of pilgrims. Research can be interpreted as evidence that factors like age, physical ability, and education affect a traveler's willingness or ability to engage in physically demanding pilgrimage practices (Mendes de Leon et al., 2009). In other words, a younger or fitter individual may be more inclined to walk a long pilgrimage route than someone who is older or in poorer health. Seasonality is another external factor that affects tourism and travel, influencing when and how travel can occur. It refers to the predictable fluctuations in tourism activity throughout the year, having implications for the accessibility and economic viability of destinations. For example, weather patterns, religious calendars, and school or work holidays contribute to these fluctuations (Butler, 2001; Cuccia & Rizzo, 2011). In many religious tourism contexts, certain times of year (such as major religious

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festivals or holy periods) correspond with peak pilgrimage activity, whereas off-season periods may see very low visitation. The peak travel season often brings crowded conditions, higher prices, and increased commercial activity at destinations (Alshuqaiqi & Omar, 2019). In contrast, off-peak travel offers the advantages of better affordability, greater availability of accommodation, and fewer crowds, which can make for a more contemplative or intimate experience at sacred sites. However, off-peak times might also mean reduced services or accessibility, as some facilities close or transportation options become limited when demand is low. Alshuqaiqi and Omar (2019) categorized the factors contributing to seasonality in tourism into three groups: (1) natural factors (like climate and weather conditions). For example, harsh winters versus mild summers, as discussed by Cuccia and Rizzo (2011); (2) institutional factors (such as school vacations, public holidays, or religious festivals that dictate common vacation periods) (Butler, 2001); and (3) human factors (including local events, or cultural programs that can draw or deter visitors at certain times) (Duro & Turrión-Prats, 2019). Seasonality also has important economic implications for religious destinations. Seasonality also has important economic implications for destinations and businesses, shaping pricing, employment, service provision, and the design of demand-management strategies across the year (Dalir, 2024).

In summary, the decision-making process in religious tourism is influenced by diverse factors, including psychological, social, and situational influences, as well as cultural, religious, and demographic characteristics. As previously discussed, this process is complex and multidisciplinary, requiring an integrated perspective that considers both individual motivations and broader contextual elements. Understanding these interactions is essential for the effective management and promotion of religious tourism.

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2.6 GAP AND OBJECTIVES

This section synthesizes the insights derived from the previous literature review, identifying key theoretical and empirical gaps that remain unaddressed. Although extensive research exists, significant gaps remain in understanding pilgrimage decision-making. Unlike conventional tourism, pilgrimage is rooted in religious, spiritual, and cultural dimensions, requiring a deeper examination of the factors that drive decision-making. Based on the literature review and the identification of four critical areas underexplored, the following research gaps, objectives, questions, and hypotheses are proposed:

The first research gap (Gap 1) aims to understand how religious, secular (religious and other motivations), non-religious motivations and cultural influence pilgrims' decision-making processes and destination choices. While several studies have analyzed motivations in religious tourism (e.g., Rinschede, 1992; Long, 2004; Timothy & Olsen, 2006; Shinde, 2007; Finney et al., 2009; Collins-Kreiner, 2010a; Fratu, 2011; Padin et al., 2016; Božić et al., 2016; Woodside, 2017; Amaro et al., 2018; Collins-Kreiner, 2020; Kim et al., 2020; Rezende & Coelho, 2021; Brumec et al., 2023; Rozenkowska, 2023; Carvache-Franco et al., 2024; Suárez et al., 2024) few have directly connected these motivational factors to route choice within the same pilgrimage way. This gap stems from the need to better understand how motivational dimensions interact when pilgrims select between routes that differ in their religious versus touristic orientation. Accordingly, this study investigates how different motivational and cultural profiles influence the choice between a more religious route (Portuguese Central way) and a more tourism-oriented one (Portuguese Coastal way), as discussed in chapters 5 and 6. To respond to this gap, the first (objective 1) is to develop a model that examines the relationship between religious, non- religious, secular motivations, and cultural influence that

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determine the pilgrims' route choices in religious tourism destination. This objective leads to the formulation of the following research question and hypotheses:

Question 1 (Q1): What are the key factors influencing pilgrims' decision-making processes when choosing between more spiritual and more tourism-oriented pilgrimage routes?

Hypothesis 1 ($H1_a$): Religious, non-religious, and secular motivations influence the choice between a more religious route (Portuguese Central way) and a more tourism-oriented route (Portuguese Coastal way).

Hypothesis 1b ($H1_b$): Cultural influences have an impact on pilgrim' decision to choose between the Portuguese Central way and the Portuguese Coastal way.

The second research gap (Gap 2) addresses the limited attention given to route attributes, external factors, and social interactions in pilgrimage decision-making. Previous research (e.g., (Woodside & Lysonski, 1989; Um & Crompton, 1990; Pizam & Mansfeld, 1999; Moutinho, 2000; Butler, 2001; Decrop & Snelders, 2005; Muraleetharan & Hagiwara, 2007; Hyde & Laesser, 2009; Mendel, 2010; Cuccia & Rizzo, 2011; Fratu, 2011; Lynch et al., 2011; Mesters et al., 2014; Clifton et al., 2016; Cheng et al., 2018; Alshuqaiqi & Omar, 2019; Duro & Turrión-Prats, 2019; Farias et al., 2019; Díez-Gutiérrez & Babri, 2020; Paydar & Fard, 2021; Rezende & Coelho, 2021; Agarwal & Mohan, 2022; Jabbari et al., 2023; Malis et al., 2023; Rozenkowska, 2023; Ahmad & Al-Fagih, 2024; Dalir, 2024; Utari et al., 2024) prove that route decisions are not static but evolve with situational and environmental factors. In particular, the role of route attributes, external factors, and social interactions in such decisions remain underexplored, especially when pilgrims choose between more religion oriented and more tourism-oriented routes (as discussed in chapter 5). To address this, the following research objective, questions, and hypotheses are formulated:

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Objective 2: To develop a model for understanding route choice behavior in pilgrimage tourism, focusing on the relationship between route attributes (e.g., route length, starting point, and mode of travel), external factors (e.g., seasonality), and social interactions (e.g., individual versus group travel).

Question 2 (Q2): How do physical attributes of the route influence pilgrims' choices between a more religious and a more tourism-oriented route?

Hypothesis 2 (H2): Route length has a positive impact on the choice between a more religious route (Portuguese Central way) and a more tourism-oriented route (Portuguese Coastal way).

Hypothesis 3 (H3): The starting point has a positive impact on the choice between a more religious route and a more tourism-oriented route.

Hypothesis 4 (H4): The pilgrim's mode of travel has a positive impact on the choice between a more religious route and a more tourism-oriented route.

Question 3 (Q3): How do external factors, including seasonality, influence route choice behavior among pilgrims in the context of pilgrimage tourism?

Hypothesis 5 (H5): Seasonality has a positive impact on the choice between a more religious route and a more tourism-oriented route.

Question 4 (Q4): How do social interactions (individual versus group travel) affect route choice behavior among pilgrims?

Hypothesis 6 (H6): Social interactions, namely traveling individually or in a group, have a positive impact on the choice between a more religious route and a more tourism-oriented route.

The third research gap (Gap 3) addresses the lack of an integrated understanding of how multiple factors collectively influence pilgrims' decision-making processes. Although prior studies have examined isolated variables, such as motivations (Rinschede, 1992; Collins-Kreiner, 2010a; Amaro et al., 2018), route attributes (Lourens, 2007; Timothy & Boyd, 2015),

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or social interactions (Decrop, 2006; Fratu 2011), few have analyzed how route attributes, religiosity, motivations, and social interactions, and the demographics characteristics (Anderson & Langmeyer, 1982; Frew & Shaw, 1999; Heung et al., 2001; Deslandes, 2007; Jönsson & Devonish, 2008; Jang & Ham, 2009; Cohen et al., 2014; Lin et al., 2014; Bernini & Cracolici, 2015; Kim & Lee, 2017; Kara & Mkwizu, 2020; Milićević et al., 2020; Pandey & Joshi, 2021; Wambani et al., 2021; Herawan et al., 2024) explain pilgrims' route choices in religious tourism. This is especially true in the context of choosing between more religion and more tourism-oriented routes (as discussed in chapter 5). Objective 3: To analyze how demographic variables influence pilgrims' behaviors and decision-making in pilgrimage tourism. Accordingly, the following objective research, question, and hypothesis are proposed:
Question 5 (Q5): How do demographic variables influence pilgrims' behaviors and decision-making in pilgrimage tourism?
Hypothesis 7 (H7): Demographic variables have a positive impact on the choice between a more religious route and a more tourism-oriented route.
Building on the previous research gaps, the fourth and final gap (Gap 4) highlights the absence of a comprehensive and integrative perspective that combines individual, contextual, and macro-level factors in explaining pilgrimage route choice. While existing studies have examined specific aspects such as motivations, route attributes, social interactions, religiosity, and cultural context (Moutinho, 2000; Hofstede, 2001; Long, 2004; Shinde, 2007; Collins-Kreiner, 2010b; Amaro et al., 2018; Iliev, 2020; Muruganantham & Patro, 2025), there is still limited understanding of how diverse elements, such individual effects of route types, travel times, motivations, external factors, social interactions, demographic variables, and the country-level Christian religiosity interact simultaneously in the decision-making in religious tourism. Moreover, the influence of national religiosity, as a contextual, country-level factor,

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remains largely unexplored in the analysis of pilgrimage behavior. Considering that pilgrims come from diverse cultural and religious backgrounds, it is crucial to assess how the religious composition and intensity of belief in their countries of origin affect their choices between routes with distinct religious and touristic orientations (as discussed in chapter 6). In response to this gap, following research objective, question, and hypothesis are formulated:

Objective 4: To understand how a combination of factors explains the complexity of pilgrimage route choice and how they jointly influence decisions between more religious and more tourism-oriented routes.

Question 6 (Q6): How does the country-level Christian religiosity influence pilgrims' behaviors and decision-making processes in the context of pilgrimage and religious tourism?

Hypothesis 8 (H8): The country-level Christian religiosity has a positive impact on the choice between a more religious route and a more tourism-oriented route.

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CHAPTER 3: METHODOLOGY[2]

The growing popularity of the Portuguese *Santiago* ways raises key questions about why pilgrims choose one route over another. This thesis explores the decision-making processes of pilgrims within religious tourism and pilgrimage, focusing on the factors that influence their choice between a more religious route and a more tourism-oriented route. Specifically, it examines the motivations and preferences behind the selection of the Portuguese Central way (perceived as more religious) versus the Portuguese Coastal way (seen as more tourism-oriented).

To understand the complex dynamics in religious destination choice, the study employs quantitative methodologies, including logistic regression with a binary dependent variable and a hierarchical multilevel logistic regression model. The data were obtained from three primary sources: (1) the Pilgrims' Welcome Office Registry between 2003 and 2023; (2) Pilgrims' Welcome Office Registry in 2022 and (3) Pew Research Center (PRC, 2023). The Pilgrims' Welcome Office data offers detailed information on pilgrims who completed the Portuguese pilgrimage routes, while the Pew Research Center (PRC, 2023) data report the size and distributions of the World's Christian Population. Using these datasets allows for an evidence-based exploration of how various factors influence the choice between the Portuguese Central way and the Portuguese Coastal way. These quantitative tools are crucial for identifying key predictors of route choice and for testing the study's hypothesis. An evidence-based,

[2]Part of this chapter has been reproduced in: Conde, Rosa; Borges, Ana Pinto; Isabel, Neira; Vieira, Elvira Pacheco (2023):"Estimate tourism model choice for Pilgrim in the way of St. James: The Portuguese way". Journal of Religious Tourism and Pilgrimage 190 (2023): 1-22. https://arrow.tudublin.ie/creaart/190.
Conde, R., Lema, Y., Borges, A. P., Neira, I., & Vieira, E. P. (2025). *Tres modelos para mejorar la gestión del Camino de Santiago*. In A. González Molina et al. (Eds.), *Análisis del futuro del sector turístico y casos de éxito* (pp. 313-332). Editorial Aranzadi.

quantitative approach is essential to meet the research objectives, providing rigor, transparency, and clarity in understanding pilgrim behavior.

The Portuguese Coastal way is a scenic route of the *Santiago* way known for its proximity to the Atlantic Ocean. It offers pilgrims and travelers breathtaking coastal views, opportunities for leisure, and cultural exploration through seaside towns and cities. This route is generally considered more touristic, as it is shorter and less physically demanding compared to other routes. In contrast, the Portuguese Central way tends to attract more traditional pilgrims and travelers with religious motivations. Together, these two routes exemplify the dual nature of modern pilgrimages, balancing sacred and secular motivations. Pilgrimage tourism exists on a spectrum where individuals may lean more towards the role of pilgrim or tourist depending on their motivations.

This chapter explains the data sources, statistical techniques and econometric analysis used in this thesis.

3.1 THE RESEARCH PROCESS

3.1.1 Data Collection: Pilgrims' Welcome Office Registry

The main data source is the Pilgrim's Welcome Office Registry (see Annex I), which contains records of pilgrims who completed journeys along the Portuguese Central and Portuguese Coastal ways. The data includes a range of variables required for the study (e.g., motivations, external factors, demographic variables).

To process the data, the first step was to verify its accuracy and consistency. This process involved identifying discrepancies, including missing values, incomplete records, and coding errors in this database. During data processing, several new variables were computed or recorded to facilitate analysis. This procedure encompasses the elaboration of derived variables,

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including categorical, such as age groups, employment status categories, cultural influence, traveled distance, group travel (whether the pilgrim traveled in a group or alone), and season of the pilgrimage (seasonality). The dataset used for statistical analysis includes records from 2003 to 2023, with 866,977 pilgrims, while the dataset used for the econometrics analysis refers to 2022 and includes 116,593 pilgrims who completed one of the Portuguese ways.

3.1.2 Data Collection: Pew Research Center

The other data source comes from the Pew Research Center (PRC, 2023), which provides detailed information on the religious composition of populations across countries worldwide. For this study, the relevant data extracted from these reports is the percentage of each country's population that identifies as Christian (see Table 7and Table 8). This database uses a sociological definition of Christian in its surveys. This definition encompasses individuals who may hold beliefs considered unorthodox by other Christians, as well as those who seldom pray or attend church (see Annex II). The inclusion of this dataset provides a macro-level indicator of country-level Christian religiosity for each pilgrim. In later analysis, this country-level variable (e.g., percentage of Christian in a country) serves as a proxy for the religious context influencing pilgrims. Additionally, a descriptive analysis of the Pew data (presented in chapter 4) offers insight into the regional distribution of Christianity worldwide as of 2020.

3.2 DATA ANALYSIS

This thesis employs a quantitative analytical framework to model the decision-making processes of pilgrims when choosing between the Portuguese Central and Portuguese Coastal ways. A combination of descriptive statistics, inferential tests, and econometric models is employed to identify the significant factors influencing route choice. In summary, the data analysis proceeds in three main parts: (1) descriptive statistic to summarize and compare key characteristics of pilgrims on each route; (2) analysis of variance (ANOVA) to test for

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significant differences between groups (e.g., different demographic variables, motivations and cultural influence) in their choice of route; and (3) choice models through regression techniques (logistic regression and hierarchical multilevel logit models) to examine how multiple variables together influence the probability of choosing one route over the other. For the econometric analysis, data from 116,593 pilgrims who completed the Portuguese ways in 2022 were used.

The following sections detail each of these analytical components.

3.2.1 Descriptive Statistics

As an initial step, a comprehensive descriptive analysis was conducted on the Pilgrim's Welcome Office data (see chapter 4 for detailed results). This analysis focused on the following variables to understand the data and observe trends and patterns in the Portuguese *Santiago* way:

- Number of pilgrims: overall measurements of pilgrims and annual fluctuations, with comparisons between the Portuguese Central way and the Portuguese Coastal way.
- Gender distribution: the distribution of male and female pilgrims on each route, analyzed by year and further segmented by whether pilgrims traveled in groups or individually.
- Age distribution: age profiles of pilgrims on each route, examined by year and by gender. This included categorizing the ages into groups to understand their distribution across the two ways.
- Employment status: this variable indicates occupational status of the pilgrim, compared between those taking the Portuguese Central way and the Portuguese Coastal way.
- Cultural influence (Top 10 Countries): the most common countries of origin of pilgrims (focusing on the top 10 countries) and how these are distributed between Portuguese Central and the Portuguese Coastal ways.

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- Motivations: religious, secular motivations (non-religious and other motivations), analyzed by route (Portuguese Central and the Portuguese Coastal ways), year, and gender. This helps reveal whether the two routes attract systematically different motivation profiles.
- Physical characteristics of travel: three aspects were considered:
    - Mode of travel*:* the preferred mode (e.g., walking, cycling, horseback) used by pilgrims on each route, analyzed by gender.
    - Start point*:* the pilgrims' starting point or location, which was further categorized by country of origin (cultural influence) to see how origin relates to route choice.
    - Route length*:* the distance (in kilometers) covered by pilgrims, grouped into categories, and compared by gender to check for differences in journey length between routes.
- External factors: seasonality: the timing of the pilgrimage throughout the year, analyzed by route and by cultural influence. This looked at how the season of travel (e.g., peak summer versus off-season) might differ for pilgrims from different countries or on different routes.

This descriptive statistic provided an introductory understanding of the data. They highlighted differences and similarities between the Portuguese Central and the Portuguese Coastal ways. In addition to the pilgrim data, another descriptive analysis (presented in chapter 4) examines the global distribution of Christianity in 2020 using the Pew Research Center (PRC, 2023) data.

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3.2.2 ANOVA

To determine whether certain groups of pilgrims differ significantly in their route choices, the study uses Analysis of Variance (ANOVA). ANOVA is a statistical technique commonly applied in tourism research to examine significant differences across groups (Abebe, 2018; Mangi et al., 2019; Jangra et al., 2021; Tătărușanu et al., 2021). It is also widely utilized in behavior and social sciences for similar purposes (Liu & Wang, 2021). In this study, ANOVA is employed to test for differences in the choice of Portuguese *Santiago* ways across various independent factors: gender, age, motivations (with results reported in chapter 5), and country of origin (with results reported in chapter 5 and 6). In applying ANOVA, the choice of route (Portuguese Central way and the Portuguese Coastal way) and each independent factor (e.g., gender or age category) is considered a factor in ANOVA terminology. In ANOVA, the different groups within each factor are referred to as the levels of that factor (Sawyer, 2009). The null hypothesis for each ANOVA test is that there is no difference in the mean values between the groups being compared (Cardinal & Aitken, 2013; Adeniran et al., 2021).

$$H_0 : \mu_1 = \mu_2 = \mu_3 \ldots . = \mu_k \quad (1)$$

Where H_0 Null hypothesis, the μ_1 is the population mean of group 1, the μ_2 is the population mean of group 2, and the μ_k the population mean of group k

In this context, the null hypothesis would state that, for example, male and female pilgrims are equally likely to choose the Portuguese Central way (no gender effect), or that pilgrims of different age groups have no difference in their likelihood of choosing the Portuguese Central way and the Portuguese Coastal way. ANOVA works by comparing the variance between groups to the variance within groups. The statistic in ANOVA is F-statistics, which is the ratio

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of the variance between group means to the variance within the groups. A high F-value indicates that the differences between group means are large relative to the variability within groups, suggesting a significant effect of the factor on the results. Conversely, a low F-value indicates that the variability between groups is small compared to the variability within them (Cardinal & Aitken, 2013). If the computed F-statistic for a factor is associated with a p-value less than the chosen significance level (typically $p < .05$), we reject the null hypothesis and conclude that there are statistically significant differences among the group means (Cardinal & Aitken, 2013). The F-statistics are the central component of the one-way ANOVA test, which compares variance among group means to variance within groups. The F-ratio is calculated as follows:

$$F = \frac{Mean\ Square\ Between\ Groups}{Mean\ Square\ Within\ Groups\ (Error)} \quad (2)$$

Where the mean square between groups is the variation due to the interaction between the groups (explained variance). The meaning square within groups (Error) is the variation within each group (unexplained variance). The ANOVA tests assume certain conditions must be satisfied to ensure the validity of results. The three primary assumptions are: (1) normality: each group of results should be approximately normally distributed; (2) independence: observations must be independent of each other (one pilgrim's choice does not influence another's in the dataset); and (3) homogeneity of variances: variances must be roughly equal across all groups being compared (Emerson, 2022).

3.2.3 Discrete Choice Modeling

Understanding how pilgrims make their route choices is crucial for explaining and predicting behavior in pilgrimage tourism. Therefore, this research employs discrete choice

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modeling techniques to analyze how multiple factors simultaneously influence an individual's decision to choose the Portuguese Central and the Portuguese Coastal ways.

Discrete choice models describe decision-makers' choice among a set of alternatives (Train, 2009) and are generally based on a set of attributes (characteristics) associated with these alternatives' *choice set* (Train, 2009). In this case, the choice set consists of the two main alternatives, the Portuguese Central way and Portuguese Coastal way. Discrete choice models are usually derived from assumptions of utility maximization behavior (Train, 2009). Thurstone (1927) first developed this concept in terms of psychological stimuli and comparative judgment, suggesting that choices arise from the comparison of latent psychological values associated with each alternative. Later, Marschak (1974) reinterpreted these psychological stimuli utilities, formally developing the framework of random utility models (RUMs) (McFadden, 1974; Train, 2009). It assumes that each pilgrim associates a certain level of utility with each ways option and will choose the way that provides the highest perceived utility (Strauss et al., 2018; Huybers, 2003). The total utility (U_{in}) that pilgrim *n* derives from option *i* (Portuguese Central way and Portuguese Coastal way) is consistent of two components: a systematic (observable) component and a random (unobservable) component.

The utility U_{in} is decomposed as:

$$U_{in} = V_{in} + \varepsilon_{in} \quad (3)$$

Where U_{in} is the latent utility that pilgrim n associates with choice option i. $V_{in}$is the systematic component of utility, based on observed factors such as distance, difficulty, and cultural influence, while $\varepsilon_{in}$is the random error component, capturing unobserved influences and inherent randomness in the choice (Crouch & Louviere, 2001). The random component

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implies that individual consumer choices are inherently stochastic when viewed from a research perspective (Crouch & Louviere, 2001).

According to random utility theory (RUT), the probability that an individual *n* chooses option *i* among all available alternatives in the choice set C_n can be expressed as follows:

$$P_{ni} = Pr(V_{ni} + \varepsilon_{ni} > V_{nj} + \varepsilon_{nj} \; \forall j \neq i) \quad (4)$$

This equation states that the probability of individual *n* choosing option *i* is equal to the probability that the sum of the systematic (*V*) and random (ε) components of utility for option *i* exceeds that of all other options *j = 1, 2, ..., J* in the choice set *C* faced by decision-maker. Assuming linearity in the parameters (Crouch & Louviere, 2001; Norton & Dowd, 2018), the deterministic component of utility can be represented as:

$$V_i = \beta_{0i} + \sum_k \beta_k X_{ki} + \sum_m \gamma_m Z_{mi} \quad (5)$$

Where β_{0i} represents the alternative-specific constant, X_{ki} denotes the observable attributes of the alternative, and Z_{mi} refers to the characteristics of the decision-maker. The parameters β_k and γ_m capture the effects of these explanatory variables on route choice. The main assumptions regarding the error terms are: a) errors are independent and identically distributed (i.i.d.) and b) the model intercepts and parameters are fixed across individuals (Crouch & Louviere, 2001). A wide variety of discrete choice models can be taken from random utility models, depending on the assumptions made about the distribution of the error term and the choice context. Many previous studies on tourist decision-making have employed such models, demonstrating their usefulness. For example, multinomial logit (MNL) models have been

widely used to analyze destination and route choices (Seddighi & Theocharous, 2001; ; Blozis, 2003; Brida et al., 2010; Alén et al., 2014; Davidson & Culley, 2014; Clifton et al., 2016; Campos-Soria et al., 2018; Cheng et al., 2018; Díez-Gutiérrez & Babri, 2020; Mukhamadalieva & Tilyabaeva, 2020; Tang et al., 2020; Kemperman, 2021; Lupu et al., 2021; Harz & Sommer, 2022; Sevtsuk & Basu, 2022; Utari et al., 2024; Grange et al., 2024), and in the *Santiago* way (Farias et al., 2019). Other related models approaches include binary logit models for yes/no or two-option scenarios (Alegre & Pou, 2004,2006; Mihai et al., 2023), standard logit models in various contexts (Deslandes, 2007; Wu et al., 2011; Klieštik et al., 2015), conditional logit model (Seddighi et al., 2002), probit model which use a normal error distribution (Klieštik et al., 2015; Vieira et al., 2021), mixed logit models that allow for random taste variation and correlation in unobserved factors (Masiero & Qiu, 2018; Masiero & Qiu, 2018; Mahpour et al., 2023), as well as multiple regression models (Hassan et al., 2023). Researchers have also applied structural equation models (SEM) to explore decision-making processes (Chi & Qu, 2008; Eusébio & Vieira, 2013; Eid & El-Gohary, 2015; Álvarez-Díaz & Otero-Giráldez, 2019; Pestana et al., 2020). Furthermore, specialized models, including random regret minimization (RRM) and path size logit (PSL) have been used to account for similarities or overlap among alternatives (Gupta & Basak, 2018; Díez-Gutiérrez & Babri, 2020; Sevtsuk et al., 2021). In hierarchical contexts, multilevel approaches have been applied when individual choices are nested within broader groups or contexts (Campos-Soria et al., 2021). Similarly, the nested logit model has been employed to accommodate structured decision processes and interrelated choice alternatives (Wu et al., 2011).

3.2.3.1 Logistic Regression Model

For our analysis of route choice (Portuguese Central versus Portuguese Coastal ways), the logistic regression model is employed as the primary analytical tool. Logistic regression

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estimates the probability of an event (here, choosing the Portuguese Central way) as a function of independent variables. It is one of the simplest and most widely used discrete choice models, partly because its results (odds ratios and predictive probabilities) are readily interpretable (Train, 2009). In a logistic regression framework, it is assumed that pilgrims make choices based on a utility-maximizing rule, where each individual evaluates the alternatives and selects the route with the highest perceived utility. The model incorporates random utility theory, in which utility consists of an observable (systematic) component and an unobservable (random) component. The logit model assumes that the error term follows a logistic distribution, which leads to the characteristic S-shaped logistic function for predicted probabilities. This probabilistic structure captures the reality that human decision-making is not always perfectly rational; individuals may exhibit variation or inconsistency in their choices due to unobserved influences. Formally, if the utility difference between the Portuguese Central and Portuguese Coastal ways were computed for each pilgrim, the logit model would apply a logistic transformation to that difference, yielding the probability of choosing the Portuguese Central way.

While probit models assume a normal distribution for the error term (using the cumulative distribution function, Φ), both models typically produce similar results. The key distinction lies in their distributional assumptions: logistic in the logit model, normal in the probit model (Klieštik et al., 2015). To evaluate model performance, several goodness-of-fit metrics are used. One of the most common is the likelihood ratio index, also known as McFadden's Pseudo R^2, which compares the full model to a null model (intercept only):

The likelihood ratio index, also known as McFadden's Pseudo R^2, is defined as:

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$$\rho = 1 - \frac{LL(\widehat{\beta})}{LL(0)} \quad (6)$$

Where $LL(\widehat{\beta})$ is the value of the log-likelihood function at the estimated parameters and $LL(0)$ is its value when all the parameters are set equal to zero.

Other common measures include the correctly predicted percentage (accuracy rate) and t- or z-statistic for testing coefficient significance. If the absolute value of the test statistic exceeds the critical threshold (e.g., 95% confidence), the null hypothesis (parameter = 0) is rejected (Train, 2009).

In this study, logistic regression was applied using a binary dependent variable representing the pilgrim's route choice: the variable takes the value 1 if the pilgrim chose the Portuguese Central way, and 0 if the choice was the Portuguese Coastal way. Accordingly, the probability (P_i) that an individual chooses the Portuguese Central way is modeled using the logistic function:

$$P(Y = 1|X) = \frac{1}{1+e^{-Z_i}} = \frac{e^{Z_i}}{1+e^{Z_i}} \quad (7)$$

Where:

$$Z_i = \beta_0 + \sum_{k=1}^{K} \beta_k X_{ki} \quad (8)$$

The relationship between an independent variable and the predicted probability in a logit model is interpreted through marginal effects. To understand how a change in a given explanatory variable X_k influences the probability of choosing an alternative (e.g., the Portuguese Central way), one computes the partial derivative of the predicted probability with respect to X_k. The marginal effect for variable X_k is given by:

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$$\frac{\partial P(Y=1|X)}{\partial x_k} = \beta_k P(Y = 1|X)(1 - P(Y = 1|X)) \quad (9)$$

This result indicates that marginal effects vary depending on the values of the explanatory variables and are typically largest when the predicted probability is close to 0.5.

Where $\frac{\vartheta P(Y=1|X)}{\vartheta x_k}$ is the marginal effect of the variable X_k. β_k is the coefficient estimated for X_k. *P(Y=1|X) is the p*redicted probability of choosing the Portuguese Central way.

To assess the quality and fit of the model, several statistical indicators were employed, including the log-likelihood, McFadden's Pseudo R^2, Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and the percentage of correctly classified cases. Additionally, Likelihood Ratio (LR) test was used to compare the full model against the null (intercept-only) model, evaluating whether the inclusion of explanatory variables significantly improves model performance.

3.2.3.2 Hierarchical Multilevel Logistic Regression Model

While the route choice in this study is binary, the analysis is extended to a hierarchical multilevel logistic regression model to account for the nested data structure. Pilgrims are grouped by country of origin, and it is plausible that individuals from the same country share certain unobserved characteristics (e.g., cultural influences linked to national background) that could affect their choices. A hierarchical multilevel model incorporates these country-level effects by allowing the intercepts to vary across countries, thereby capturing between-country variation while accounting for within-country relationships (Yergeau, 2020). In essence, the hierarchical multilevel approach controls for the non-independence of observations within the same country and provides more accurate coefficient estimates and statistical inference.

Although the present study compares only two route alternatives, the theoretical foundation follows the Multinomial Logit (MNL) model developed by McFadden (1974), which provides the general theoretical basis for discrete choice models, including the binary

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logit specification applied here. The hierarchical multilevel logistic regression model applied in this study can be viewed as a special case of the MNL model, in which only two alternatives are available (the Portuguese Central and Portuguese Coastal ways), while accounting for the hierarchical structure of the data, with pilgrims nested within countries.

In general, the MNL model is applied when individuals choose among three or more unordered alternatives, assuming that the error terms of the utility functions are independent and identically distributed following an extreme value (Gumbel) distribution. This assumption leads to a closed-form expression for choice probabilities (Wulff, 2015; Strauss et al., 2018). One key property of the MNL model is the independence of irrelevant alternatives (IIA) assumption, which implies that the relative odds of choosing between any two alternatives are unaffected by the presence or absence of a third option. Although this assumption is mainly tested when multiple alternatives exist, it remains conceptually relevant in the binary case, forming the basis for the multilevel logistic framework applied in this study. Finally, the model assumes that the population of pilgrims can be described by a common set of parameters (β). In addition, it assumes that the random utility components ε_{in} are independent and identically distributed (i.i.d.) random variables following a Gumbel (Type I extreme value) distribution.

Formally, the probability that alternative j is chosen from a choice set S is given by (Strauss et al., 2018):

$$P_j(S) = \frac{e^{\mu u_j}}{\sum_{i \in S} e^{\mu u_i}} \tag{10}$$

Changing the scale parameter μ affects the behavior of MNL in the context of route choice. As $\mu \to 0$, MNL becomes deterministic, meaning that the pilgrim will always choose the route with the highest utility (i.e., $p_j(S) = 1$ if $u_j = \max \{u_i : i \in S \cup \{0\}\}$; 0 otherwise).

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Conversely, as $\mu \to \infty$, the specific characteristics of each route become irrelevant, and the probability of choosing any of the available alternatives, including the option of not completing the route becomes uniformly distributed (i.e., $P_j(S) = 1/(|S| + 1), \forall j \in S$) (Strauss et al., 2018).

For this dissertation, the analysis of route choice with country-level context is implemented as a Hierarchical Multilevel Logistic Regression Model (a special case of a multilevel MNL model with two alternatives). We incorporate a random intercept for each country to capture unobserved heterogeneity at the country level. In other words, each country is allowed to have its own baseline choosing the Portuguese Central way (versus the Portuguese Coastal way), reflecting country-specific factors, including predominant religious culture or other macro-level influences. This approach follows the notation and recommendations for MNL model (Blozis, 2003; Hoffman & Walters, 2022). Formally, the level 1 model (individual pilgrims) predicts the log-odds (the logarithm of the relative probabilities) of choosing the Portuguese Central way from individual characteristics, and the level 2 model allows the intercept to vary by country (and could include country-level predictors).

Several studies have highlighted that decision-making in tourism behavior can be influenced by both micro-level variables (individual characteristics) and macro-level variables (contextual or group characteristics) (Bödeker et al., 2018; Neira et al., 2018). In this thesis, the micro-level variables include individual attributes, such as age, gender, travel mode, group travel, motivation, and religious background, while the key macro-level variable of interest is cultural influence, represented by the pilgrim's country of origin. Following Duncan et al. (1998), we treat the country's affiliation as the grouping variable that defines our macro level. By using a Hierarchical Multilevel Logistic Regression Model, we can simultaneously assess how individual-level factors and country-level factors influence route choice.

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The model specifications are as follows:

(1) Model IV (Null Model): This is a random-intercept-only model with no independent variables at level 1 or level 2. This null model serves as the initial step, allowing us to partition the variance in route choice into within-country and between-country components (Blozis, 2003; Hoffman & Walters, 2022). Essentially, it quantifies how much of the variation in the pilgrims' decision can be attributed to differences between countries, before introducing explanatory variables. Following Blozis (2003) and Hoffman and Walters (2022) notation, we can write a varying intercept multilevel model (Null multilevel model) as defined:

$$Logit(P(Y_{ij} = 1)) = \gamma_{00} + u_{0j} \quad (11)$$

Where Y_{ij} is the binary outcome variable for individual *i* in country *j* (1 = The Portuguese Central way; 0 = The Portuguese Coastal way). γ_{00} is the fixed intercept (overall log-odds of choosing the Portuguese Central way). u_{0j} is the random intercept, representing unobserved heterogeneity at the country level. This model assumes that each error term is independently and identically distributed (i.i.d.) with an extreme value distribution (McFadden, 1974; Davidson & Culley, 2014).

(2) Model V, a random-intercept model that includes individual-level predictors (level 1 variables) but no country-level predictor is included at this stage. In this model, we introduce pilgrim-specific factors, including demographics and travel characteristics to see how they explain route choice, while still accounting for a random country intercept. This captures the influence of

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micro-level factors and whether there remains unexplained country-level variance after accounting for them.

Formally, the model can be expressed as:

$$Logit(P(Y_{ij} = 1)) = \gamma_{00} + \sum_{k=1}^{K} \gamma_{k0} X_{kij} + u_{0j} \quad (12)$$

Where Y_{ij} is the binary outcome for individual i in country j (1 = The Portuguese Central way; 0 = The Portuguese Coastal way). X_{kij} represents the kth individual-level predictor. γ_{k0} is the fixed coefficient for each individual-level predictor. γ_{00} is the fixed intercept (overall log-odds of choosing the Portuguese Central way). u_{0j} is the country-specific random intercept, capturing unobserved heterogeneity across countries.

(3) Model VI is a random-intercept model that includes both individual-level predictors and a country-level predictor. A significant effect of the country-level predictor would support the idea that pilgrims from more religious (e.g., predominantly Christian) countries are more or less likely to choose a particular route, after controlling for individual characteristics.

The choice probability (p) of the individual choosing an alternative is:

$$p_i = \frac{exp(U_i)}{\sum_{j=1}^{J} exp(U_j)} \quad (13)$$

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Where U_i denotes the utility associated with alternative i, as determined by the random-intercept model that includes both individual-level predictors and country-level predictor.

These three models were selected because they allow for the analysis of both individual and contextual influences (country-of-origin). Model IV provides a baseline for variance decomposition, Model V identifies micro-level effects, and Model VI evaluates the contribution of macro-level effect. Chapter 6 provided the analysis of the estimation results of these models, focusing on how pilgrims' country of origin and individual characteristics influence / affect the likelihood of choosing either the Portuguese Central or the Portuguese Coastal ways.

An important diagnostic from Model IV is the intraclass correlation coefficient (ICC), which is calculated to quantify the proportion of total variance in the outcomes that is attributable to differences between countries. The ICC is obtained from the variance components of the null model (Kim & Lee, 2017; Islam et al., 2023).

The value ranges from 0 to 1, where an ICC close to 0 indicates that almost all variability in route choice is at the individual level, whereas a larger ICC indicates that a portion of the variance is between countries, justifying the multilevel approach (Islam et al., 2023). In our context, a significant ICC would indicate that the pilgrims' home country meaningfully influences route choice, thereby justifying the use of a multilevel model to appropriately account for this structure.

The ICC of a model is estimated from the null model (a model without explanatory variables), which can be defined as:

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$$ICC = \frac{\sigma_\mu^2}{\sigma_\mu^2 + \sigma^2} \quad (14)$$

Where σ_{μ}^{2} is the between-group variance (the variance of the random intercept μ_{0j}). σ^{2} is the within-group variance, which in logistic models is fixed at ($\frac{\pi^{2}}{3}$). A higher ICC value indicates that a larger proportion of the total variance in route choice is attributable to differences between countries, thereby justifying the use of a hierarchical multilevel model to account for this clustering effect.

In addition to the Intraclass (ICC) the same indicators of the logistic regression model were also used.

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CHAPTER 4: THE PORTUGUESE *SANTIAGO* WAYS[3]

In this chapter, a detailed description of the data used in this thesis is presented, focusing on the Portuguese *Santiago* ways.

4.1 THE PORTUGUESE *SANTIAGO* WAYS

The way of Saint James, or the *Santiago* way, is a renowned pilgrimage route in Europe (see Figure 2). It originated in the ninth century following the discovery of the remains believed to belong to the Apostle Saint James (Manuel & Solla, 2006). While pilgrimages to *Santiago* began as early as the 9th and 10th centuries, it was during the 11th century that the route gained widespread popularity (Amaro et al., 2018). A turning point in the modern evolution of the *Santiago* way occurred in the 1980s. In 1984, the French way was declared the first European Cultural Itinerary, and shortly after, the city of *Santiago de Compostela* was designated a UNESCO World Heritage Site (Council of Europe, 1989). Since then, the route has undergone a remarkable transformation, becoming not only a religious way, but also a popular cultural and tourist destination.

Today, pilgrims can choose among several officially recognized routes, as indicated in the *Compostela* questionnaire. These include the French way, the *Finisterra* and *Muxía* way, the Silver way, the English way, the Primitive way, the Northern way, the Route of the Sea of *Arousa* and River Ulla, the Winter way, and the Portuguese *Santiago* ways, namely, the Portuguese Central way and the Portuguese Coastal way. The historical and cultural relevance

[3] Part of this chapter has been reproduced in: Conde, Rosa; Borges, Ana Pinto; Isabel, Neira; Vieira, Elvira Pacheco (2023):"Estimate tourism model choice for Pilgrim in the way of St. James: The Portuguese way". Journal of Religious Tourism and Pilgrimage 190 (2023): 1-22. https://arrow.tudublin.ie/creaart/190.
Conde, R., Lema, Y., Borges, A. P., Neira, I., & Vieira, E. P. (2025). *Tres modelos para mejorar la gestión del Camino de Santiago*. In A. González Molina et al. (Eds.), *Análisis del futuro del sector turístico y casos de éxito* (pp. 313-332). Editorial Aranzadi.

of the Portuguese *Santiago* ways was formally recognized through Decree-Law No. 51/2019 (*Presidência do Conselho de Ministros, 2019*), published on April 17th, which explicitly acknowledges their historical and cultural significance and the need to protect, promote, and develop these ways.

The three most important Portuguese ways are the Portuguese Interior way (CPSI), the Portuguese Central way, and the Portuguese Coastal way. Each of these routes is managed by its respective regional and tourism agencies, except for the Portuguese Central way. Among these, the Portuguese Central way is the most traditional and widely used. It extends approximately 947 km from *Faro* to *Santiago de Compostela*, taking about 40 days to complete on foot, most pilgrims begin their journey in *Lisbon*, *Porto*, or *Tui*. From *Lisbon*, the route spans around 620 km and is typically divided into 24 to 26 stages. From *Porto*, it covers approximately 244 km to *Santiago de Compostela*, divided into ten stages: stage 1: *Porto* to *Vilarinho* (27 km); stage 2: *Vilarinho* to *Barcelos* (28 km); stage 3: *Barcelos* to *Ponte de Lima* (35 km) or *Barcelos* to *Vitorino dos Piães* (22 km) and *Vitorino dos Piães* to *Ponte de Lima* (12 km); stage 4: *Ponte de Lima* to *Rubiães* (18 km); stage 5: *Rubiães* to *Tui* (Spain) (19 km); stage 6: *Tui* to *Redondela* (31.5 km) or *Tui* to *Porriño* (15.5 km) and *Porriño* to *Redondela* (16 km); stage 7: *Redondela* to *Pontevedra* (20.6 km); stage 8: *Pontevedra* to *Caldas de Reis* (21 km); stage 9: *Caldas de Reis* to *Padrón* (18.5 km); and stage 10: *Padrón* to *Santiago de Compostela* (25.5 km).

The Portuguese Coastal way, which follows the Atlantic coastline, extends for about 270 km from *Porto* and is divided into thirteen stages: stage 1: *Porto* (Cathedral) to *Labruge* (24.5 km); stage 2: *Labruge* to *Póvoa de Varzim* (14 km); stage 3: *Póvoa de Varzim* to *Esposende* (20.5 km); stage 4: *Esposende* to *Viana do Castelo* (27.5 km); stage 5: *Viana do Castelo* to *Caminha* (28 km); stage 6: *La Guardia* (Spain) to *Oia* (16.7 km); stage 7: *Oia* to *Baiona* (18.7 km); stage

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8: *Baiona* to *Vigo* (27.1 km) or *Baiona* to *Nigrán* (22.6 km); stage 9: *Vigo* to *Redondela* (15.7 km); stage 10: *Redondela* to *Pontevedra* (18.2 km) — merging with the Portuguese Central way; stage 11: *Pontevedra* to *Caldas de Reis* (23 km); stage 12: *Caldas de Reis* to *Padrón* (19 km); and stage 13: *Padrón* to *Santiago de Compostela* (23.2 km).

Lastly, the Portuguese Interior way (CPSI) is considered the oldest of the Portuguese pilgrimage routes. It stretches over 214 km, divided into 11 stages, beginning in *Viseu* and continuing through *Chaves*, before crossing into Galicia at *Vilarelho da Raia*. Although it is less frequented, this route holds considerable historical and cultural value and is increasingly appreciated for its authenticity and scenic landscapes.

Figure 2 Portuguese *Santiago* Ways

Source: *Camino de Compostela* | Editorial Buen Camino

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4.2 DATASETS AND VARIABLE DESCRIPTIONS

This section provides an overview of the datasets and variables used in the quantitative analyses presented in chapters 5 and 6. For the descriptive analysis, the primary source of data is the official registry from the Pilgrims' Welcome Office covering the years 2003 to 2023, which records information about individuals who completed the Portuguese Central way and the Portuguese Coastal way (see Annex I). The section describes the structure, scope, and key variables of the dataset, including demographic characteristics (gender, age, and employment status), country of origin (as a proxy for cultural influence), travel motivations, physical characteristics, and the timing of the pilgrimage (seasonality). These variables form the basis for the statistical models developed in the subsequent chapters to analyze pilgrims' route choices and decision-making processes. Chapter 6 expands this analysis by incorporating contextual variables, combining the Pilgrims' Office data with information from external sources, notably the proportion of Christians in the ten countries with the highest number of pilgrims along the Portuguese ways (see Annex II). Descriptive details and codifications of the variables used in the analysis are presented in Table 7 and Table 8.

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Table 7 Pilgrims' Welcome Office Dataset

Variable Name	Description
ways	Portuguese Coastal way (0) and Portuguese Central way (1)
	Demographic Variables
Gender	Male (0) Female (1)
Age	≤ 17 years old (0), 18 – 34 years old (1), 35 – 44 years old (2), 45 – 54 years old (3), 55 – 64 years old (4), > 65 years old (5)
Employment Status (Top 4)	Employees (0), Unemployed (1), Retirees (2), Others (3)
	Cultural Influence (Country of origin)
Cultural Influence (Top 10)	Portugal (0), Germany (1), Spain (2), Italy (3), United States (4), Brazil (5), Netherlands (6), United Kingdom (7), Czech Republic (8), Others (9),
	Motivations
Religious motivations, Secular motivations, and non-religious motivations	Non-religious (0), Religious (1), Non-religious and Other (Secular) (2)
	Social Interactions
Social Interactions	Individual (0), Group (1)
	Attributes of the way
Start Point (Top 4)	Porto (0), Tui (1), Vigo (2), Other Place (3)
Route Length (Distance, Km)	< 140 (0), 141-235 (1), 236-400 (2), > 400 (3)
Mode of travel	Walking (0); Bicycle (1); Other (2)
	External Factors
Seasonality	High season (0) (July and August); Middle season (1) (May, June, and September); Low season (2) (January, February, March, April, October, November, and December)

Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

The variable gender is dichotomous, representing male and female pilgrims. A new variable, age, has been computed and grouped into six distinct groups: under 17 years, between 18 and 34 years, between 35 and 44 years, between 45 and 54 years, between 55 and 64 years, and over 65 years. The variable employment status is classified into four distinct categories, and includes employees, unemployed, retirees, and other professions. These sociodemographic characteristics are essential for understanding variation in pilgrims' profiles and travel behaviors. According to Stoddard (1997), pilgrimages "differ in terms of the attributes of the participants, such as their age, life stage, gender, family status, occupation, income, and religious affiliation".

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Another key variable in this study is nationality, used as a proxy for cultural influence. In this context, nationality is considered relevant for explaining tourism preferences and behavior, as it is often associated with cultural factors and social values that shape travel decisions (Pizam & Sussmann, 1995; Seddighi et al., 2001; Digance, 2003; Ng et al., 2007; Collins-Kreiner, 2010; Vespestad & Mehmetoglu, 2010; Correia et al., 2011; Özdemir & Yolal, 2017; Liu et al., 2021). Nationality also affects motivations (Kozak, 2002), travel loyalty (Vieira et al., 2021), and the extent to which travelers search for information before making decisions (Christodoulides et al., 2012). Culture has long been recognized as a possible reason why people in different countries make different decisions. As defined by Raday (2003) culture refers to "a group of people that think and live in the same way". Ng et al. (2007) propose a four-dimensional model of culture in tourism behavior: (1) the national culture of the tourist; (2) the internalized, individual culture; (3) the culture of the destination; and (4) the cultural distance between origin and destination. In this context, Raday (2003) argues that culture, religion, and gender must be analyzed with equal importance and considered within the same analytical framework, especially in studies that examine international pilgrimage patterns.

More than 220 nationalities have chosen one of the Portuguese ways, emphasizing the diversity of pilgrims. The Portuguese *Santiago* ways appeal to a wide range of individuals from all over the world. Such diversity enriches the pilgrimage experience, making it a shared journey that goes beyond religious and spiritual devotion. Pilgrims from different countries bring their traditions, languages, and perspectives to the ways, creating a truly international community. For this research, a new variable, cultural influence, has been computed, focusing on the top ten countries: Portugal, Germany, Spain, Italy, United States, Brazil, Netherlands, United Kingdom other countries. They represent the most significant origins of pilgrims on the Portuguese *Santiago* ways.

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In parallel, motivation emerges as another critical factor in understanding route choice. In the Pilgrim's Welcome Office dataset, the variable motivations are categorized into three groups: religious motivations, non-religious motivations, and a combined category of non-religious and other motivation (secular motivations), which in this thesis is interpreted as secular tourism. While this categorization offers a simplified view, it reflects the increasingly complex nature of contemporary pilgrimage, where spiritual and cultural elements often intersect. In this thesis, religious motivations were considered as well as other types of motivations, such as secular tourism. In line with Barber (1993), who argued that secular motivations encompass travel behaviors commonly associated with conventional tourism, including cultural exploration, personal enrichment, and leisure. Murray and Graham (1997) describe pilgrimage as not only a religious phenomenon but also a cultural product. For Margry (2008), pilgrimage can extend to various contemporary practices: people may perceive retreats, music festivals, political rallies, or even long-distance walks as pilgrimages in terms of personal significance. According to Collins-Kreiner (2010a; 2018) pilgrimage is defined differently as a traditional religious or modern secular journey. In this broader context, Damari and Mansfeld (2016) propose three key types of modern pilgrims: the traditional pilgrim, with religious belief and motivated by faith and devotion; the modern pilgrim, in a personal journey of discovery or self-exploration, and the postmodern pilgrim, representing the most flexible and individualized form. As noted by Collins-Kreiner (2016) and Digance (2003), the contemporary concept of pilgrimage embraces both devotional and non-devotional journeys, blurring the boundaries between religious and secular travel. To further understand the complexity of pilgrimage behavior along the Portuguese ways, this study introduces a new variable, social interactions. This variable is categorized into two groups: individual and group. Individual refers to pilgrims who make the pilgrimage alone, while group refers to those who are part of an organized group or travel with

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family or friends. While motivations, cultural background, and demographic characteristics provide important insights into pilgrims' decisions, the social context in which the pilgrimage is undertaken, whether individually or in a group, can significantly influence both the journey itself and the selection of routes (Moutinho, 2000; Hyde & Laesser, 2009).

This study incorporates four key attributes of the Portuguese ways, which are considered relevant to the pilgrims' decision-making process:

1. Starting point: the city where pilgrims begin their journey may influence the overall experience, particularly in terms of distance, logistics, and personal goals. The four most common starting points for pilgrims on the Portuguese ways are *Porto, Tui, Vigo,* and other locations. The choice of departure city may influence the decision-making in terms of distance and the nature of the experience.
2. Route length (distance in kilometers): The length of the route is a crucial factor influencing route choice. In this study, pilgrims are categorized into four distance groups: less than 140 km, 141–235 km, 236–400 km, and over 400 km. Shorter distances are generally preferred by those with limited time or physical capacity, while longer distances tend to attract pilgrims seeking a more reflective or spiritually meaningful journey. According to Stoddard (1997), movement across distance is a fundamental element of any pilgrimage. In tourism studies more broadly, distance has been identified as an important factor in travelers' decision-making processes (Alegre & Pou, 2006; Hyde & Laesser, 2009; Lynch et al., 2011; Mesters et al., 2014; Hooper, 2015; Farias et al., 2019; Paydar & Fard, 2021; Malis et al., 2023; Ahmad & Al-Fagih, 2024; Dalir, 2024; Utari et al., 2024).
3. Mode of travel: The most common modes of travel along the Portuguese ways are walking and cycling. Walking is the traditional and most symbolic form of pilgrimage

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(Mendel, 2010; Jabbari et al., 2023), often associated with religious or spiritual motivations. Cycling is also popular, particularly among those seeking a faster or physically challenging experience.

4. External factors: Among external factors, seasonality plays a crucial role. It refers to the time of year pilgrims choose to walk the Portuguese ways and is understood as a factor that may influence route choice based on weather conditions, holiday periods, and route accessibility. These elements can significantly impact the decision between choosing a more religious route (e.g., the Portuguese Central way) and a more tourism-oriented route (e.g., the Portuguese Coastal way). Seasonality has long been recognized as one of the most important characteristics in tourism behavior (Pizam & Mansfeld, 1999; Butler, 2001; Baum & Lundtorp, 2001; Cuccia & Rizzo, 2011; Kotler et al., 2017; Senbeto et al., 2024). In the context of pilgrimage, Stoddard (1997) observed that people are more likely to embark on pilgrimages during religious holidays or special times of the year, highlighting the temporal dimension of spiritual travel. For this study, seasonality is calculated and categorized into three distinct periods: (1) high season, including the months of July and August; (2) middle season, including the months of May, June, and September; and (3) low season, the months of January, February, March, April, October, November, and December.

Table 8 Percentage of Christians Living in Each Country

Variable Name	Description
Country-level Christian religiosity	Percentage of Christians living in each country
Group Christians	Group I: < 50% (0); Group II: between 50 and 60% (1); Group III: > 60% (2)

Source: Author's own elaboration based on Pew Research Center (PRC, 2023)

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The variable country-level Christian religiosity is operationalized in this study as the percentage of Christians in each pilgrim's country of origin, serving as a macro-level proxy for the potential religious orientation of individual pilgrims. This approach assumes that a country's overall Christian composition reflects the prevailing exposure to Christian values, traditions, and practices, which may influence pilgrims' motivations and their likelihood of choosing specific routes. For analytical purposes, this variable was grouped into three categories based on the percentage of Christians in the national population: (1) group I (< 50%) includes countries where less than 50% of the population identifies as Christian; (2) group II (50% - 60%), includes countries where 50% to 60% identify as Christian; and (3) group III (> 60%), includes countries where more than 60% identify as Christian.

This list also includes countries, such as the Philippines, Nigeria, China, the Democratic Republic of Congo, and Ethiopia, reflecting the global distribution of Christianity across multiple continents (PRC, 2023). According to data from the Pew Research Center (PRC, 2023), the proportion of Christians varies significantly across the main countries of origin of pilgrims on the Portuguese ways. Countries, such as Spain (92%), Brazil (90%), Portugal (88%), Italy (83%), and the United States (78%) have a predominantly Christian population, indicating a strong religious tradition that may influence pilgrimage motivations. In contrast, countries like the Netherlands (43%) and the Czech Republic (21%) show much lower levels of Christian affiliation. These differences support the inclusion of country-level Christian religiosity as a macro-level variable in this study, allowing for the exploration of how religious context may influence the route choices and motivations of pilgrims. This categorization is particularly relevant given the diversity of cultural and religious backgrounds from international pilgrims.

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These variations underscore the importance of considering macro-level religious context in analyzing individual route choices. The next chapter presents the descriptive analysis of the Pilgrims' Welcome Office data and the Pew Research Center data to explore these relationships empirically.

4.3 DESCRIPTIVE STATISTIC ANALYSIS

4.3.1 Pilgrims' Welcome Office Dataset

The descriptive statistical analysis presented in this section is based exclusively on data from the Pilgrim's Welcome Office covering the period from 2003 to 2023. This dataset was compiled using information collected through the official questionnaires that pilgrims must complete to receive the accreditation certificate issued by the Pilgrims' Welcome Office, confirming their completion of either the Portuguese Central way or the Portuguese Coastal way.

Over this 20-year period, totaling 866,977 pilgrims completed one of the Portuguese *Santiago* ways, reflecting the growing popularity of these routes. However, a significant increase was observed in 2010, with 34,254 pilgrims, likely influenced by the Holy Year of *Santiago* and the increased promotion of the Portuguese *Santiago* ways. In contrast, the number of pilgrims fell drastically in 2020, reaching just 12,988 registrations, primarily due to the global COVID-19 pandemic and its associated public health restrictions, which heavily impacted international travel and pilgrimage activity. In 2023, the number of pilgrims on the Portuguese ways was 141,464 (see Figure 3).

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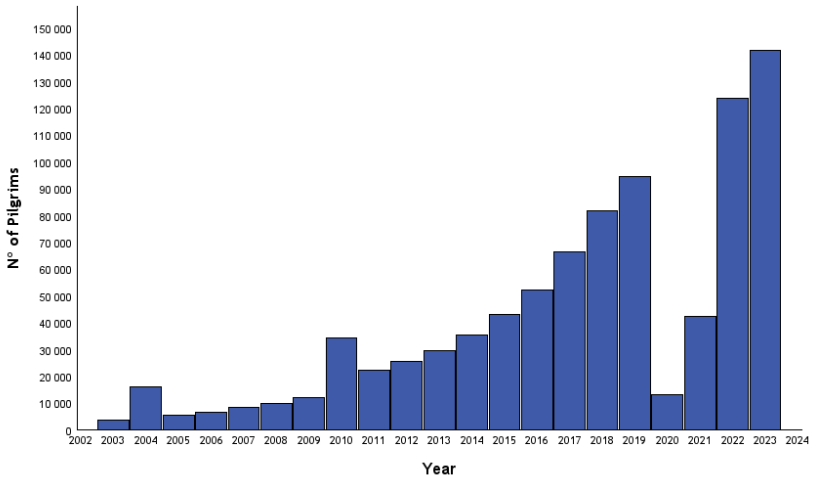
Figure 3 Evolution of the Number of Pilgrims on the Portuguese *Santiago* Ways by Year



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

Figure 4 reveals an increase in the number of pilgrims on both the Portuguese Central and the Portuguese Coastal ways between 2003 and 2023. While in both routes the number of visitors has increased progressively over the years, the Portuguese Coastal way experienced the greatest growth, particularly in 2018 when it recorded approximately 13,841 pilgrims. Although the Portuguese Central way, also saw a consistent growth over the years, its increase was more gradual compared to the Portuguese Coastal way. In 2023, the Pilgrim's Welcome Office registered a total of 141,464 pilgrims on the Portuguese *Santiago* ways, encompassing both the Portuguese Central (88,717) and the Portuguese Coastal ways (52,747). In 2023, the Portuguese Central way was the second most important way, representing 20.7%, while the Portuguese Coastal way was the third with 11.93%.

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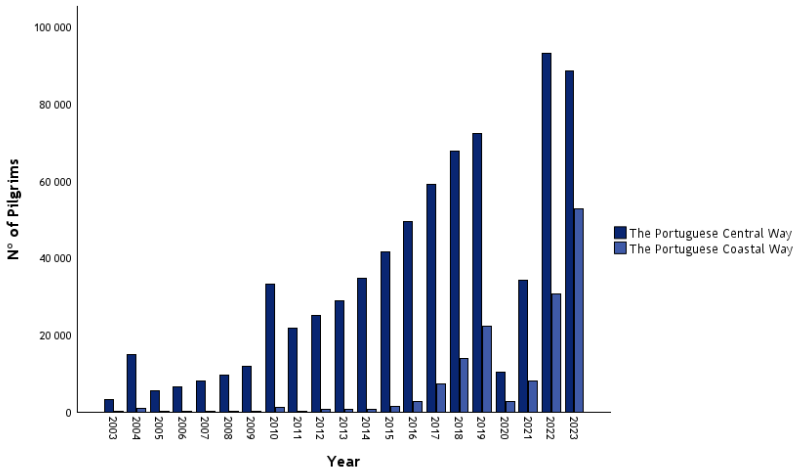
Figure 4 Evolution of the Number of Pilgrims on the Portuguese Central and the Portuguese Coastal Ways by Year



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

Between 2003 and 2023, male pilgrims represented 47.8% of the total number of pilgrims on the Portuguese *Santiago* ways, while female pilgrims accounted for 52.2%. As shown in Figure 5, there was a notable increase in the number of female pilgrims particularly between 2022 and 2023. In 2023, women were 56.9% of pilgrims (80,494), while men were 43.1% (60,970). The higher participation reflects women's growing engagement in pilgrimage experiences. As women continue to play an important role in pilgrimage traditions, their perspectives and contributions enrich the cultural and spiritual aspects of the *Santiago* way.

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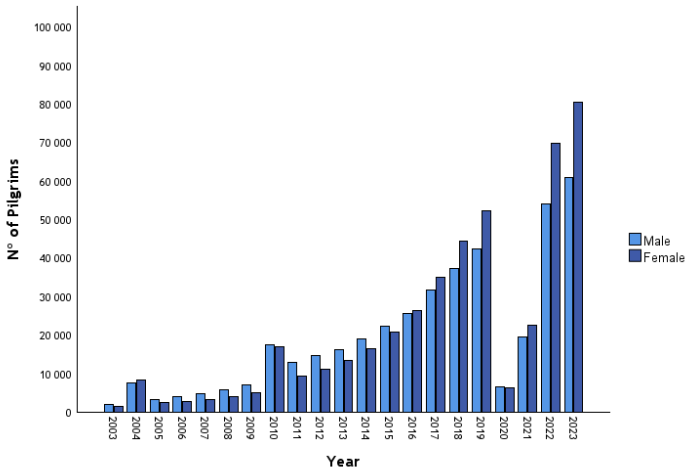
Figure 5 Evolution of the Number of Pilgrims on the Portuguese *Santiago* Ways by Gender and Year



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

The results show a significant difference in the number of women on the Portuguese Central compared to the Portuguese Coastal ways. On the Portuguese Coastal way, the majority of pilgrims were women (57.9% female and 42.1% male). In contrast, on the Portuguese Central way, male pilgrims constituted 49.0%, while females accounted for 51.0% (see Figure 6).

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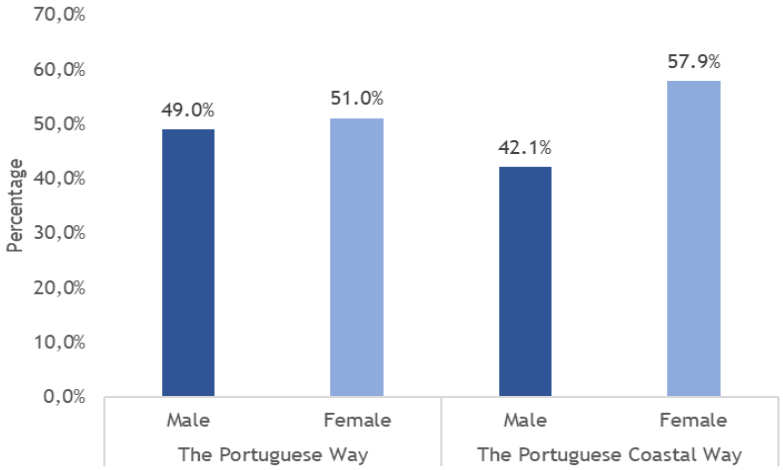
Figure 6 Percentage of Male and Female Pilgrims on the Portuguese Central and the Portuguese Coastal Ways



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

An analysis of age distribution from 2003 to 2023 shows that young pilgrims (under 17 years old) were responsible for 7.3% of the total. The remaining age groups were distributed as follows: 18-34 years old (28.0%), 35-44 years old (16.1%), 45-54 years old (19.9%), 55-64 years old (18.6%), and over 65 years old (9.9%). In the concrete case in 2023, pilgrims were distributed across age groups as follows: under 17 years old (5.5%), 18-34 years old (25.0%), 35-44 years old (14.0%), 45-54 years old (19.9%), 55-64 years old (22.4%), and over 65 years old (13.3%). In this year, there has been a clear change in the older pilgrims, particularly those aged 45-64, while the proportion of younger pilgrims (18-34) has slightly declined. The average age of pilgrims was 42.68 years (standard deviation: 16.61 years old) (see Figure 7).

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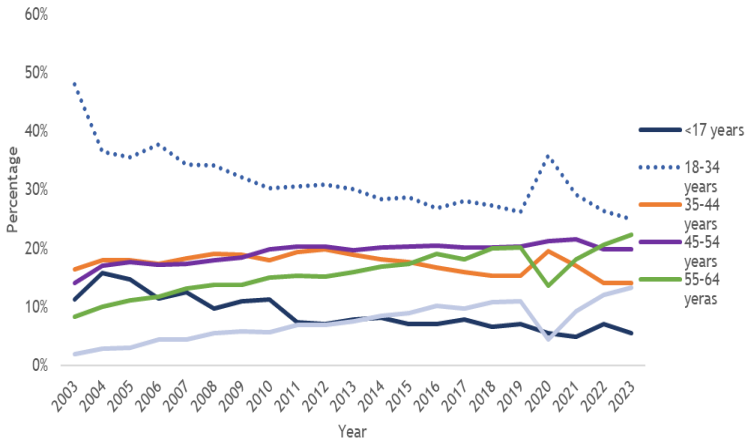
Figure 7 Percentage of Pilgrims by Age Group on the Portuguese *Santiago* Ways by Year



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

Figure 8 compares the age distribution of pilgrims between the Portuguese Central way and the Portuguese Coastal way. On the Portuguese Central way, younger pilgrims are slightly more represented: 7.7% are under 17 years old compared with 5.6% on the Portuguese Coastal way. Pilgrims aged 18 to 34 years are the most prevalent group on both the Portuguese Central way (28.0%) and the Portuguese Coastal way (27.8%). In contrast, the Portuguese Coastal way presented a more mature age profile. Pilgrims with 55 to 64 years represent 20.8% of all participants (versus 18.2% on the Portuguese Central way), and those aged 65 and over account for 11.8% (compared to 9.6% on the Portuguese Central way).

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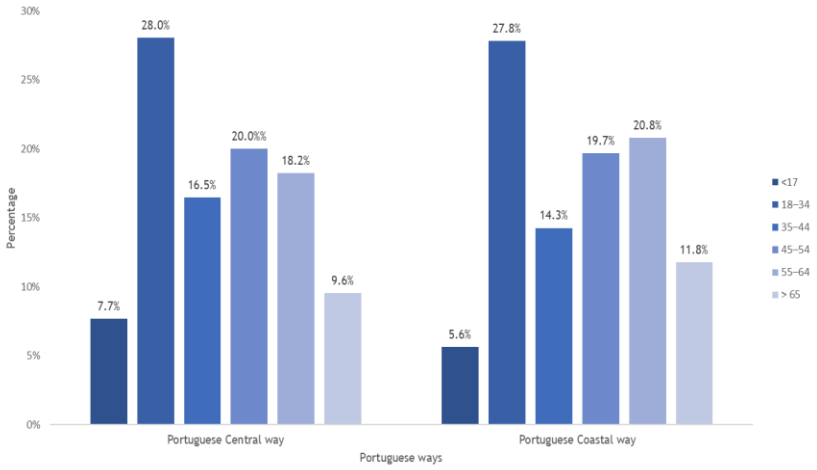
Figure 8 Percentage of Pilgrims by Age Group on the Portuguese Central Way and the Portuguese Coastal Way



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

Among younger pilgrims (≤ 17 years), participation is nearly equal (female 7.6%, male 7.7%). In the 18 to 34, 45 to 54, 55 to 64 and 65 years and over age groups, female pilgrims are predominant, representing 27.8%, 20.0%, 18.8% and 10.1% respectively. Male pilgrims are most represented in the 18-34 years (28.2%), followed by those aged 45-54 years (19.8%) (see Figure 9). Regarding the average age, female pilgrims have a mean age of 42.8 years (standard deviation: 16.5 years), while male pilgrims have a mean age of 42.4 years (standard deviation: 16.6 years).

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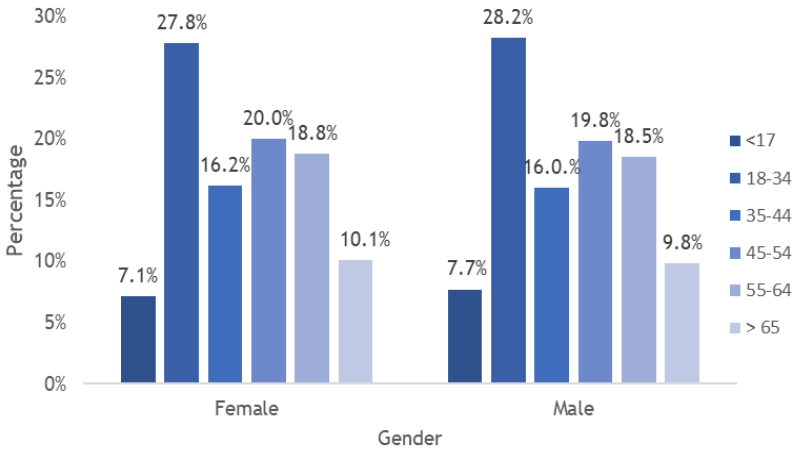
Figure 9 Percentage of Pilgrims by Gender and Age Group on the Portuguese *Santiago* Ways



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

Walking is the predominant mode of travel on both ways, reflecting the traditional and immersive nature of pilgrimage experience (Portuguese Central way: 91.9%; Portuguese Coastal way: 94.1%) (see Figure 10).

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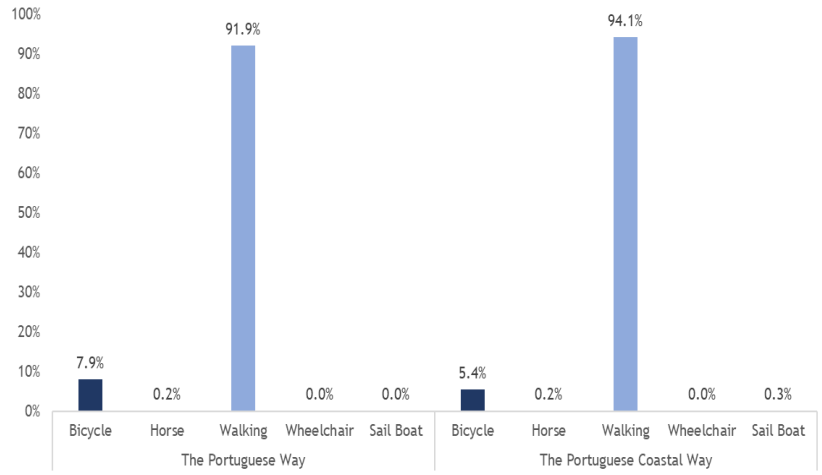
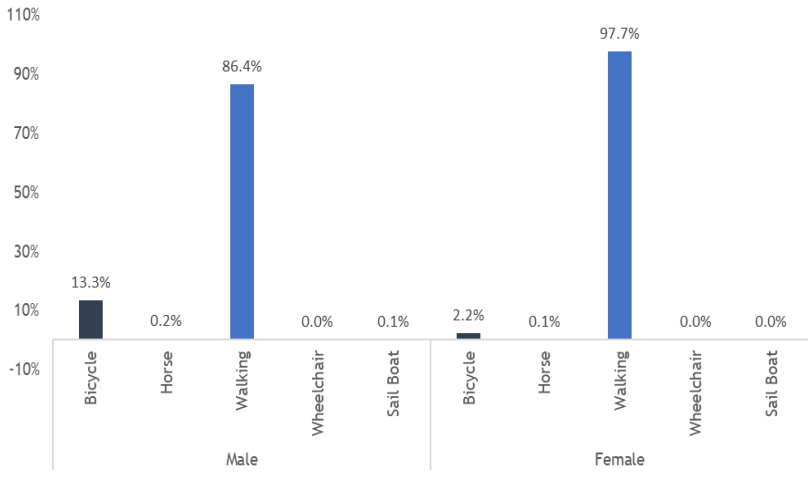
Figure 10 Percentage of Pilgrims by Travel Mode on the Portuguese Central Way and the Portuguese Coastal Way



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

On the Portuguese ways, 86.4% of male pilgrims and 97.6% of female pilgrims choose to complete the route on foot. Bicycle usage was around 13.3% for males and 2.2% for females (see Figure 11).

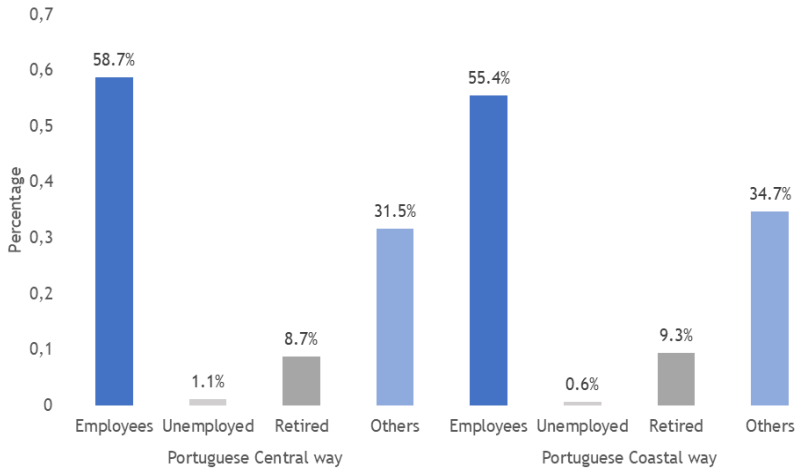
Figure 11 Percentage of Pilgrims by Gender and Mode of Travel on the Portuguese *Santiago Ways*



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

For the purposes of this study, employment status was categorized into four clusters: employees (farmers, artists, athletes, executives, among others), unemployed (housewives, and students), retiree, and other professions (e.g. religious and priests). Figure 12 presents the percentage distribution of employment status among pilgrims on the Portuguese Central way and the Portuguese Coastal way. The majority of pilgrims are categorized as employees, representing the largest group across both routes (Portuguese Central way: 58.7 % and the Portuguese Coastal way: 55.4 %). Other categories also represent a significant segment, especially on the Portuguese Coastal way (34.7 %) compared to the Portuguese Central way (31.5%). Retired pilgrims also represent 9.3% on the Portuguese Coastal way, and 8.7% on the Portuguese Central way.

Figure 12 Percentage of Pilgrims by Employment Status Groups on the Portuguese Central Way and the Portuguese Coastal Way

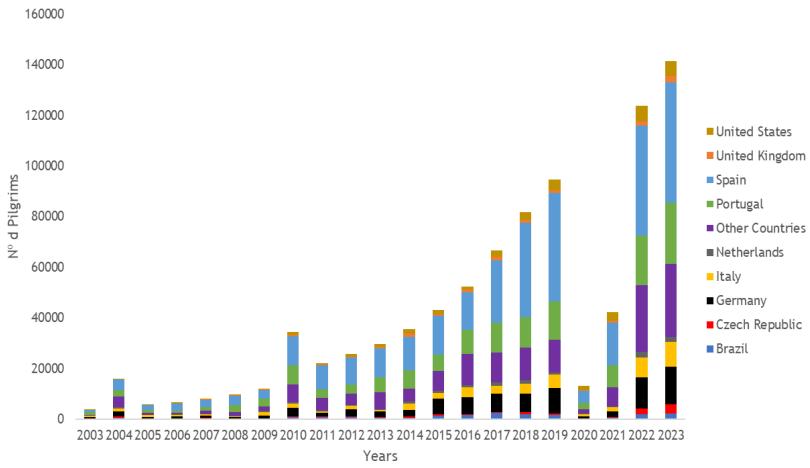


Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

The data show that between 2003 and December 2023, pilgrims on the Portuguese ways (Portuguese Central and Portuguese Coastal ways) represent more than 219 nationalities. Spain was the leading country of origin, accounting for 37.3% of all pilgrims. This predominance is

expected, given Spain's geographical proximity to *Santiago* and its cultural and historical ties to the ways. Portugal follows as the second most represented nationality, with 17.4%, which likely reflects the strong local participation and the population's cultural and religious connection to the pilgrimage tradition. Other prominent countries include Germany (9.9%) and Italy (5.9%), both of which contribute significantly to the international character of the Portuguese ways. The United States accounted for 4.3% of all pilgrims. This reflects the growing international appeal of the Portuguese ways, particularly among English-speaking countries. Brazil, accounting for 1.96%, indicates a meaningful connection to the pilgrimage traditions, likely influenced by the country's strong Catholic heritage and cultural affinity with Portugal (see Figure 13).

Figure 13 Evolution of Cultural Influences on the Portuguese *Santiago* Ways by Year



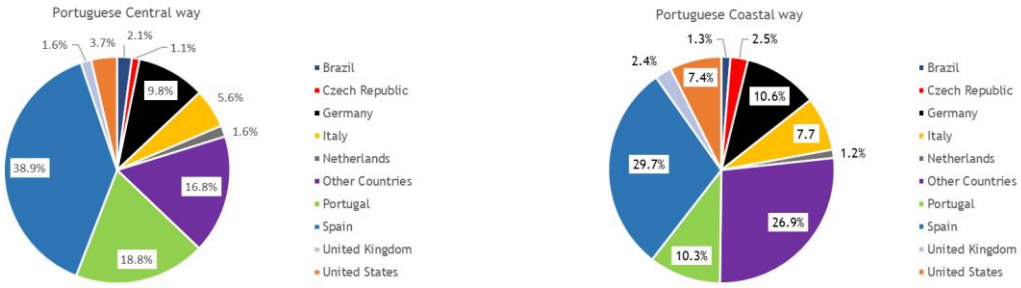
Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

On the Portuguese Central way, Spanish pilgrims comprised the highest group, accounting for 38.9% of all participants, followed by Portuguese pilgrims (18.8%), reflecting strong local engagement in the pilgrimage tradition. German (9.8%) and Italian (5.6%) pilgrims rank third

and fourth, respectively, in terms of representation on this way. The United States (3.7%) also stands out, highlighting the growing international recognition of the Portuguese Central way beyond Europe.

Although smaller in total numbers, the Portuguese Coastal way exhibits a more diversified international profile. Spanish pilgrims remain the largest national group (29.7%), though their share is lower than on the Portuguese Central way (38.9%). Portuguese pilgrims account for only 10.3% on the Portuguese Coastal way, a decline compared to their share on the Portuguese Central way (18.8%). In contrast, German pilgrims (10.6%) and Italian pilgrims (7.7%) show relatively stable representation across both ways, with German exhibiting a slightly higher percentage on the Portuguese Coastal way. The United States also contributes a notable share of pilgrims to both ways, with a higher proportion on the Portuguese Coastal way (7.4%) compared to the Portuguese Central way (3.7%) (see Figure 14).

Figure 14 Percentage of Cultural Influences on the Portuguese Central Way and the Portuguese Coastal Way

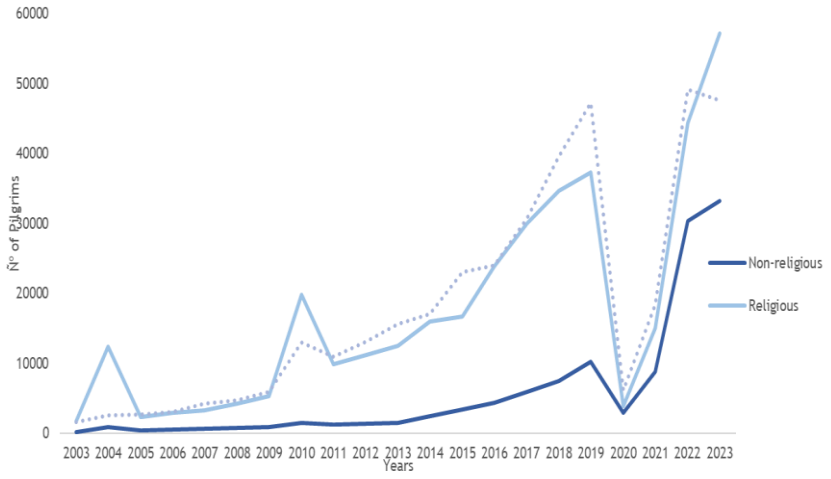


Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

The data suggest significant changes in the motivational profile of pilgrims along the Portuguese ways over the past two decades (see Figure 15). At the beginning of the period (2003–2010), religious motivations clearly dominated, representing the vast majority of

registered pilgrims. For example, in 2004, there were 12,368 religious pilgrims, compared to only 912 non-religious and 2,554 with non-religious and other motivations (secular motivations). From 2010 onwards, a steady growth can be observed across all categories, but the rise of non-religious pilgrims becomes particularly notable after 2016. While the religious group continues to lead in absolute numbers, the non-religious segment has expanded significantly, from just 210 pilgrims in 2003 to 33,196 in 2023, reflecting broader trends of secularization and the transformation of pilgrimage into a cultural or spiritual journey rather than purely a religious act. The non-religious and other motivations (secular motivations) also show continuous growth, reaching 47,536 in 2023, indicating a diversification of motivations with personal, cultural, or tourist experiences.

Figure 15 Evolution of Pilgrims' Motivations on the Portuguese *Santiago* Ways by Year



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

On the Portuguese Central way, the distribution of motivations reveals a slight predominance of non-religious and other motivations (secular motivations) (44.14%) compared to religious motivations (43.03%), while purely non-religious motivations account for 12.83%.

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On the Portuguese Coastal way, non-religious and other motivations (secular motivations) (43.44%) and religious motivations (38.14%) constitute the main categories, while pilgrims with non-religious motivations represent 18.42%. This result indicates that this way attracts a more diverse group of pilgrims with a more secular orientation (see Figure 16).

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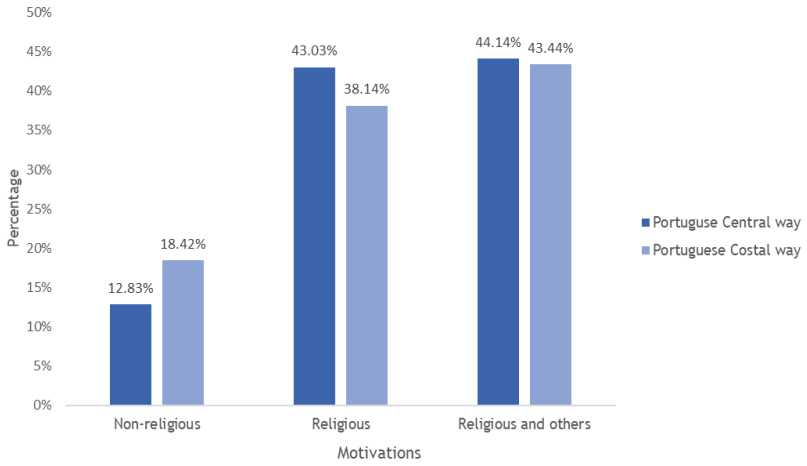
Figure 16 Percentage of Motivations on the Portuguese Central Way and the Portuguese Coastal Way



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

The data on motivations segmented by gender reveals subtle but meaningful differences between male and female pilgrims. Both male and female pilgrims show the same level of religious motivation (42.0%). Conversely, 45.0% of male pilgrims reported both non-religious and other motivations (secular motivations), whereas a slightly lower proportion of female pilgrims (43.0%) fell into this category. In terms of non-religious motivations, 13.0% of male pilgrims identified with this category, compared to 15.0% of female pilgrims. These findings suggest that male pilgrims are slightly more inclined toward mixed (non-religious and other) motivations, while female pilgrims are somewhat more represented in purely non-religious motivations. Religious motivations are equally important for both genders (see Figure 17).

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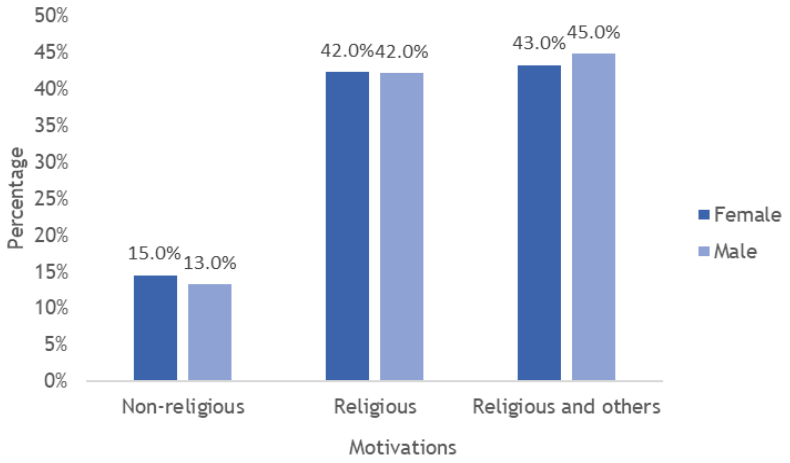
Figure 17 Percentage of Pilgrims' Motivations by Gender on the Portuguese *Santiago* Ways



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

Figure 18 provides the distribution of pilgrims' starting points, grouped by nationality. For the Portuguese pilgrims, the majority (72.8%) begins their journey at other locations (*Valença do Minho*: 31.1%; *Ponte de Lima*: 6.1%). Nevertheless, *Porto* remains the most popular specific starting point for Portuguese pilgrims (22.3%). For German pilgrims, *Porto* was by far the most common starting point (66.3%), followed by *Tui* (5.9%) and *Vigo* (0.8%). Similarly, Spanish pilgrims overwhelmingly start their journey at *Tui* (62.9%), reflecting the town's proximity to the Portuguese border and its strategic location. *Vigo* accounts for 5.3%, while only 5.6% of Spanish pilgrims begin in *Porto*, underscoring the importance of geographic convenience in their choice. Pilgrims from Italy, the United States, and Brazil exhibit more diverse patterns, although Porto remains the most popular starting point across these groups. For 46.2% of Brazilian pilgrims, and a similar proportion of German pilgrims (56.7%) begins in *Porto*, with much lower percentages starting in *Tui* (9% and 9.2%, respectively). Pilgrims from the Czech Republic show a comparable trend, with 53.9% starting in *Porto*, 4.0% in *Tui,* and only 1.6% in *Vigo*. These patterns confirm that *Tui* primarily serves as the main departure point for

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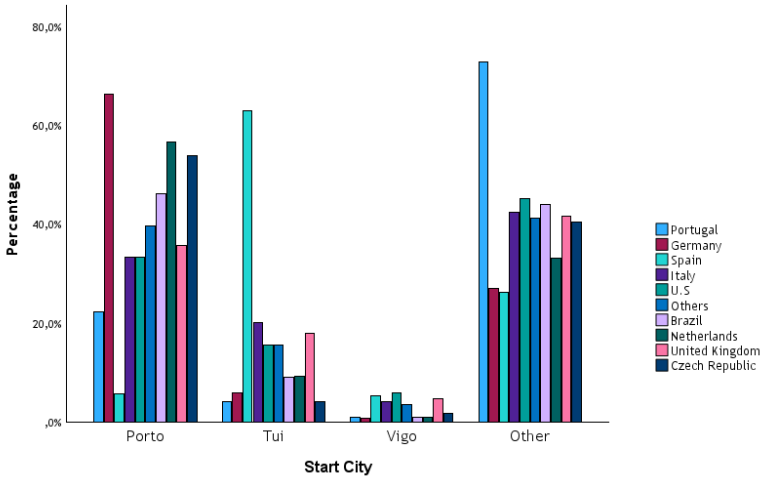
Spanish pilgrims, fundamentally due to proximity and ease of access. In contrast, *Porto* was the dominant choice for international pilgrims, such as those from German, Italy, Brazil, the Netherlands, and the Czech Republic. This preference is likely influenced by the presence of *Francisco Sá Carneiro* Airport in *Porto*, which offers direct connections to numerous international destinations.

Figure 18 Percentage of Pilgrims by Start City and Cultural Influences on the Portuguese *Santiago* Ways



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

Female pilgrims (52.5%) showed a stronger preference for shorter distances (less than 140 km) compared to male pilgrims (46.4%). This confirms that shorter routes were more popular among women, potentially due to factors such accessibility, time constraints, or differing physical demands. For mid-range distances (141–235 km), pilgrims were nearly evenly distributed between the genders, with female pilgrims accounting for 7.3% and male pilgrims for 7.8%. This balance may indicate that such distances offer an optimal compromise between physical challenge and time commitment. In contrast, for longer distances (over 400 km), male pilgrims were predominant, representing 4.8%, while female participation drops to 2.6%. This

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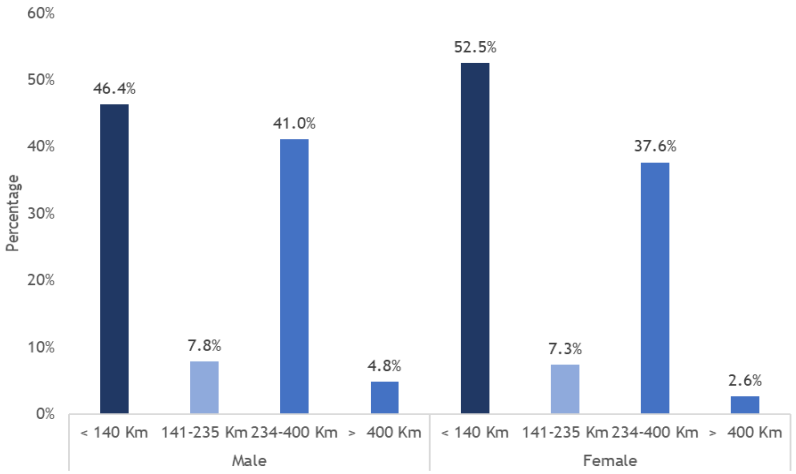
pattern may reflect gender-based differences in endurance preferences, availability, or motivation for undertaking extended pilgrimages (see Figure 19).

Figure 19 Percentage of Pilgrims by Route Length (Distance) and Gender on the Portuguese *Santiago* Ways

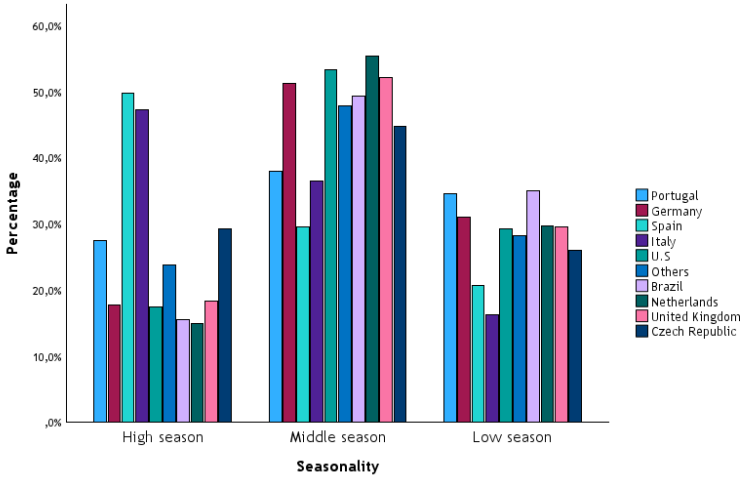


Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

In figure 20, the middle season accounts for 39.4% of pilgrimages, indicating a clear preference among pilgrims for moderate weather conditions and less crowded periods. The high season represents 34.3% of pilgrim activity, likely due to the alignment with vacation periods, favorable summer weather, and cultural or religious events. In contrast, the low season attracted only 26.3% of pilgrims, which may be attributed to less favorable weather and fewer public holidays during these months. Most countries demonstrated a marked preference for the middle season, with participation ranging from 36% to over 55%, suggesting a consistent interest in avoiding the extremes of summer heat and winter cold, as well as heavy crowds. However, Spain (49.7%) and Italy (47.3%) exhibited a stronger inclination toward the high season, possibly reflecting cultural traditions or synchronized holiday periods. On the other hand, countries, namely Brazil (15.5%), the Netherlands (14.9%), and the United States (17.4%) report significantly lower participation during the high season. Interestingly, Portugal (34.5%)

and Brazil (35.0%) show relatively higher engagement during the low season, suggesting a more flexible travel pattern or comfort with local weather conditions.

Figure 20 Percentage of Pilgrims by Seasonality and Cultural Influences on the Portuguese *Santiago* Ways



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

Figure 21 presents the seasonal distribution of pilgrims on the Portuguese Central way and the Portuguese Coastal way, segmented into high, middle, and low seasons. Both routes attract the highest number of pilgrims during the middle season, with the Portuguese Coastal way showing a slightly higher proportion (42.4%) compared to the Portuguese Central way (38.8%). While both routes also register substantial participation during the high season, the Portuguese Central way accounts for a slightly larger share (34.8%) than the Portuguese Coastal way (32.1%). The low season records the lowest participation for both routes, with the Portuguese Coastal way showing a marginally lower share (25.5%) compared to the Portuguese Central way (26.4%). These findings suggest that seasonality patterns are broadly similar across both

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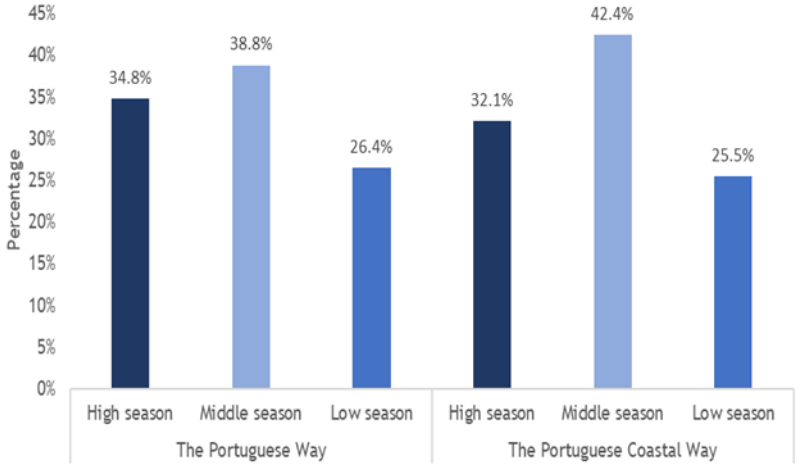
routes, though the Portuguese Coastal way is slightly more favored during moderate conditions, whereas the Portuguese Central way maintains stronger consistency throughout the year.

Figure 21 Percentage of Pilgrims by Seasonality on the Portuguese Central Way and the Portuguese Coastal Way



Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

The data reveal a remarkable increase in the geographic diversity of pilgrims on the Portuguese ways to *Santiago* between 2003 and 2023 (see Table 9). Throughout this period, Europe consistently remained the dominant continent of origin, representing the overwhelming majority of pilgrims each year. In 2023, European pilgrims reached a historical peak of 547,115, accounting for more than 70% of the total. This predominance reflects the geographical proximity of Portugal and Spain and the accessibility of the ways. Beyond Europe, a substantial rise in participation from North America is evident, growing from only 34 pilgrims in 2003 to 31,756 in 2023. This expansion highlights the increasing internationalization of the Portuguese ways. South America also shows consistent growth, particularly after 2010, reaching 19,935 pilgrims in 2023, driven mainly by countries such as Brazil. This trend reflects the cultural and linguistic connection with Portugal and the influence of Catholic traditions in Latin America.

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Pilgrims from Asia and Oceania demonstrate gradual but steady growth, with particularly notable increases after 2015. By 2023, Asia recorded 16,828 pilgrims and Oceania 17,100, marking the consolidation of the Portuguese ways as truly global pilgrimage networks. Africa, although representing a smaller share, also expanded from just 6 pilgrims in 2003 to 817 in 2023, signaling growing awareness and accessibility of the Portuguese ways experience on the African continent.

Table 9 Number of Pilgrims on the Portuguese *Santiago* Ways by Continent and Year

Year	Continent					
	Africa	North America	South America	Asia	Europe	Oceania
2003	6	34	83	11	3,389	3
2004	3	123	282	11	15,408	7
2005	15	108	133	4	5,237	10
2006	10	97	143	16	6,229	24
2007	20	137	180	31	7,744	28
2008	20	181	239	55	9,271	49
2009	22	263	234	53	11,447	42
2010	34	472	756	139	32,727	126
2011	54	391	576	227	20,696	118
2012	112	596	682	179	23,918	137
2013	99	1,062	869	193	27,066	261
2014	130	1,525	971	319	32,181	368
2015	174	2,206	1,378	400	38,496	484
2016	153	3,065	1,812	620	45,782	706
2017	335	4,271	2,348	895	57,546	1,167
2018	589	5,697	3,453	1,320	69,104	1,500
2019	822	7,216	4,073	2,208	78,556	1,771
2020	17	189	396	187	12,152	47
2021	79	1,743	987	189	39,156	36
2022	561	10,850	4,869	1,836	104,781	905
2023	817	31,756	19,935	16,828	547,115	17,100
Total	4072	56,099	31,109	13,100	750,309	10,639

Source: Author's own elaboration based on Pilgrim's Welcome Office dataset

4.3.2 Christians Worldwide

Christians are the world's largest religious group, and they are a majority in every region, except the Asia-Pacific and Middle East-North Africa regions. A total of 1.1 billion people, or 47% of all Christians worldwide, live in the ten nations such as the United States, Brazil,

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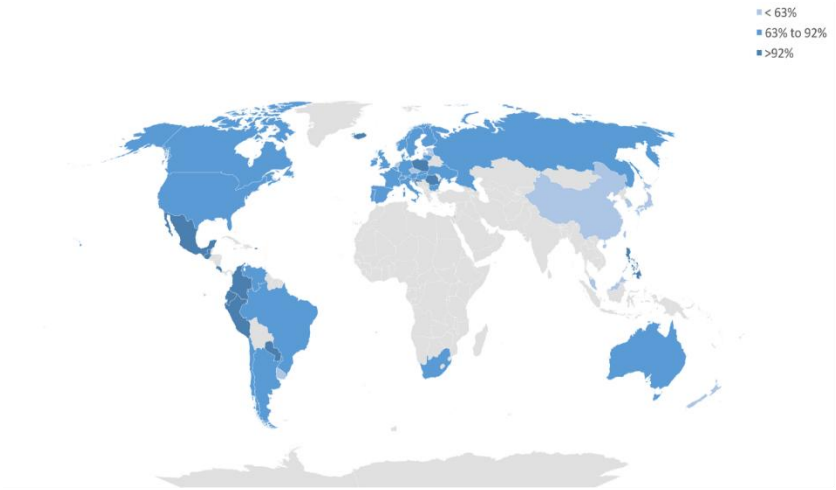
Mexico, the Philippines, Russia, Nigeria, the Democratic Republic of Congo, Ethiopia, South Africa, and Italy, with the highest concentrations of Christians (see Figure 22).

Figure 22 Map of Countries Categorized by Percentage of Christian Populations



Source: Author's own elaboration based on Pew Research Center (PRC, 2023)

The number of Christians worldwide is projected to increase from 2.1 billion in 2010 to 2.9 billion by 2050 (PRC, 2023). However, this growth will not occur uniformly across regions. For example, in Europe, the number of Christians is expected to continue to decline, from 26% of the population in 2010 to approximately 16% by 2050 (see Table 10).

Table 10 Projected Global Christian Population, 2010-2050

	Population Estimate	% of World's Populations
2010	2.168.330.000	31.4
2020	2.382.750.000	31.1
2030	2.578.790.000	31.0
2040	2.756.390.000	31.1
2050	2.918.070.000	31.4

Source: Author's own elaboration based on Pew Research Center (PRC, 2023)

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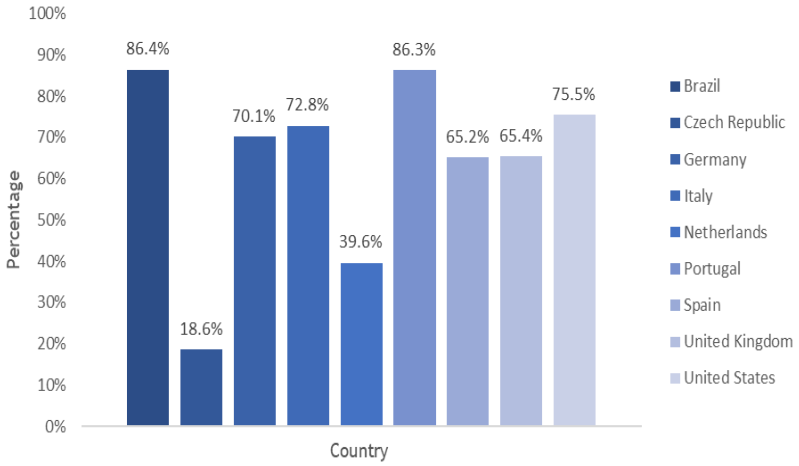
Figure 23 displays the percentage of Christians within the populations of the top nine countries most represented along the Portuguese ways. Brazil and Portugal lead with the highest levels of Christian affiliation, at 86.4% and 86.3%, respectively, followed by the United States (75.5%), Italy (72.8%), and Spain (65.2%), and United Kingdom (65.4%). Lower levels of Christian affiliation were observed in Netherlands (39.6%), and particularly the Czech Republic, with only 18.6% identifying as Christian (PRC, 2023).

Figure 23 Percentage of Christians in the Top Nine Countries Most Represented Along the Portuguese *Santiago* Ways



Source: Author's own elaboration based on Pew Research Center (PRC, 2023)

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CHAPTER 5: ESTIMATING TOURISM ROUTE MODELS FOR PILGRIMS ON THE PORTUGUESE WAYS

This chapter aims to present a model that estimates the decision-making process of pilgrims when choosing between a more religious route (Portuguese Central way) and a more tourist route (Portuguese Coastal way). To achieve this objective, a model was developed to examine the relationship between religious, non-religious, religious or other motivations (secular motivations), and cultural influence that determine the choice of a destination in religious tourism (Objective 1).

In addition, it will investigate how route attributes (e.g., route length, starting point, and mode of travel), social interactions (individual versus group), and external factors (e.g., seasonality), and demographic variables influence this decision (Objectives 2 and 3).

In this chapter, a logistic regression model was used for understanding the decisions about the choice between the Portuguese Central way and the Portuguese Coastal way. This analysis enables the estimation of the probability of decision-making based on explanatory variables, making it particularly useful for analyzing the interaction between religious, non-religious and secular motivations, cultural influences, physical characteristics (start city, distance and mode of travel), external factors (seasonality), and social interactions (individual versus group). The conceptual models illustrating the relationships between these variables are presented in Figure 24.

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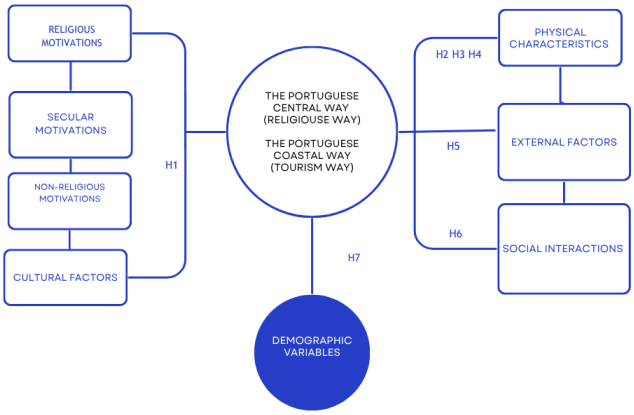
Figure 24 Conceptual Model I



Source: Author's own elaboration

5.1 VARIABLES INCLUDED IN THE MODEL

This sub-chapter presents the variables included in the models (Model I, Model II, and Model III) used to analyze pilgrims' route choice between the Portuguese Central and Portuguese Coastal ways. The dependent variable reflects the route choice by each pilgrim, while the independent variables encompass motivation of the pilgrims, cultural influence, attributes of the way, mode of travel, external factors, social interactions, and control variables (gender, age and employment status).

5.1.1 Dependent Variables

The dependent variable in this study is a discrete categorical variable (i.e. dichotomous) representing the pilgrim's choice between two alternatives: the Portuguese Central way (coded as 1) and the Portuguese Coastal way (coded as 0). This variable represents the decision-making process, where each pilgrim is assumed to choose the route that maximizes their perceived

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utility, given individual motivations, cultural influence, attributes of the way, mode of travel, external factors, social interactions, and control variables (gender, age and employment status).

According to Train (2009), a decision set must meet three essential conditions to be incorporated into a discrete choice model. First, alternatives must be mutually exclusive, meaning that choosing one option excludes the possibility of choosing another. Second, the choice set must be exhaustive, encompassing all relevant and feasible alternatives available to the decision maker. Third, the number of alternatives must be finite, ensuring that the model can evaluate each option explicitly.

5.1.2 Independent Variables

The independent variables are organized into five main categories. The first category represents the motivation of the pilgrims. The second focuses on cultural influence particularly related to nationality. The third focuses on social interactions, namely whether the pilgrimage is undertaken individually or as group traveled. The fourth category includes physical characteristics of the pilgrimage, such as route length, starting point, and mode of travel. Finally, the fifth category encompasses external factors, including seasonality.

5.1.2.1 Religious, Secular Motivations, and Non-Religious Motivations

Motivation can be defined as the internal desire to engage in a behavior to fulfil a specific need (Correia & Pimpão, 2008). In tourism, travel motivations play a crucial role in destination selection and in anticipating travel trends (Günaydın et al., 2021), serving as the foundation of the travel decision-making process. When it comes to pilgrimages, particularly to sacred sites, motivations are often multifaceted and complex. They may involve a blend of internal drives and embodied practices through which meaning and, in some cases, transcendent experiences are enacted via affective and material engagements with religious rituals and sacred spaces (Terzidou, 2020). According to Casais and Sousa (2020), both religious and secular

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motivations coexist among pilgrims. Religious tourists are influenced by a variety of factors when choosing to visit sacred sites, including religious devotion, secular interests, and social activities (Hassan et al., 2022). Finney et al. (2009) classify religious travelers into distinct categories: seekers (who plan to visit both religious and secular tourist sites), lotus-eaters (who primarily seek secular/pleasure-oriented attractions and may visit religious sites incidentally), pilgrims (who focus exclusively on religious tourist sites and are primarily motivated by religious purposes), and accidental tourists travel (who had not intended to visit either type of site). On the other hand, Tsai (2021) identify four types of religious motivations: 1. sacred pilgrims: those who love to participate in religious rituals, experience the dignity of God, and feel spiritual comfort; 2. believers: those who have a devotion to God; and 3. experience companion: those who go on a travel and accompany their friends and 4. secular polytheists: Those who want protection from God. Cohen (1992) explicitly discusses the convergence and divergence between pilgrimage and tourism, arguing that while traditional pilgrimages are primarily motivated by religious devotion, contemporary forms of travel to sacred places often combine spiritual, cultural, and leisure-oriented motivations. Cohen (1992) explicitly discusses the convergence and divergence between pilgrimage and tourism, arguing that while traditional pilgrimages are primarily motivated by religious devotion, contemporary forms of travel to sacred places often combine spiritual, cultural, and leisure-oriented motivations. Finally, Cohen's (1979) phenomenological account emphasizes the heterogeneity of tourist experiences, which helps explain why spiritual and secular elements may overlap in practice.

Research on *Santiago* ways has identified multiple motivations among pilgrims. For example, Amaro et al. (2018) found that the principal motivations are spiritual aspects, a desire for new experiences, and the opportunity to engage in nature and sports activities. Kurrat (2019) showed that many pilgrims assume the journey to achieve life balance, process a crisis, take

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time off, make a transition between two phases of life, or initiate a new start. In the context of the Portuguese ways, Fernandes et al. (2012) found that pilgrims are motivated by leisure/recreation, culture, and landscape of the route, and religious motivation is the second most important motivation. Similarly, Casais and Sousa (2020) found that pilgrims have multiple motivations: "to fight loneliness"; "to live a sportive/adventurous experience"; "to visit places not accessed by other modes of transportation"; "to connect with the natural environment"; "to experience a spiritual moment"; "to meet new people"; "to disconnect from the daily stress"; and "to keep a promise". Finally, Moscarelli et al. (2020) explores the evolving nature of the *Santiago* way as it transitions from a primarily religious pilgrimage to a tourism-oriented activity.

5.1.2.2 Cultural Influence

Cultural influence has a significant role in modeling the behaviors and preferences of pilgrims in religious tourism. In this thesis, the variable country refers to the most frequently represented nationalities found along the Portuguese ways. Different countries may exhibit different behaviors, influenced by their unique cultural backgrounds. According to Thrane (2012) country-of-origin must be included in multivariate statistical modeling. These variables include the top ten countries of origin along the Portuguese ways, which allows the analysis of nationality-based differences in route choice. As Moschis and Ong (2011) note, people from different cultures or countries exhibit different levels of religiosity, which in turn lead to distinct consumer behavior. Previous research has shown that culture significantly influenced the decision-making process in pilgrimage tourism (Digance, 2003; Collins-Kreiner, 2010). Pilgrims from predominantly Catholic countries, such as Spain, Portugal, and Brazil, often show preference for routes with profound religious significance. In contrast, pilgrims from more secularized societies, namely Germany or the Netherlands, may prioritize cultural and

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experiential dimensions of the journey. With respect to the Portuguese ways, data segmentation by nationality and route choice (Portuguese Central and Portuguese Coastal ways) reveals a trend in the destination preference (as shown in chapter 4). The Portuguese Central way is chosen by a higher number of Spanish and Portuguese pilgrims, while on the other hand, foreign pilgrims tend to prefer the Portuguese Coastal way. These findings are consistent with the observations of Lois-González (2013), who highlight the influence of geographical and cultural familiarity on the route choice.

5.1.2.3 Attributes of the Way

The characteristic of the way influences the decisions of pilgrims in religious tourism. Attributes like the starting point, route length (distance), and mode of travel significantly affect route choice. The starting point not only affects the pilgrimage distance but is often closely linked to their motivations and the characteristic of ways. Cities closer to *Santiago*, such as *Tui* (119 km) or *Vigo* (150 km), are particularly appealing for pilgrims looking for a shorter route and aiming to complete the minimum 100 kilometers required to obtain the *Compostela* certificate. In many religious traditions, walking is considered an act of devotion, personal reflection, and spiritual discipline**.** This mode of travel is affected by a combination of route features, individual preferences, and socio-demographic attributes (Lee et al., 2012b). One of the most influential factors is distance**,** which has consistently been cited as a key determinant in tourist decision-making processes (Lee et al., 2012a; Hooper, 2015) and destination choice (Clifton et al., 2016). According to Kato and Progano (2017), the length of a pilgrimage, whether short or long, often reflects religious intentions and obligations. For many pilgrims, walking extended distances becomes a ritualistic expression of devotion, reinforcing the spiritual dimension of the journey (Guo & Loo, 2013). In this context, mode of travel, particularly whether the pilgrimage is done on foot or by bicycle, directly affects the nature of

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the experience and the motivations behind it (Collins-Kreiner, 2010b; Fratu, 2011; Farias et al., 2019; Paydar & Fard, 2021; Malis et al., 2023). Walking allows for introspective engagement, supports spiritual growth, and fosters social interaction with fellow pilgrims (Farias et al., 2019; Malis et al., 2023). These experiences are shaped by a combination of travel characteristics and the personal and cultural background of each pilgrim. Additionally, this study analyzes the influence of seasonality, using a common tourism framework that distinguishes between high, middle, and low seasons. According to Corluka et al. (2016), "tourism seasonality is a major characteristic of the tourism industry," with seasonal demand fluctuations generating various challenges for tourist destinations. However, the concept of seasonality is multidimensional and can be examined from several angles, including weather conditions, religious or cultural events, economic patterns, and regional factors.

5.1.2.4 Social Interactions

Social interactions play an important role in how people choose their destinations (Um & Crompton, 1990; Muraleetharan & Hagiwara, 2007; Clifton et al., 2016), and route choice (Díez-Gutiérrez & Babri, 2020; Agarwal & Mohan, 2022). These interactions often enrich the overall travel experience (Cheng et al., 2018).

5.1.2.5 Control Variables

Control variables are essential in understanding the effects of independent variables (e.g., motivations, cultural interests, mode of travel) on pilgrimage behaviors and decision-making. By including gender, age, professional group, and travel characteristics as control variables, it becomes possible to better understand their influence on decision-making and route preferences. Several researchers have studied the relationship between demographic variables and decision-making in tourism (Anderson & Langmeyer, 1982; Frew & Shaw, 1999; Heung et al., 2001; Collins & Tisdell, 2002; Eby & Molnar, 2002; Deslandes, 2007; Khan, 2011; Lin

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et al., 2014; Bernini & Cracolici, 2015; Hyde et al., 2017; Almeida, 2020; Milićević et al., 2020). Gender plays a role in tourism, although some studies suggest it has little impact on destination choices (Frew & Shaw, 1999; Jönsson & Devonish, 2008; Khan, 2011; Lin et al., 2014; Bernini & Cracolici, 2015; Milićević et al., 2020; Kara & Mkwizu, 2020; Tang et al., 2020; Wambani et al., 2021; Sahoo & Mohanty, 2022). According to Bernini and Cracolici (2015), this may be attributed to the fact that tourism decisions often involve not individual choices, but decisions made by a group or family. Collins and Tisdell (2002) argue that understanding the role of gender in influencing decision-making is key to understanding the dynamics of the tourism market. However, some authors argue that men and women make different decisions when it comes to choosing destinations (Collins & Tisdell, 2002; Khan, 2011). In terms of age, for Milićević et al. (2020) younger tourists prefer sport and recreation, spa and wellness while older groups prefer natural beauties, culture, and entertainment.

5.2 PROFILE OF PILGRIMS ON THE PORTUGUESE WAYS

Table 11 summarizes the descriptive statistical profile of the 116,593 pilgrims who completed the Portuguese ways in 2022. These statistics were used to characterize the pilgrims in terms of key demographic and travel-related variables.

The Portuguese Central way was traveled by 87,578 pilgrims (75.1%), making it the most popular of the two Portuguese ways, while the Portuguese Coastal way was chosen by 29,015 pilgrims (24.9%).

Regarding the gender distribution, 43.57% of pilgrims on the Portuguese ways in 2022 were male, and 56.43% were female. The Portuguese Coastal way recorded a greater share of female pilgrims (58.71%) compared to the Portuguese Central way (55.67%).

In terms of age, the 18-34 group was the most representative on both ways, 25.30% on the Portuguese Central way and 29.57% on the Portuguese Coastal way, indicating greater appeal

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among younger pilgrims. The Portuguese Central way see a strong representation from the 45-54 age group (20.02%), and 55-64 age group (20.86%), suggesting greater popularity among middle aged pilgrims. The mean age of pilgrims was 44.00 years, with a standard deviation of 17.03, indicating that the majority belonged to a middle-aged demographic.

Table 11 Profile of the Pilgrims on the Portuguese *Santiago* Ways

Variables	Description of Variable	Religious way (Portuguese Central way) (87,578)	Tourist way (Portuguese Coastal way) (29,015)	Total (116,593)
Religious motivations, non-religious and secular motivations (%)				
Motivation	Secular Motivations (non-religious and other motivations)	40.01	38.80	39.71
	Religious	37.64	30.84	35.83
	Non-religious	22.34	30.35	24.46
Cultural Influences (%)				
Cultural Influences	Spain	40.68	37.09	39.79
	Portugal	13.29	9.71	12.40
	German	9.76	9.00	9.58
	United States	5.77	8.79	6.35
	Italy	6.16	7.33	6.45
	Brazil	2.10	1.11	1.86
	Netherlands	1.74	0.84	1.52
	United Kingdom	1.74	2.16	1.82
	Czech Republic	1.87	2.22	1.97
	Other Countries	16.90	22.37	18.27
Attributes of the way (%)				
Start Point	Porto	33.98	35.65	34.40
	Tui	36.15	0	27.15
	Vigo	5.14	25.41	10.18
	Other Place	24.71	38.92	28.24
Route Length (Distance Km)	< 140	59.39	44.14	55.60
	141-235	5.01	15.63	7.65
	236-400	34.55	38.90	35.63
	>400	1.03	1.31	1.10
Mode of travel	Walking	96.42	90.44	94.93
	Bicycle	3.34	9.38	4.85
	Others	0.23	0.16	0.22
Social Interactions (%)				
Social Interactions	Individual	15.15%	15.43%	15.22%
	Group	84.84%	84.56%	84.77%

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Table 11 Profile of the Pilgrims on the Portuguese *Santiago* Ways (continuations)

Variables	Description of Variable	Religious way (Portuguese Central way) (87,578)	Tourist way (Portuguese Coastal way) (29,015)	Total (116,593)
External Factors (%)				
Seasonality	High season (July and August)	18.89	20.20	19.22
	Middle season (May, June and September)	54.34	54.98	54.51
	Low season (January, February, March, April, October, November and December)	26.75	24.80	26.27
Control Variable				
Demographic Variables (%)				
Gender	Male	44.32	41.28	43.57
	Female	55.67	58.71	56.43
Age	≤ 17 years old	7.57	5.39	7.03
	18 – 34 years old	25.30	29.57	26.37
	35 – 44 years old	14.42	12.88	14.05
	45 – 54 years old	20.02	19.38	19.87
	55 – 64 years old	20.86	20.36	20.74
	> 65 years old	11.80	12.39	11.95
Mean		44.02	43.93	44.00
Standard Deviation		17.01	17.11	17.03
Employment Status	Employees	93.49	94.45	93.74
	Unemployed	0.15	0.17	0.16
	Retirees	3.49	3.68	3.55
	Other	2.85	1.64	2.55

Source: Authors' own elaborations based on Pilgrim's Welcome Office dataset

Regarding the overall motivations, 39.71% of pilgrims reported secular motivations for undertaking the pilgrimage, followed by 35.83% who identified religious motivations, and 24.46% non-religious motivations. On the Portuguese Coastal way, secular motivations represent 38.80%, and non-religious motivations account for 30.35%. This result is not coincidental, as this route has a strong connection with pilgrimage tourism and cultural travel. The characteristics of the way, such as its scenic beauty, views of the Atlantic Ocean, fishing villages, and rich cultural landscape, make it attractive to those seeking a more tourist- or culture-oriented pilgrimage. In contrast, on the Portuguese Central way, secular motivations represent 40.01%, while non-religious motivations account for only 22.34%. This way

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maintains a strong connection with the pilgrimage tradition. The historical significance and spiritual atmosphere of this route is still connected to those who identify with the more religious and symbolic aspect of the *Santiago* ways. This route offers a connection to the religious and historical dimension of the *Santiago* ways, with its many churches, sacred sites, and the overall sense of pilgrimage history.

Spanish pilgrims represent the largest share across all routes, comprising 40.68% of those on the Portuguese Central way, 37.09% on the Portuguese Coastal way, and 39.79% overall. Their slightly lower presence on the Portuguese Coastal way suggests a moderate preference for the Portuguese Central way. Portuguese pilgrims also show a higher concentration on the Portuguese Central way (13.29%) compared to the Coastal way (9.71%). In contrast, pilgrims from the United States and Italy appear to favor the Portuguese Coastal way, accounting for 8.79% and 7.33%, respectively, compared to 5.77% and 6.16% on the Portuguese Central way. The German share remains relatively stable across both routes (9.76% Portuguese Central vs. 9.00% Portuguese Coastal way), as does that of the United Kingdom, with a slightly higher percentage on the Portuguese Coastal way (2.16%) compared to the Portuguese Central way (1.74%). Pilgrims from Brazil and the Netherlands suggest a stronger presence on the Portuguese Central way (2.10% and 1.74%, respectively), while those from the Czech Republic lean toward the Portuguese Coastal way (2.22% vs. 1.87%). Finally, the category of other countries is significantly more represented on the Portuguese Coastal way (22.37%) than on the Portuguese Central way (16.90%), supporting the idea that a broader mix of nationalities is attracted to the Portuguese Coastal way. Overall, these figures suggest that while the Portuguese Central way attracts more Spanish and Portuguese pilgrims, the Portuguese Coastal way tends to draw a more diverse and international profile, particularly from non-Iberian countries.

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The most common starting point for pilgrims on the Portuguese ways is Porto (34.40%), followed by *Tui* (27.15%), other locations (28.24%), and *Vigo* (*10.18%*). On the Portuguese Central way, *Tui* is the most frequent departure city, with 36.15% of pilgrims beginning their journey there, followed closely by *Porto* (33.98%). In contrast, on the Portuguese Coastal way, *Porto* is the most popular starting point (35.65%), followed by other locations (38.92%) and *Vigo* (25.41%). These other locations are likely to include smaller towns and less traditional access points along the coastal way. Tui's popularity as a starting point on the Portuguese Central way is probably likely linked to its proximity to *Santiago de Compostela*, approximately 115 kilometers, meeting the minimum distance required to obtain the *Compostela* certificate, which is awarded to pilgrims who walk at least 100 kilometers to the cathedral.

Table 11 also presents the percentage distribution of pilgrims by walking distance on the Portuguese Central way and the Portuguese Coastal way. On the Portuguese Central way, the majority of pilgrims (59.39%) walked less than 140 km, while 34.55% completed distances between 236 and 400 km. On the Coastal way, 44.14% of pilgrims also walked less than 140 km, and 38.90% walked between 236 and 400 km. These findings suggest that shorter routes are more commonly chosen on both paths, though the Portuguese Central way has a slightly higher proportion of long-distance pilgrims compared to the Portuguese Coastal way.

Walking is the most common mode of traveling, emphasizing the traditional and religious nature of the ways.

For both the Portuguese Central way and the Portuguese Coastal way, most pilgrims travel in groups (Portuguese Central way: 84.84%; Portuguese Coastal way: 84.56%). This strong preference for group travel underscores the social dimension of the pilgrimage experience. In contrast, the percentage of individual pilgrims is relatively low for the two routes, ranging between 15.15% in the Portuguese Central way and 15.43% in the Portuguese Coastal way.

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This provides evidence that most pilgrims value group experiences and have similar spiritual or cultural goals.

In relation to seasonality, during the high season, there is a significant number of pilgrims, particularly on the Portuguese Coastal way, where they represent 20.20% of the total. However, the majority of pilgrims prefer the middle season, with 54.34% on the Portuguese Central way and 54.98% on the Portuguese Coastal way. The middle season offers favorable weather conditions, and less crowding compared to the high season, making it an ideal time for pilgrimage. In contrast, the low season attracts fewer pilgrims, with 26.75% on the Portuguese Central way and 24.80% on the Portuguese Coastal way. Pilgrimage organizers and local businesses should prepare for peak demand during these seasons, especially on the Portuguese Coastal way in July and August and on both routes during May, June, and September. Efforts can be made to attract more pilgrims during the low season by promoting unique aspects like solitude, spiritual experiences, and winter pilgrimage traditions.

5.3 THE IMPACT OF DEMOGRAPHIC FACTORS, CULTURAL INFLUENCES, AND MOTIVATIONS ON THE PORTUGUESE WAYS

To determine whether there is a difference between gender, cultural influences, and motivations in the choice of the Portuguese ways, a one-way analysis of variance (ANOVA) was employed with Bartlett's test. This statistical test is used to assess whether the means of multiple groups are significantly different, while the Bartlett's test evaluates the equality of group variances.

The results show that gender significantly influences the route choice of the Portuguese ways ($F(1) = 91.25$; $p < .001$). However, Bartlett's test indicates a significant violation of the assumption of equal variances ($p = .049$). This suggests that the variances between male and female pilgrims differ significantly. Similarly, age was found to significantly impact route choice ($F(5) = 72.79$; $p < .001$), with Bartlett's test confirming unequal variances across age

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groups (p =.001). Motivations also had a significant effect on route choice (F (2) = 20.56; p =.001), and Bartlett's test revealed unequal variances among the motivation groups (p <.001). Finally, cultural influences significantly affected pilgrims' choice of route (F (9) = 145.39; p <.001), and Bartlett's test once again revealed variance differences between cultural groups (p <.001) (see Table 12).

Table 12 ANOVA Analysis of the Effects of Gender, Age, Cultural Influences, and Motivations on the Choice of Portuguese Ways

Effect	Df	Mean square	F	*P*	Bartlett's test
Gender	1	22.41	91.25	< .001**	$x^2(1) = 3.8810$ p =.049 **
Age	5	13.50	72.79	< .001**	x^2 (5) = 281.1833 p =.001**
Religious, Secular Motivations and non-religious motivations	2	3.82	20.56	< .001**	x^2 (2) = 27.7120 p =.001**
Cultural influences	9	26.77	145.39	< .001**	x^2 (9) = 981.1317 p =.001**

Source: Authors' own elaborations based on Pilgrim's Welcome Office dataset
Note 1: Df: degree of freedom
Note 2: (*), (**), (***) denote significance at the 1%, 5%, and 10% levels, respectively

5.4 STRUCTURE AND PROCESS OF DECISION-MAKING

To estimate the tourism route choice, a logit model was employed. Estimating consumer decision-making is complex because several antecedents affect this process. Some decisions have cognitive attributes that require considerable planning and evaluations of alternative features; however, travel decision involves both cognitive and emotional elements (Martin & Woodside, 2012). Before constructing the model, a frequency analysis was conducted to detect outliers and numerical issues that could affect the multivariate analysis. Table 13 presents all the estimation results from Model I, II, and III.

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The logistic regression model is:

$$logit(P(y_i = 1)) = \beta_0 + \beta_1 Religious\ Motivations + \beta_2 Secular\ Motivations + \beta_3\ Non\ Religious\ Motivations + \beta_4 Cultural\ Influences + \beta_5 Start\ Point + \beta_6 Route\ Length + \beta_7 Mode\ of\ Travel + \beta_8 External\ Factors + \beta_9 Social\ Interactions + \beta_{10} Gender + \beta_{11} Age + \beta_{12} Employment\ Status + \varepsilon_i \quad (15)$$

Our initial estimation, Model I, focuses on examining the relationship between religious motivations, secular motivations, non-religious motivations, and cultural influence on destination choices in religious tourism (Objectives 1) (H_1).

The log-likelihood value (-64,801.05) measures how well the model fits the data, with a more negative value indicates a poorer fit. The LR χ^2 (11) statistic (1,232.99) tests the significance of the model. Its high and significant values indicate that the model explains a substantial amount of variance in the choice of the Portuguese ways. The correctly classified (75.11%) indicates the percentage of correct predictions made by the model. The model's classification rate of 75.11% implies that the model performs reasonably well in predicting the choice of Portuguese ways for most cases. The Akaike Information Criterion (AIC:129,626.10) and Bayesian Information Criterion (BIC:129,742.10) provide additional measures of the model quality, with lower values generally indicating a better-fitting model. Both values suggest that this model has room for improvement, as these criteria are typically compared to those of alternative models. The Pseudo R^2 (0.0094) measures the proportion of variance in the dependent variable explained by the model. The value of 0.0094 is notably low, indicating a minimal influence on the choice of the Portuguese way. This could indicate that other factors not included in the model may be contributing to the decision-making process. The Pearson $\chi^2(18)$ statistic (73.57) tests the goodness of fit of the model. While a higher value suggests a

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poorer fit, given the degrees of freedom (18), the model appears to provide an acceptable fit for the data.

In the analysis of the results of the independent variables, it is observed that the coefficient for religious motivation (β = -0.028, p > .117) is not statistically significant, indicating that no statistically significant effect was found. In turn, the coefficient for secular motivations (β = -0.123, p < .001) is negative and statistically significant, suggesting that pilgrims with secular motivations are less likely to choose the Portuguese Central way over the Portuguese Coastal way, in relations to non-religious motivations. These results imply that pilgrims with secular motivations tend to prefer the Portuguese Coastal way, which is a more tourist-oriented route.

In terms of cultural influence (nationalities of pilgrims), the negative and statistically significant effects observed for those form German (β = - 0.239, p < .001), Spain (β = -0.219 p < .001), Italy (β = -0.485, p < .001), the United States (β = -0.646, p <0.000), the United Kingdom (β = -0.563, p < .001), and the Czech Republic (β = -0.503, p < .001), indicate a lower likelihood of choosing the Portuguese Central way compared to the Portuguese Coastal way, relative to Portuguese pilgrims (reference group). In contrast, pilgrims from Brazil (β = 0.329, p < .001) and the Netherlands (β = 0.402, p < .001) exhibit a higher likelihood of choosing the Portuguese Central way over the Portuguese Coastal way. These results highlight that among the countries analyzed, only Brazil and the Netherlands display a clear preference for the more religiously oriented Portuguese Central way. Pilgrims from all other countries tend to favor the Portuguese Coastal way, which may be perceived as more scenic, tourist, or culturally diverse. This preference may reflect that cultural, religious, or geographical factors may be influencing the distinct route preferences across nationalities.

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To achieve the second objective of this research, which seeks to explore how specific factors, including route attributes, external conditions, and social interactions influence pilgrims' route choice behavior (H_2, H_3, H_4, H_5, H_6), a new model (Model II) was developed. This model expands on the baseline specification (Model I), which includes additional explanatory variables, route length, starting city, mode of travel, seasonality, and mode of travel and social interactions (e.g., individual versus group travel).

For Model II, the log-likelihood value of –38,476.527 with 21 degrees of freedom indicates a substantial improvement in the model fit compared to Model I. Specifically, the log-likelihood increases (becomes less negative) from –64,801.05 in Model I to –38,476.527 in Model II, which demonstrates a better fit to the data. This improvement confirms that the inclusion of additional independent variables, such as route length, start city, mode of travel, seasonality, and social interaction, significantly contributes to explaining route choice behavior in pilgrimage tourism. The percentage of correctly classified observations increased from 75.11% in Model I to 85.45% in Model II,

further confirming the model's predictive strength. Moreover, the Pseudo R^2 improved markedly, from 0.0094 in Model I to 0.4118 in Model II, indicating a substantially higher proportion of explained variance in route choice behavior. The Akaike Information Criterion (AIC) decreases substantially from 129,626.1 in Model I to 76,999.05 in Model II. Similarly, the Bayesian Information Criterion (BIC) drops from 129,742.1 to 77,221.38. These substantial reductions, even after accounting for the higher number of estimated parameters in Model II (23 versus 12), imply a more parsimonious and better-fitting model. Together with the improvements in log-likelihood and Pseudo R^2, these results highlight the added explanatory value of including route-related attributes, external factors, and social interaction variables in

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explaining route choice behavior among pilgrims. Globally, these results reveal that Model II is better than Model I.

The analysis of the independent variables reveals that, the reason for choosing the route, the coefficient for religious motivations (β= 0.062, $p < .010$) is positive and statistically significant, suggesting that those with religious motivations are more likely to choose the Portuguese Central over the Portuguese Coastal way, compared to those who do not have religious motivations. In contrast, the coefficient for secular motivations (β =-0.159, $p < .001$) is negative and statistically significant, indicating that pilgrims with these motivations are less likely to choose the Portuguese Central way (more religiously oriented) over the Portuguese Coastal way (more tourism-oriented), compared to those who do not have religious motivations.

To better understand the cultural influence (nationalities) route choice the negative and statistically significant coefficient observed for pilgrims from German (β = -0.949, $p < .001$), Spain (β = -1.220, $p < .001$), Italy (β = -0.880, $p < .001$), the United States (β = -1.177, $p < .001$, the United Kingdom (β = -1.092, $p < .001$), the Czech Republic (β = -1.083, $p < .001$), and the Netherlands (β =-0.156, $p < .072$), provide evidence that pilgrims from these countries are significantly lower likelihood to choose the Portuguese Central way over the Portuguese Coastal way, compared to Portuguese pilgrims. Moreover, the coefficient for pilgrims from Brazil (β = -0.055, $p > .466$) is not statistically significant revealing no meaningful difference in route preference between Brazilian in comparison to the Portuguese pilgrims.

Regarding the starting point of the Portuguese ways, the pilgrims who begin the Portuguese ways in *Tui* (β = 6.930, $p < .001$) are significantly more likely to choose the Portuguese Central way over the Portuguese Coastal way compared to those who start the way in *Porto*. In contrast,

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starting point in *Vigo* (β = -0.691, $p < .001$)) are less likely to choose the Portuguese Central way over the Portuguese Coastal way compared to the pilgrims who start the route in *Porto.* Similarly, pilgrims departing from other locations, such as *Aveiro, Coimbra*, Lisbon, *Caminha*, among other locations (β = 1.509, $p < .001$) show a higher likelihood of choosing the Portuguese Central way, compared to those who start the route in *Porto.*

To further explore how distance travel influences pilgrims' route preferences, the model includes distance categories based on the total kilometers. Pilgrims who travel a distance between of 141–235 km (β = -1.035, $p < .001$) show a statistically significant effect, indicating a lower likelihood to choosing the Portuguese Central way over the Portuguese Coastal way, compared to those traveling shorter distances (less than 140 km). Those who walk between 236 and 400 km (β = 2.825, $p < .001$) exhibit a strong positive effect, suggesting a higher likelihood to choosing the Portuguese Central way over Portuguese Coastal way, compared to those traveling shorter distances (less than 140 km). Finally, distance over 400 km (β = -0.956, $p < .001$) again shows a significant negative association with choosing the Portuguese Central way over the Portuguese Coastal way, compared to those traveling shorter distances (less than 140 km).

The model also examines how the mode of travel influences route choice, considering whether pilgrims complete the journey on foot, by bicycle, or using another mode of transport. Pilgrims who travel by bicycle (β = 0.032, $p > .407$) do not show a statistically significant effect, indicating that this mode of travel does not have an impact on the likelihood of choosing the Portuguese Central way over the Portuguese Coastal way, when compared to those who complete the journey on foot. In contrast, pilgrims using other modes of travel (β = -0.788, $p < .001$) show a strong and statistically significant preference for the Portuguese Coastal way over the Portuguese Central way and to those traveling on foot.

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In the case of seasonality, that refers to the time of year when pilgrims travel, the coefficient for the middle season ($\beta = 0.001$, $p > .943$) is not statistically significant, indicating no meaningful difference in the likelihood of choosing the Portuguese Central way during this period. However, the low season has a positive and statistically significant effect on the likelihood of choosing the Portuguese Central way ($\beta = 0.09$, $p < .001$), suggesting that pilgrims are more likely to choose the Portuguese Central way over the Portuguese Coastal way when compared to those traveling during the high season.

To conclude the analysis of Model II, social interactions were included. The results suggest that pilgrims traveling in groups ($\beta = 0.059$, $p < .017$) exhibit a positive and statistically significant effect, indicating that this social effect leads to a greater probability of choosing the Portuguese Central way over the Portuguese Coastal way, compared to those traveling alone.

Finally, Model III aims to provide a more comprehensive analysis that, in addition to integrating the variables of Model II, contemplates the sociodemographic profile of the pilgrim, such as age, gender, and employment status (Objective 3; H_7).

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Table 13 Estimates of the Coefficients of Logistic Regression Models in 2022

Logit Models (n=116.593)						
	Model I		Model II		Model III	
	Coefficient	Marginal effects	Coefficient	Marginal effects	Coefficient	Marginal effects
Constant	1.478 **	-	0.423 **	-	2.556 **	-
Motivations						
Non-religious Motivations (Ref.)						
Religious	-0.028	-0.005	0.062 **	0.006 **	0.045 **	0.004 ***
Secular Motivations (non-religious and other motivations)	-0.123**	-0.022 **	-0.159 **	-0.016 **	-0.151 **	-0.016 **
Cultural Influences						
Portugal (Ref.)						
Germany	-0.239 **	-0.040 **	-0.949 **	-0.093 **	-0.924 **	-0.090 **
Spain	-0.219 **	-0.367 **	-1.220 **	-0.124**	-1.248 **	-0.126 **
Italy	-0.485 **	-0.087 **	-0.880 **	-0.086 **	-0.870 **	-0.083 **
United States	-0.646 **	-0.121 **	-1.177 **	-0.119 **	-1.143 **	-0.114 **
Brazil	0.329 **	0.046 **	-0.055	-0.0048	-0.022	-0.001
Netherlands	0.402 **	0.055 **	-0.156 ***	-0.013 ***	-0.112	-0.009
United Kingdom	-0.563 **	-0.103 **	-1.092**	-0.109 **	-1.068 **	-0.106 **
Czech Republic	-0.503 **	-0.091 **	-1.083 **	-0.108**	-1.058 **	-0.104 **
Other Nationalities	- 0.598 **	-0.110 **	-0.117**	-0.133**	-1.136 **	-0.113 **
Attributes of the way						
Starting point: *Porto* (Ref.)						
Tui	-	-	6.930 **	0.516 **	6.928 **	0.514 **
Vigo	-	-	-0.691 **	-0.105 **	-0.712 **	-0.109 **
Others Place	-	-	1.509 **	0.256 **	1.504 **	0.254 **
Route Length (Distance): < 140 (Ref.)						
141-235	-	-	-1.035 **	-0.148 **	-1.041 **	-0.148 **
236-400	-	-	2.825 **	0.292 **	2.827 **	0.292 **
>400	-	-	-0.956 **	-0.138 **	0.967 **	0.138 **
Mode of travel						
Mode of travel: Walking (Ref.)						
Bicycle	-	-	0.032	0.003	-0.016	0.001
Others	-	-	-0.788 **	-0.088 **	-0.776 **	-0.086 **
External Factors						
Seasonality: High season (Ref.)						
Middle season	-	-	0.001	0.000	0.021	0.002
Low season	-	-	0.090 **	0.009 **	0.111 **	0.014 **
Social Interactions						
Social Interactions: Individual (Ref.)						
Group	-	-	0.059 **	0.006 **	0.018	0.001

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Table 13 Estimates the Coefficients of Logistic Regression Models in 2022 (continuations)

Control Variables						
Logit Models (n=116.593)						
	Model I		Model II		Model III	
	Coefficient	Marginal effects	Coefficient	Marginal effects	Coefficient	Marginal effects
Gender: Male (Ref.)						
Female	-	-	-	-	-0.138 **	-0.013 **
Age: < 18 years old (Ref.)						
18 – 34 years old	-	-	-	-	-0.539 **	-0.053 **
35 – 44 years old	-	-	-	-	-0.401 **	-0.039 **
45 – 54 years old	-	-	-	-	-0.583 **	-0.058 **
55 – 64 years	-	-	-	-	-0.564 **	-0.056 **
> 65 years old	-	-	-	-	-0.527 **	-0.052 **
Employment Status (Ref.)						
Unemployed	-	-	-	-	0.053	0.005
Retirees	-	-	-	-	0.066	0.006
Others	-	-	-	-	-0.629 **	-0.069 **
Log-Likelihood	-64,801.05	Log-Likelihood		-38,476.527	Log-Likelihood	-38,276.467
LR $\mathcal{X}^2$ (11)	1,232.99	LR $\mathcal{X}^2$ (21)		33,933.66	LR $\mathcal{X}^2$(31)	54279.37
Correctly classified	75.11%	Correctly classified		85.45%	Correctly classified	85.98%
AIC(12)	129,626.1	AIC(23)		76,999.05	AIC(32)	76,616.93
BIC(12)	129,742.1	BIC(23)		77,221.38	BIC(32)	76,926.26
Pseudo $\boldsymbol{R^2}$	0.0094	Pseudo R^2		0.4118	Pseudo R^2	0.4149
Pearson $\mathcal{X}^2$(18)	73.57	Pearson $\mathcal{X}^2$ (2763)		62,873.90	Pearson $\mathcal{X}^2$ (17990)	129307.62

Note 1: The dependent variable has been defined as 1 if the pilgrims choose the Portuguese Central way and 0 if the pilgrims choose the Portuguese Coastal way.
Note 2: (*), (**), (***) denote significance at the 1%, 5%, and 10% levels, respectively
Note 3: Likelihood Ratio Chi-Square (LR x^2)
Note 4: Akaike Information Criterion (AIC)
Note 5: Bayesian Information Criterion (BIC)
Note 6: not computed
Source: Authors' own elaboration based on Pilgrim's Welcome Office dataset

In Model III, the log-likelihood values (-38,276.467) is higher (less negative) than in the previous two models (Model I: -64,801.05; Model II -38,476.527) and reveal an improvement in model fit. This reduction provides evidence that the introduction of additional variables, such as physical characteristics, seasonality, and social interactions, captures a substantial amount of previously unexplained variability in route choice behavior. The percentage of correctly classified cases in Model III (85.98%) represents an improvement of 10.87 percentage points compared to Model I (75.11%). This improvement indicates that adding more variables enhances the predictive power of the model. However, there is only a small increase of 0.53

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percentage points, for Model II (85.45%) to Model III (85.98%), suggesting that the inclusion of demographic variables (including age, gender, and employment status) marginally improves the model's predictive performance. The Akaike Information Criterion (AIC) value for Model I (129,626.1) and Bayesian Information Criterion (BIC) value (129,742.1) are very high, reflecting a poorer model fit with a limited explanatory when compared to Models II and III. This is due to the small number of variables introduced into Model I. In Model II, the Akaike Information Criterion (AIC) (76,999.05) and Bayesian Information Criterion (BIC) (77,221.38) decrease significantly compared to Model I. This substantial reduction highlights the fact that the inclusions of additional variables, such as physical characteristics, seasonality, and social interactions, are important for the model's ability to explain the variability in route choices. In Model III, both Akaike Information Criterion (AIC) (76,616.93) and Bayesian Information Criterion (BIC) (76,926.26) decrease slightly, the reduction is much smaller than in the other models (Model I to Model II).

The Pseudo R^2 value of 0.0094 is very low, suggesting that Model I explains less than 1% of the variability in pilgrims' route choices. This indicates that the variables included in Model I are insufficient to capture the complexity of the decision-making process. The increase in the Pseudo R^2 value (from Model I: 0.0094 to Model II: 0.4118) indicates that the inclusion of physical characteristics (distance and start city), external factors (seasonality), and social interactions improves the model's predictive ability. Model II explains approximately 41.18% of the variability in the dependent variable, representing a substantial improvement over Model I. The increase from Model II (0.4118) to Model III (0.4149) reveals that the addition of demographic variables (e.g., age, gender, professional group) contributes marginally to the model performance. The Pearson χ^2 statistic for Model I is 73.57 with 18 degrees of freedom, which is consistent with the limited explanatory power of this simple specification.

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In contrast, in Model II, the Pseudo R^2 increases to 0.4118, and in Model III to 0.4149, reflecting a substantial improvement in explanatory power. The corresponding Pearson χ^2 statistic also increase (to 62,873.90 in Model II and 129,307.62 in Model III) due to the inclusion of a much larger set of explanatory variables.

An analysis of the independent variables provides evidence that the coefficient for religious motivations ($\beta = 0.045$, $p < .070$) demonstrates that pilgrims with religious motivations are more likely to choose the Portuguese Central way over the Portuguese Coastal way, when compared to those with non-religious motivations. In turn, the negative coefficient non-religious and other motivations (secular motivations) ($\beta = -0.151$ $p < .001$), denotes that pilgrims with these motivations (secular motivations) are less likely to choose the Portuguese Central way. The results reveal that the Portuguese Central way is chosen by pilgrims with religious motivations, while the Portuguese Coastal way is more frequently chosen by pilgrims motivated by secular motivations.

Results support, that compared to Portuguese pilgrims, those from German ($\beta = -0.924$, $p < .001$), Spain ($\beta = -1.248$, $p < .001$), Italy ($\beta = -0.870$, $p < .001$), the United States ($\beta = -1.143$, $p < .001$), the United Kingdom ($\beta = -1.068$, $p < .001$), the Czech Republic ($\beta = -1.058$, $p < .001$), and other nationalities ($\beta = -1.136$, $p < .001$) are significantly less likely to choose the Portuguese Central way, showing a clear preference for the Portuguese Coastal way. Additionally, the effects for Brazilian ($\beta = -0.022$, $p > .848$) and Netherlands pilgrims ($\beta = -0.112$, $p > .236$) not statistically significant.

To understand how the starting point influences route choice, it is important to examine the coefficients associated with the most common departure cities. The high positive coefficient for starting point in *Tui* ($\beta = 6.928$, $p < .001$) indicates that they are significantly more likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to those starting

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in *Porto*. In contrast, the negative coefficient for starting point in *Vigo* (β = -0.712, $p < .001$) suggests they are less likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to those starting in *Porto.* Pilgrims starting from other cities show a significant preference for the Portuguese Central way over the Portuguese Coastal way, compared to those starting in Porto (β = 1.504, $p < .001$).

Understanding how the distance influences pilgrims' decisions is fundamental to interpreting their choice between the Portuguese Central and Portuguese Coastal ways. Concretely, the pilgrims who traveled between 141–235 km (β = -1.041, $p < .001$) are significantly less likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to those traveling less than 140 km. In contrast, pilgrims traveling between 236–400 km (β = 2.827, $p < .001$) are more likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to those traveling less than 140 km. Pilgrims traveling more than 400 km (β = 0.967, $p < .001$) also show a preference for the Portuguese Central way, although the effect is smaller compared to the 236–400 km distance group.

To explore how the mode of transportation influences route choice, the analysis considers the coefficients associated with bicycle and other forms of travel compared to walking. For pilgrims traveling by bicycle there is no statistically significant difference in their likelihood of choosing the Portuguese Central way over Portuguese Coastal way (β = -0.016, $p > .685$), suggesting that the mode of travel does not influence route choice. In contrast, pilgrims using other modes of travel (e.g., wheelchair, horse) are significantly less likely to choose the Portuguese Central way over Portuguese Coastal way (β = -0.776, $p < .001$) signaling that the mode of travel is more commonly associated with the Portuguese Coastal way.

Regarding seasonality, pilgrims traveling during the middle season show a very small and non-significant preference for the Portuguese Central way (β = 0.021, $p > .39$), compared to those

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in the high season. Moreover, those traveling during the low season are significantly more likely to choose the Portuguese Central way (β = 0.111, $p < .001$), indicating a clear seasonal effect.

To assess the influence of social interaction on route choice, the model analyzes whether traveling alone or in a group affects the choice of the Portuguese Central over Portuguese Coastal ways. The coefficient for pilgrims traveling in groups (β = 0.018, $p > .469$) is positive but not statistically significant, demonstrating that traveling in a group does not have an impact on likelihood of choosing the Portuguese Central way over the Portuguese Coastal way.

To explore how individual characteristics influence route choice, the model includes key sociodemographic variables, namely gender, age, and employment status. For the gender, the female pilgrims are significantly less likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to male pilgrims (β = -0.138, $p < .001$).

Concerning age, pilgrims aged 18–34 (β = -0.539, $p < .001$) are significantly less likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to those under 18, suggesting a stronger preference among younger adults for the coastal route. A similar, though less pronounced, trend is observed among those aged 35–44 (β = -0.401, $p < .001$). Interestingly, pilgrims in the 45–54 age group show an even stronger negative association (β = -0.583, $p < .001$), further reinforcing the overall pattern. This negative preference persists among older pilgrims as well: those aged 55–64 (β = -0.564, $p < .001$) and over 65 (β = -0.527, $p < .001$) also prefer the Portuguese Coastal way over the Portuguese Central way. These findings highlight age as a significant factor in route selection, with a consistent tendency across all adult age groups to prefer the more experiential and scenic Portuguese Coastal way over the more religiously symbolic Portuguese Central way.

Unemployed pilgrims (β = 0.053, $p > .819$) and retired pilgrims (β = 0.066, $p > .180$) show a slight positive tendency to choose the Portuguese Central way over the Portuguese Coastal way,

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but in both cases the effects are not statistically significant. In contrast, pilgrims from other professional groups (e.g., students, priests, etc.) exhibit a significant negative association ($\beta = -0.629$, $p < .001$), indicating a clear preference for the Portuguese Coastal way compared to employed pilgrims.

Up to this point, the analysis has focused on the direction and significance of the estimated coefficients for each independent variable. However, in the context of logistic regression, marginal effects provide a more intuitive interpretation by estimating the change in predicted probability associated with each independent variable. The following section presents the marginal effects of the statistically significant coefficients from Model III. It is important to note that no changes were observed in the direction or significance levels between the estimated coefficients and their corresponding marginal effects.

Pilgrims with religious motivations exhibit a 0.4% higher propensity to choose the Portuguese Central way. In contrast, the marginal effect of religious or other motivations (secular motivations) decreases the probability of choosing the Portuguese central way by 1.6%.

Regarding the impact of pilgrims' country of origin (nationalities) on route choice, it is observed that German pilgrims exhibit an approximately 9% lower probability of selecting the Portuguese Central way. Spanish pilgrims show an even more pronounced decrease, with a 12.6% lower likelihood of choosing this route. Similarly, Italian pilgrims demonstrate an 8.3% reduction in the probability of opting for the Portuguese Central way. Furthermore, the probability of selecting the Portuguese Central way is reduced by 11.4% for pilgrims from the United States, 10.6% for those from the United Kingdom, 10.4% for pilgrims from the Czech Republic, and 11.3% for pilgrims of other nationalities.

In the case of starting points influencing route choice, it is observed that the starting point in *Tui* have a 54.4% higher probability of choosing the Portuguese Central way. In contrast, for

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those who start in *Vigo* this probability decreases by 10.9%. For starting point from other cities, the probability of choosing the Portuguese Central way increases by 25.4%, indicating a strong preference for this way.

The route length also show a significant influence on pilgrims' route choice, as reflected in the marginal effects for different distance categories. Concretely, pilgrims traveling between 141 and 235 km show a 14.8% lower probability of choosing the Portuguese central way. In contrast, pilgrims traveling between 236 and 400 km have a 29.2% higher probability of choosing the Portuguese Central way, while those traveling more than 400 km exhibit a 13.8% increase in the likelihood of selecting this route.

In the case of the mode of travel, the pilgrims that use other modes of travel (e.g., wheelchair, horse) show an 8.6% lower probability of choosing the Portuguese Central way.

For the seasonality, pilgrims that travel during the low season present a 1.4% higher probability of choosing the Portuguese Central way compared to those traveling during the high season.

In the end, for the sociodemographic characteristics, it is observed that the female pilgrims show a 1.3% lower probability of choosing the Portuguese Central way compared to male pilgrims. In the case of age, all groups above 18 years old show a lower probability of choosing the Portuguese Central way when compared to the reference group (pilgrims under 18). Specifically, the probability decreases by 5.3% for those aged 18–34, 3.9% for 35–44, 5.8% for 45–54, 5.6% for 55–64, and 5.2% for pilgrims over 65 years old. In terms of employment status categories, the pilgrims classified under other employment reveal a 6.9% lower probability of choosing the Portuguese Central way.

To complete this analysis, the Figure *25* presents the ROC curve for the logistic regression model (Model III), evaluating its ability to discriminate between pilgrims who chose the Portuguese Central way and those who opted for the Portuguese Coastal way. The curve

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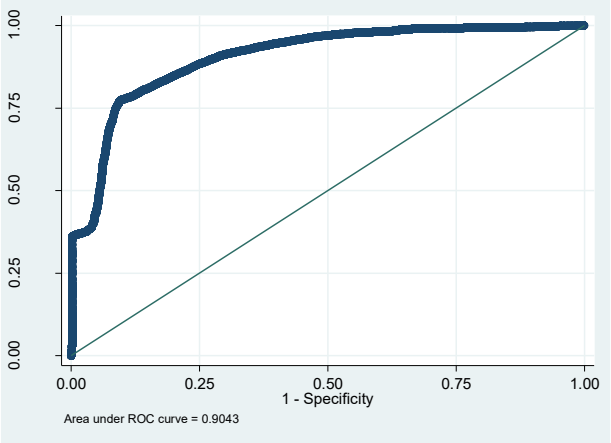
illustrates the trade-off between sensitivity (true positive rate) and 1 - specificity (false positive rate) across different classification thresholds. The area under the curve (AUC) is 0.9043, revealing excellent model performance and high predictive accuracy. The closer the curve approaches the top-left corner, the better the model distinguishes between the two route choices.

Figure 25 Receiver Operating Characteristic (ROC)



Source: Authors' own elaboration based on Pilgrim's Welcome Office dataset

This result supports the robustness and reliability of the model, especially considering the diverse range of predictors included, including motivations, cultural influences, attributes of the way, mode of travel, external factors, group interaction, and demographic variables. The ROC analysis complements other goodness-of-fit indicators, such as the Pseudo R^2 (0.4149), the significant improvement in the Likelihood Ratio Chi-square from 1,232.99 in Model I to 54,279.37 with 31 degrees of freedom in Model III, and the substantial reductions in AIC (from 76,999.05 in Model II to 76,616.93 in Model III) and BIC (from 77,221.38 in Model II to 76,926.26 in Model III). Collectively, these validation metrics reinforce the explanatory strength of Model III in capturing the determinants of route choice among pilgrims on the Portuguese ways.

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CHAPTER 6: DOES RELIGIOSITY AFFECT DECISION-MAKING ON THE PORTUGUESE WAYS?

The previous models examined the influence of various factors, such as route type, travel duration, religious, secular (religious and other motivations) , and cultural motivations, route attributes, external conditions, social interactions, and demographic characteristics, on decision-making between the two routes. The model in the present section offers a holistic perspective on how these factors interact with demographic variables (e.g., age, gender, employment status) and religion within the context of religious tourism. This analysis is particularly relevant when pilgrims are faced with the choice between a more religiously oriented route (Portuguese Central way) and a more tourist alternative (Portuguese Coastal way). Although individual factors have been investigated in isolation, limited research has integrated these diverse dimensions to fully explain the complexity underlying pilgrimage route choices. Addressing this gap is essential for better understanding the preferences and behaviors of different groups of pilgrims (Objective 4). The conceptual model illustrating the relationships between these variables is presented in Figure 26.

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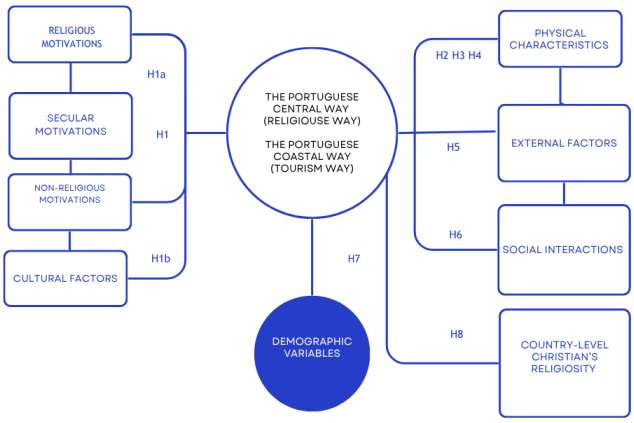
Figure 26 Conceptual Model II



Source: Author's own elaboration

While research has studied the impact of religion on consumer behavior (Weidenfeld & Ron, 2008; Sood & Nasu, 1995; Moschis & Ong, 2011; Agarwala et al., 2019; Mortimer et al., 2020; Al-Amin & Omar, 2023; Sarabdeen, 2024), studies focusing specifically on religious tourism, and particularly on the *Santiago* way, remain limited. Understanding how religious and cultural backgrounds influence pilgrims' choices can provide a better understanding of their preferences and behaviors along these ways. One of the objectives of the models presented in this chapter is to analyze how religious factors, influence pilgrims' decision-making when choosing between the Portuguese ways.

To develop this analysis, the pilgrim's country of origin is incorporated as a higher-level variable within a multilevel model, acknowledging that national religious and cultural contexts may influence motivations and route preferences. While the Portuguese ways were chosen by pilgrims by over 158 nationalities, existing research has not sufficiently explored how country of origin and its associated cultural and religious profiles influence route choice. To address

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this gap, a hierarchical multilevel logistic regression model is applied, with special attention to cross-national variation captured through the multilevel approach.

These models will incorporate multiple independent variables to study their relationship with the choice of pilgrimage ways. These variables include motivations, cultural influence, physical characteristics, social influence, external factors, and demographic variables (as discussed in chapter 5). Additionally, a new variable, country-level Christian religiosity, has been introduced. For this analysis, we used a database comprised of entries from the Pilgrim's Welcome Office dataset and another database from the Pew Research Center (PRC, 2023) which provided estimates for the percentage of Christians in each of the analyzed countries.

6.1 VARIABLES INCLUDED IN THE MODEL

6.1.1 Dependent Variable

The dependent variable in this model represents a binary choice between two ways, the Portuguese Central way and the Portuguese Coastal way.

6.1.2 Independent Variables

These models include all the independent variables from the previous models (Model I, Model II and Model III) and introduce an additional variable, the percentage of Christians in each country represented on the Portuguese ways. This new variable reflects the religious composition of each pilgrim's country of origin. Three categories were considered: group I: < 50% (less than 50% of the Christian population); group II: between 50 and 60% (about 50% and 60% of the Christian population); and group III: > 60% (more than 60% of the Christian population). The thresholds were established according to the distribution of the percentage of Christians per country provided by the Pew Research Center (2023), allowing a balanced representation between low, medium, and high Christian-majority contexts. This categorical

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variable is used to assess the influence of country-level Christian religiosity on pilgrims' route choices.

6.2 TESTING THE EFFECT OF COUNTRY ON THE CHOICE OF THE WAY

Before applying the multilevel binary logistic regression, it is essential to assess whether the data structure is hierarchical, that is, whether there is evidence of dependence between grouped observations and whether there is significant intragroup correlation that justifies the use of a hierarchical (multilevel) model. For this purpose, an analysis of variance (ANOVA) was used. The null hypothesis tested whether there are no significant differences between the means of the different hierarchical levels, in this case, the countries representing cultural influences. The null hypothesis assumes that any observed differences among countries are due only to random variation rather than to a systematic country-level effect (see Table 14).

Table 14 ANOVA for Way and Country

	Sum of Squares (SD)	Degrees of Freedom (df)	Mean Square	F	*p*
Between Country (cultural influences)	216.45	9	24.05	129.94	.001**
Bartlett's test for equal variances: $\mathcal{X}^2$ (9) = 861.2444, p < .001**					

Note: (*), (**), (***) denote significance at the 1%, 5%, and 10% levels, respectively.

Source: Author's own elaboration

The high F-statistic (F (9) = 129.94; p < .001) confirms that the variation between countries is statistically greater than the variation within countries, rejecting the null hypothesis that the means are equal across all groups. This result provides preliminary evidence of between-country variability and justifies testing a hierarchical structure. To further evaluate whether significant variance exists at the group level (level 2), a null model was estimated using multilevel analysis (see Table 15). This step helps to determine whether the use of a hierarchical (multilevel) model is statistically warranted.

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Table 15 Null Model for the Effect of Country

Country	Coefficient	Std. Err.	Z	*p*
Constant	0.756 *	0.019	39.29	.001
Random-effects Parameters	Estimate	Std. Err	95% Conf.	interval
Country: var(cons)	0.003	0.001	0.001	.008
(Residual)	0.185	0.000	0.183	.186
$\mathcal{X}^2$01) = 1104.77 Prob > $\mathcal{X}^2$ $\mathcal{X}^2$ = 0.0000				
Intraclass correlation= 0.0194				

Note: (*), (**), (***) denote significance at the 1%, 5%, and 10% levels, respectively.
Source: Author's own elaboration

The intraclass correlation coefficient (ICC = 0.0194) indicates that 1.94 % of the variance in route choice is explained by differences between nationalities (level 2), suggesting that most of the variance lies within countries (level 1). Although this proportion is modest, the likelihood-ratio test (χ^2 (1) = 1104.77; p < .001) confirms that the multilevel model fits the data significantly better than a standard logistic regression model.

Before moving to the complete hierarchical models, note that the Table 15 represents a preliminary estimation of variance components, whereas the actual null model applied in the multilevel analysis is Model IV, which results from the baseline for the hierarchical logistic regression and from which the country-level predicted probabilities in Table 17 are derived. In Model IV, the variance of the random intercept is $\sigma_u^2 = 0.1273$ and the intraclass correlation coefficient (ICC) equals 0.0372, indicating that 3.72% of the variance in route choice is attributable to differences between countries.

These results confirm that, although most variation occurs at the individual level (within countries), there is sufficient between-country variability to justify the use of a multilevel logistic regression model. Therefore, Table 15 should be interpreted as an exploratory diagnostic, while Model IV (Tables 16 and Table 17) constitutes the true null model and serves as the baseline for comparison with Models V and VI.

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6.3 HIERARCHICAL MULTILEVEL LOGISTIC REGRESSION MODEL

The hierarchical multilevel logistic regression model is an extension of the traditional binary logit model that incorporates random effects to account for variability across hierarchical levels within the data (Yergeau, 2020). In these models, individual pilgrims (level 1) are nested within countries (level 2), allowing for the estimation of both within-country and between-country variation in way choice. The inclusion of random intercepts captures unobserved heterogeneity at the country level, reflecting contextual influences such as national culture or country-level Christian religiosity that may affect individual decision-making. In the context of pilgrimage, this model can help to understand the pilgrim's decision to choose the Portuguese Central way (traditionally more religious) over the Portuguese Coastal way (perceived as a more tourist-oriented).

As mentioned earlier, the sample follows a hierarchical structure in which individual pilgrims (level 1) are nested within countries (level 2), representing distinct cultural influences. The model assumes a discrete binary response variable for each pilgrim's route choice denoted by y_{ic} .This variable takes the value 1 if the individual chooses the Portuguese Central way and 0 if they choose the Portuguese Coastal way.

The hierarchical structure, in which individuals are nested within groups (e.g., pilgrims nested within countries), implies that observations within the same group may be correlated, due to shared common group-level factors or experiences that influence their behavior. The inclusion of random effects allows for the capture of this intra-group correlation and unobserved heterogeneity between groups, resulting in more accurate and reliable estimates of the effects of individual-level variables. Pilgrims from the same country may share cultural, religious, or social characteristics that influence their pilgrimage decisions. A multilevel model with random

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effects accounts for this intra-country correlation and provides more reliable estimates of the factors influencing pilgrimage route choices.

The estimation results are presented in Table 16. Three models were estimated, the first model is the estimation from the null model without explanatory variables (Model IV). Model V includes individual-level predictors (excluding sociodemographic variables) used in Chapter 5. Finally, Model VI incorporates all independent variables along with country-level Christian religiosity.

For each pilgrim *i*, the binary response variable indicating their choice of pilgrimage route is denoted as:

$$y_{ic} = \begin{cases} 1\text{ , if the pilgrim chooses the Portuguese Central way} \\ 0\text{, if the pilgrim chooses the Portuguese Coastal way} \end{cases}$$

The logit functions for this model may be expressed as follows:

$$Logit\,\{P(y_{ic} = 1|x_{ic}, Z_{ic}, u_c)\} = \beta_0 + \beta_1\, x_{ic} + \beta_2 z_{ic} + u_c \qquad (16)$$

Where β_0 is the overall mean, β_1 and β_2 are the fixed parameters associated with individual variables x_{ic} and context variables z_{ic}. The random constant for each country, u_c , follows a normal distribution with a zero mean and a residual variance between the groups, σ_u^2, u_c ~N $(0, \sigma_u^2)$ (Campos-Soria et al., 2021).

Model IV is the null (intercept-only) model, a base model that excludes individual explanatory variables and is used to verify whether the constant for each country *(c)* varies randomly.

The model specification is:

$$y_{ic} = \beta_0 + u_c + \varepsilon_{ic} \qquad (17)$$

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Where β_0 the overall mean log-odds of choosing the Portuguese Central way. u_c the random intercept for country c, capturing unexplained variation at the national level.

In the second model, Model V, focuses on motivations and route attributes. This model allows for testing Hypothesis 1 (H_{1ab}). The equations with individual and country-level effects is:

$$y_{ic} = \beta_0 + \beta_1 religious\ motivations + \beta_2 secular\ motivations + \beta_3 non\ religious\ motivations + \beta_4 start\ point + \beta_5\ route\ length + \beta_6\ mode\ of\ travel + \beta_7\ external\ factors + \beta_8\ social\ Interactions + u_c + \varepsilon_{ic} \quad (18)$$

Model VI introduces all variables, including sociodemographic and country-level Christian religiosity, and is used to test hypotheses H_2 through H_8. The equations are:

$$y_{ic} = \beta_0 + \beta_1 religious\ motivations + \beta_2 secular\ motivations + \beta_3 non-religious\ motivations + \beta_4 start\ point + \beta_5\ route\ length + \beta_6\ mode\ of\ travel + \beta_7\ external\ factors + \beta_8\ social\ interactions + \beta_9\ country-level\ Christian's\ religiosity + \beta_{10}\ gender + \beta_{11}\ age + \beta_{12}\ employment\ status + u_c + \varepsilon_{ic} \quad (19)$$

The results of the estimated models, as previously described, are presented below (see Table 16). In relation to fit indicators between Models IV and V results suggest that without the independent variables, there is statistically significant variation between countries in pilgrims' likelihood of choosing the Portuguese Central way (log-likelihood=-64,861.652). Approximately 3.72% of the total variance in route choice is explained by country-level differences, as reflected in the ICC value. The χ^2 test statistic (1,111.79) is a likelihood-ratio (LR) test that compares the mixed-effects logistic regression model (with random effects) to a standard logistic regression model (without random effects). The significant test result confirms

that including random effects for nationality (cultural influence) substantially improves the model fit, thus validating the multilevel specification. The country-level variance component from the model (σ_u^2 = 0.127) represents the random intercept across countries. This value reflects substantial variation in the average probabilities of choosing the Portuguese Central way among different nationalities, thereby justifying the inclusion of random effects at the country level. For this model (Model IV), the intercept coefficient (β_0 = 1.1667) reveals that the average predicted probability of a pilgrim choosing the Portuguese Central way over the Portuguese Coastal way is approximately 76.3%[4].

The comparison between the null model (Model IV) and model V reveals an improvement in model fit after the inclusion of explanatory variables, as evidenced by lower AIC and BIC values. This model introduces the independent variables (as described in the model equations). The improvement in log-likelihood (from -64,861.652 to -29,651.99) and the decrease in AIC (Model IV: 129,727.3; Model V: 59,331.99, and BIC (Model IV: 129,746.6; Model V: 59,465.92) values suggest an improvement in model fit. The χ^2 value of 1143.64 ($p < .001$) further confirms that this model fits the data significantly better than the null model. The variance of the random intercept increases (from 0.1273 to 0.1999) and the ICC also increases to 5.7%. In Model IV, which does not include any explanatory variables, the country-level variance is σ^2_u = 0.1273. In contrast, Model V incorporates individual-level predictors, such as motivations, distance, and travel mode. Interestingly, the country-level variance increases to σ^2_u = 0.1999.

[4] Odds=e^{β_0}=$e^{3.211622}$=0.7626

Considering now the results of the independent variables, it can be observed that the pilgrims with religious motivations are significantly more likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to those with non-religious motivations ($\beta = 0.2112$; $p < .001$). In contrast, pilgrims who combine religious and secular motivations are significantly less likely to choose the Portuguese Central way ($\beta = -0.1520$; $p < .001$).

Furthermore, the starting point emerges as a relevant factor in explaining pilgrims' route choices. Taking *Porto* as the reference category, the estimates indicate that departures from other locations are significantly associated with the likelihood of choosing the Portuguese Central way over the Portuguese Coastal way. Pilgrims whose starting point is *Tui* are significantly more likely to choose the Portuguese Central way over the Portuguese Coastal way ($\beta = 1.5192$, $p < .001$). On the other hand, those who begin their journey at other starting points exhibit a negative and statistically significant coefficient ($\beta = –5.4801$, $p < .001$), indicating a substantially lower probability of choosing the Portuguese Central way over the Portuguese Coastal way.

In relation to the analysis of route length, it is observed that there is a pattern in pilgrims' choices. Taking distances under 140 km as the reference category, the results suggest that longer distances are positively and significantly associated with the choice of the Portuguese Central way over the Portuguese Coastal way. Pilgrims covering between 141–235 km ($\beta = 0.0831$, $p < .001$), 236–400 km ($\beta = 0.1473$, $p < .001$), and over 400 km ($\beta = 0.1220$, $p < .001$) are more likely to decide for the Portuguese Central over the Portuguese Coastal ways.

Moreover, the differences in the significance of travel mode coefficients suggest that this factor influences route choice. Using walking as the reference category, traveling by bicycle is associated with a positive and statistically significant coefficient ($\beta = 0.4455$, $p < .001$), suggesting a higher likelihood of choosing the Portuguese Central way over the Portuguese

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Coastal way. In contrast, pilgrims categorized under other modes of travel present a negative and statistically significant coefficient (β = –0.4800, $p < .001$), denoting a lower probability of selecting the Portuguese Central way over the Portuguese Coastal way.

When examining seasonality as an external factor, the results suggest variation in route preference across different times of the year. Compared to the high season (reference category), choosing the Portuguese Central way is less likely during the middle season, as evidenced by the negative and statistically significant coefficient (β = –0.0821, $p < .001$). Meanwhile, the coefficient for the low season (β = 0.0161, $p > .600$) is not statistically significant.

Finally, the pilgrims who travel in groups are more likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to those who travel alone (β = 0.0466, $p < .001$).

Next, model VI is evaluated, which includes all the variables from the previous model and incorporates the country-level Christian religiosity and characteristics of the pilgrims, such as age, gender and professional status. Furthermore, the comparison between Models V and VI reveals a substantial improvement in the fit of the latter. Model VI presents a higher log-likelihood value (–29,397.06) compared to Model V (–29,651.99), indicating a better fit to the data. This improvement is confirmed by the information criteria AIC (58,844.13 vs. 59,331.99) and BIC (59,083.29 vs. 59,465.92), both lower in Model VI, suggesting greater parsimony and statistical adequacy. The Wald χ^2 test demonstrates that Model VI has greater explanatory power (11,078.40) than Model V (10,708.27). Although the random intercept variance (σ^2_μ) and the ICC slightly decrease (from 0.199 to 0.189 and from 5.7% to 5.4%, respectively), this supports the conclusion that Model VI was able to explain an additional portion of the variance attributed to higher-level factors (country-level Christian religiosity). In Model VI, which includes all the independent variables and country-level predictors, the variance slightly decreases to $\sigma^2_u = 0.189$. This reduction suggests that the addition of contextual variables helps

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to account for some of the between-country variability associated with Christian religiosity that remained unexplained in Model V.

These results confirm that the Model VI is the best fitting model. Following this, the effects of independent variables included in Model VI are then presented, beginning with an analysis of motivations.

Using non-religious motivation as the reference category, the coefficient for religious motivation is positive and statistically significant (β =0.1693, $p < .001$). This result provides evidence that pilgrims with religious motivations are more likely to choose the Portuguese Central way, over the Portuguese Coastal way. In turn, pilgrims with non-religious and other motivations (secular motivations) have a negative and statistically significant coefficient (β =–0.1524, $p < .001$), which means they are more likely to prefer the Portuguese Coastal way over the Portuguese Central way.

Regarding the starting point of the ways, choosing the city of *Tui* is associated with a positive and statistically significant coefficient (β = 1.5239, $p < .001$), meaning that pilgrims who start in *Tui* are more likely to choose the Portuguese Central way over the Portuguese Coastal way. In contrast, starting the route from other locations is associated with a strong negative and statistically significant coefficient (β = –5.5128, $p < .001$), meaning that pilgrims departing from alternative starting points are much less likely to choose the Portuguese Central way over the Portuguese Coastal way.

Taking into account the effect of route length on pilgrims' likelihood of choosing the Portuguese Central way, and using routes shorter than 140 km as the reference category, distances between 141 and 235 km present a positive and statistically significant coefficient (β = 0.0862, $p < .001$), which implies that pilgrims on moderately longer routes have an increased tendency to opt for this way. Similarly, routes between 236 and 400 km show an even stronger positive effect

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($\beta = 0.1512$, $p < .001$), while distances greater than 400 km also present a significant association ($\beta = 0.1172$, $p < .001$), reinforcing the tendency that those undertaking longer pilgrimages are more inclined toward the Portuguese Central way compared to the Portuguese Coastal way.

Concerning the mode of travel, the model reveals significant differences in route choice based on how pilgrims undertake their journey. Taking walking as the reference category, choosing to travel by bicycle are associated with a positive and statistically significant coefficient ($\beta = 0.3735$, $p < .001$), which implies that this mode of pilgrimage is more likely to prefer the Portuguese Central way over the Portuguese Coastal way. However, pilgrims who opt for other modes of travel (e.g., horseback, wheelchair) yield a negative and statistically significant coefficient ($\beta = –0.4634$, $p < .001$), indicating a reduced likelihood of choosing the Portuguese Central way.

The timing of the pilgrimage throughout the year also emerges as a relevant external factor. Taking high season as the reference category, traveling during the middle season is associated with a negative and statistically significant coefficient ($\beta = –0.0654$, $p < .001$), implying that pilgrims walking during this period are slightly less likely to choose the Portuguese Central way over the Portuguese Coastal way. In contrast, the coefficient for low season ($\beta = 0.0249$; $p >.600$) is positive but not statistically significant, suggesting no meaningful difference in route preference when compared to the high season.

Regarding social interactions during the pilgrimage, they were also examined as a potential factor influencing route choice. In the Model V, traveling in a group rather than individually was associated with a positive and statistically significant coefficient ($\beta = 0.0466$, $p < .001$), to choose the Portuguese Central way. However, in the Model VI (the multilevel model), this effect is no longer statistically significant. This result implies when country-level Christian

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religiosity and demographic factors are included, the influence of social interaction on route choice becomes statistically non-significant

Finally, the country-level Christian religiosity was included in the multilevel model to examine whether the broader religious context influences pilgrims' route choices. Using countries with less than 50% country-level Christian religiosity as the reference category, the coefficient for countries with 50% to 60% country-level Christian religiosity is positive but not statistically significant ($\beta = 0.1185$, $p > .525$), implying that this variable does not significantly influence route choice. For countries with more than 60% country-level Christian religiosity. The result of the coefficient is negative and also not statistically significant ($\beta = -0.0141$, $p > .865$) suggesting that there is no statistically significant evidence of an effect of higher country-level Christian religiosity on the likelihood of choosing the Portuguese Central way.

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Table 16 Estimates of Multilevel Binary Logistic Regression, Pilgrims on the Portuguese Ways, in 2022

	Null model Model IV Coefficients (Marginal Effects)	Multilevel with individual variables Model V Coefficients (Marginal Effects)	Multilevel with individual Variables Model VI Coefficients (Marginal Effects)
Intercept	1.1667**	4.7659 **	5.551**
		Motivations	
Non-religious Motivation: (Ref.)			
Religious Motivations	-	0.2112 ** (0.0210) **	0.1693 ** (0.0167) **
Religious Motivation and Others (Secular Motivations)	.	-0.1520 ** (-0.0144) **	-0.1524 ** (- 0.0144) **
		Attributes of the way	
Starting point			
Porto (Ref.)			
Tui	-	1.5192 ** (0.0060) **	1.5239 ** (0.0060) **
Vigo	-	-	-
Others	-	- 5.4801 ** (-0.6398) **	-5.5128 ** (-0.6371) **
		Route Length (Distance)	
< 140 (Ref.)			
141-235	-	0.0831 ** (0.0080) **	0.0862 ** (0.0082) **
236-400	-	0.1473 ** (0.0143) **	0.1512 ** (0.0146) **
>400	-	0.1220 ** (0.0118) **	0.1172 ** (0.0113) **
		Mode of travel	
Walking (Ref.)			
Bicycle	-	0.4455 ** (0.0452) **	0.3735 ** (0.0373) **
Others	-	-0.4800 ** (-0.0430) **	- 0.4634 ** (-0.0415) **
		External Factors	
Seasonality			
High season (Ref.)			
Middle season	-	-0.0821 ** (0.0080) **	-0.0654 ** (-0.0063) **
Low season	-	0.0161 (-0.0011)	0.0249 (0.0024)
		Social Interactions	
Individual (Ref.)			
Group	-	0.0466 *** (0.0044) ***	0.0112 (0.0010)

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Table 16 Estimates of Multilevel Binary Logistic Regression, Pilgrims on the Portuguese Ways, in 2022 (continuation)

	Null model Model IV Coefficients (Marginal Effects)	Multilevel with individual variables Model V Coefficients (Marginal Effects)	Multilevel with individual Variables Model VI Coefficients (Marginal Effects)
Country-level Christian religiosity			
< 50% (Ref.)			
Between 50% to 60 %	-	-	0.1185 (0.0116)
>60%	-	-	-0.0141 (-0.0013)
Control Variables			
Demographic variables			
Gender (Ref: Male)	-	-	-0.2366 ** (-0.0229) **
Age			
< 18 years Old (Ref.)			
18 – 34 years old	-	-	-0.6130 ** (-0.0621) **
35 – 44 years old	-	-	-0.5221 ** (-0.0533) **
45 – 54 years old	-	-	-0.6845 ** (-0.0689) **
55 – 64 years old	-	-	-0.5913 ** (-0.0600) **
> 65 years old	-	-	-0.5313 ** (-0.0542) **
Employ Status (Ref.)			
Unemployed	-	-	-0.0273 (-0.0026)
Retirees	-	-	0.0036 (0.0003)
Others	-	-	-0.7444 ** (-0.0642) **
Variance of Random effects			
Log-Likelihood	-64,861.652	-29,651.99	-29,397.06
χ^2(01)	1,111.79	1,143.64	1,023.06
Prob>=χ^2	0.000	0.000	0.0000
Wald χ^2	-	10,708.27	11,078.40
Cultural influence: Var(constant) σ_u^2	0.1273	0.1999	0.189
ICC	0.0372	0.057	0.054
AIC	129,727.3	59,331.99	58,844.13
BIC	129,746.6	59,465.92	59,083.29
Number of groups	10	10	10

Note 1: The dependent variable has been defined as 1 if the pilgrims choose the Portuguese Central way and 0 if the pilgrims choose the Portuguese Coastal way.
Note 2: (*), (**), (***) denote significance at the 1%, 5%, and 10% levels, respectively
Note 3: Likelihood Ratio Chi-Square (LR χ^2)
Note 4: Akaike Information Criterion (AIC)
Note 5: Bayesian Information Criterion (BIC)
Note 6: not computed

Source: Author's own elaboration based on Pilgrim's Welcome Office dataset and Pew Research Center, 2023

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To complement the interpretation of the multilevel logistic regression results, average marginal effects (AMEs) were estimated to assess the practical impact of each predictor on route choice. The interpretation focuses on Model VI, as it represents the best-fitting specification and maintains consistent coefficient directions and significance levels across all previous models.

The average marginal effects (AMEs) for religious motivation reveal that pilgrims with such motivations are 1.67% more likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to those with non-religious motivations. Pilgrims with religious and other motivations (secular motivations) are 1.44% less likely to choose the Portuguese Central way over the Portuguese Coastal way, compared to the non-religious pilgrims.

In relation to the place where pilgrims begin, those who start in *Tui* are 0.60% more likely to choose the Portuguese Central way than those departing from *Porto.* Pilgrims departing from other locations are 63.71% less likely to choose the Portuguese Central way, compared to those starting in *Porto*.

In addition to the starting point, the length of the route also has an impact on pilgrims' route choice. For pilgrims undertaking routes between 141 and 235 km, the probability of choosing the Portuguese Central way over the Portuguese Coastal way increases by 0.82%, compared to those walking shorter distances. This likelihood rises further to 1.46% for those walking between 236 and 400 km. Similarly, pilgrims covering more than 400 km are 1.13% more likely to choose the Portuguese Central way over the Portuguese Coastal way, relative to the shortest distance group.

In relation to the travel mode, pilgrims who travel by bicycle are 3.73% more likely to choose the Portuguese Central way over the Portuguese Coastal way compared to those who travel on foot. In contrast, those who use another mode of travel are 4.15% less likely to choose the Portuguese Central way over the Portuguese Coastal way.

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Among external factors, seasonality also appears to influence route choice. Taking the high season as the reference category, the pilgrims who travel during the middle season are 0.63% less likely to choose the Central Portuguese way over the Portuguese Coastal way, compared to those walking in the high season.

Regarding social interactions, the pilgrims who travel in group are 0.10% more likely to choose the Portuguese Central way over the Portuguese Coastal way compared to those who travel alone.

Given the sociodemographic characteristics of the pilgrims, the female pilgrims are associated with a 2.29% lower probability of choosing the Portuguese Central way over the Portuguese Coastal way, compared to male pilgrims. For age groups, pilgrims over 18 are less likely to choose the Portuguese Central way compared to those under 18. The likelihood decreases by 6.21% for 18–34, 5.33%, for 35–44, 6.89%, for 45–54, 6.00%, for 55–64, and 5.42% for those 65 and older. For employment status, the others category is 6.42% less likely to select the Portuguese Central way over the Portuguese Coastal way compared to employed pilgrims.

In multilevel logistic regression models, country-level random intercepts capture unobserved cultural influences on pilgrims' choice between the Portuguese Central and Portuguese Coastal ways. These intercepts represent how much the average log-odds of choosing the Portuguese Central way differ across countries from the overall mean, after accounting variability in individual-level variables. The following tables (Table 17, Table 18, and Table 19) present the estimated country-level random intercepts (u_c) and the predicted probabilities of choosing the Portuguese Central way across the three models.

In model IV, the intercept for countries varies randomly according to the following specification:

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$$logit\ (P_{ic}) = \beta_0 + u_c = 1.1667 + u_c \quad (21)$$

The P_{ic} represents the probability that pilgrims *i* and in country, *c* , choose the Portuguese Central way. The coefficient β_0 is the overall intercept, representing the population's mean in log-odds, and u_c is the random intercept for country *c,* capturing the deviation of each country from the overall mean (level-2 random effect). The estimated intercept ($\beta_0 = 1.1667$) represents the overall log-odds of choosing the Portuguese Central way across all countries when the country-level random effect (u_c) equals zero. This corresponds to the average tendency of pilgrims, regardless of their country of origin, to choose the Portuguese Central way. A positive value of β_0 indicates that, on average, pilgrims are more likely to choose the Portuguese Central way than the Portuguese Coastal way.

The results presented in Table 17 reveal clear differences among pilgrims' nationalities in the likelihood of choosing the Portuguese Central way. Pilgrims from Portugal exhibit the highest tendency among the main countries analyzed to choose the Portuguese Central way, with a predicted probability of 80.3% and a relatively high positive random effect (u_c=0.244) associated with a log-odds of 1.410 (e.g. $\widehat{Portugal}$ =1.1667+0.2441566 = 1.410933). This reflects a strong local preference for the traditional way. Brazilian and Netherlands pilgrims present the highest predicted probabilities (84.8% and 85.9%, respectively), with corresponding random effects of 0.558 and 0.645, reflecting strong cultural or religious affinities with the Portuguese Central way. Germany and Spanish pilgrims fall near the model average, with predicted probabilities of 76.6% and 76.8%, and small positive random effects (u_c = 0.019 and u_c = 0.030), indicating alignment with the overall trend. In contrast, pilgrims from Italy and the United Kingdom exhibit lower predicted probabilities (71.7% and 70.4%, respectively), and negative random effects (u_c=−0.235 and u_c = −0.297) yielding comparatively lower preference

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for the Portuguese Central way compared to the average. Finally, pilgrims from the Czech Republic and Other Countries present slightly lower probabilities, 71.9% and 69.5%, with u_c = −0.227 and u_c =−0.341, with modest negative random effects, indicating some deviation from the overall trend.

Table 17 Predicted Probabilities and Country-Level Random Intercepts (Model IV – Null Model)

Predicted Probabilities and Country-Level Random Intercepts			
Country of Origin	Predicted Probabilities	Country-Level Random Intercept (u_c)	Log-Odds
Portugal	0.803	0. 244	1.410
Germany	0.766	0.019	1.186
Spain	0.768	0.030	1.197
Italy	0.717	-0.235	0.931
United Kingdom	0.704	-0.297	0.869
Brazil	0.848	0.558	1.725
Netherlands	0.859	0.645	1.812
United States	0.683	-0.396	0.770
Czech Republic	0.719	-0.227	0.939
Other Country	0.695	-0.341	0.825

Author's own elaboration

Table 18 summarizes the predicted probabilities and country-level random intercepts derived from the fully specified multilevel logistic regression model (Model V). In this model, the predicted probabilities of choosing the Portuguese Central way are high across all countries, ranging from 98.4% to 99.5%. This reflects the strong influence of individual-level variables included in the model, which substantially improves the model's predictive power and reduces between-country variability. Thus, pilgrims from Portugal display one of the highest predicted probabilities (99.5%), with a strong positive random effect (u_c=0.718) and a log-odds of 5.484, suggesting a very strong preference for the Portuguese Central way and confirming national proximity and cultural affinity. Brazilian pilgrims have a similarly high predicted probability (99.5%) with a random effect of 0.639, indicating a strong cultural or spiritual alignment with the Portuguese Central way. German pilgrims follow closely with a predicted probability of

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98.6% and a positive random effect (0.461), maintaining a strong preference toward the Portuguese Central way even after accounting for all individual level variables. Pilgrims from Spain, Italy, and the United Kingdom exhibit predicted probabilities around 99.0% with small negative random effects (between -0.060 and -0.136). These results reveal slightly below average log-odds but still a very high likelihood of choosing the Portuguese Central way. Among all countries, the Czech Republic (98.4%) and Germany (98.6%) have the lowest predicted probabilities, with negative random intercepts (u_c = −0.6367 and u_c = −0.461), suggesting moderate deviation from the mean but still a dominant preference for the Portuguese Central way. Finally, other countries are also below average with a predicted probability of 98.9% and a negative random effect (u_c=−0.229).

Table 18 Predicted Probabilities and Country-Level Random Intercepts (Model V)

Predicted Probabilities and Country-Level Random Intercepts			
Country of Origin	Predicted Probabilities	Country-Level Random Intercept (u_c)	Log-Odds
Portugal	0.995	0.718	5.484
Germany	0.986	-0.461	4.304
Spain	0.990	-0.067	4.698
Italy	0.991	-0.060	4.705
United Kingdom	0.990	-0.136	4.628
Brazil	0.995	0.639	5.405
Netherlands	0.994	0.516	5.282
United States	0.988	-0.281	4.484
Czech Republic	0.984	-0.6367	4.129
Other Country	0.989	-0.229	4.536

Author's own elaboration

Finally, Table 19 presents the predicted probabilities and country-level random intercepts estimated in Model VI. The predicted probabilities are high for all countries, ranging from 0.992 (Czech Republic) to 0.998 (Portugal and Brazil). This implies that most pilgrims across nationalities have a strong probability of choosing the Portuguese Central way over the Portuguese Coastal way. Pilgrims from Portugal (u_c= 0.715) and Brazilians (u_c= 0.678) display

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the highest positive intercepts, indicating that pilgrims from these countries have a stronger-than-average likelihood of choosing the Portuguese Central way. Conversely, pilgrims from the Czech Republic (u_c= –0.603), Germany (u_c= –0.434), and the United States (u_c= –0.266) have negative intercepts, reflecting a relatively lower probability of choosing the Portuguese Central way.

Table 19 Predicted Probabilities and Country-Level Random Intercepts (Model VI)

Predicted Probabilities and Country-Level Random Intercepts			
Country of Origin	Predicted Probabilities	Country-Level Random Intercept (u_c)	Log-Odds
Portugal	0.998	0.715	6.266
Germany	0.994	-0.434	5.116
Spain	0.995	-0.115	5.435
Italy	0.995	-0.051	5.500
United Kingdom	0.995	-0.134	5.416
Brazil	0.998	0.678	6.229
Netherlands	0.997	0.428	5.979
United States	0.994	-0.266	5.284
Czech Republic	0.992	-0.603	4.947
Other Country	0.995	-0.214	5.336

Author's own elaboration

In conclusion, in the null model (Model IV), nationality plays an important role in determining the probability of choosing the Portuguese Central way, with predicted probabilities ranging from 69.5% to 85.9%. This model highlights significant differences between countries, with pilgrims from Portugal, Brazil, and the Netherlands exhibiting higher preferences, while pilgrims from the Czech Republic, the United Kingdom, and Italy indicate comparatively lower probabilities. Additionally, Model V incorporates individual-level explanatory variables, including motivations, route attributes, seasonality, and social interaction, resulting in a considerable increase in the average predicted probabilities (from 98.4% to 99.5%) across all countries. The inclusion of these variables explains much of the previously observed variation, suggesting that individual motivations, route attributes, and experiential factors are the main determinants of route choice.

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Finally, Model VI expands the analysis by incorporating sociodemographic characteristics and the country-level Christian religiosity of the pilgrims' country of origin. This model further refines the estimates, maintaining consistently high average predicted probabilities (from 99.2% to 99.8%) and slightly adjusting the random effects across countries. Although these probabilities are close to one, they represent aggregated mean probabilities at the country level, reflecting the model's improved fit and stability rather than perfect prediction. The highest positive deviations remain associated with pilgrims from Portugal and Brazil, supporting the role of country-level Christian religiosity and cultural influence in the preference for the Portuguese Central way. On the other hand, countries such as the Czech Republic, Germany, and the United States continue to reflect below-average preferences, implying that even after controlling for individual and structural variables, national and cultural identity still exerts influence. Taken together, this hierarchical modeling confirms that while route choice is largely shaped by individual motivations and travel attributes, sociodemographic profiles, together with broader cultural and religious contexts, also play a meaningful role in explaining differences in pilgrims' decisions.

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CHAPTER 7: DISCUSSION, CONCLUSIONS, CONTRIBUTIONS, LIMITATIONS AND FUTURE RESEARCH

7.1 DISCUSSION

After estimating and interpreting the logistic regression and multilevel logistic regression models, this chapter discusses the implications of the results considering the research objectives and hypotheses. It presents discussion, conclusions, contributions, limitations, and future research.

The study aims to understand the role played by individual motivations, cultural influence, attributes of the way, external factors, social interactions, sociodemographic characteristics, and country-level Christian religiosity jointly influence the decision-making processes of pilgrims. More specifically, the analysis investigates whether these factors influence the choice between two distinct pilgrimage routes: the Portuguese Central way, typically regarded as more traditional and religious, and the Portuguese Coastal way, which has gained popularity among pilgrims with more secular or touristic motivations. Despite growth in research on pilgrimage tourism, few studies analyze how religious, secular, and non-religious motivations, together with cultural background, affect pilgrims' route choices. This study helps fill that gap.

The following section presents the validation of the proposed hypotheses, supported by the results obtained from the analyses.

7.1.1 Motivations play a central role in Pilgrims' Route Choice

The first objective was to develop a model that examines the relationship between religious, non-religious, and secular motivations, as well as cultural influences, in destination choices within the context of religious tourism. This objective corresponds to Hypothesis 1 (H_1a), which proposes that these factors significantly influence the choice between a more religiously oriented pilgrimage route (Portuguese Central way) and a more tourism-oriented route

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(Portuguese Coastal way). The hypothesis is largely supported by the results, particularly in Models II, III, V and VI, although Model I does not show a statistically significant effect for religious motivations. Results from Models II, III, V, and VI, indicate that **religious motivations have a positive and statistically significant effect on the likelihood of choosing the Portuguese Central way,** whereas **secular motivations are negatively associated with this choice**. This means that pilgrims whose main reasons for traveling are religious or spiritual, such as devotion, prayer, or fulfilling a vow, are more likely to choose the traditional and symbolically sacred Portuguese Central way. In contrast, those with secular or tourism related motivations tend to prefer the Portuguese Coastal way, which offers a more leisure or tourism oriented. These findings reflect a broader trend in contemporary pilgrimage. While some pilgrims prioritize personal religious experiences, often integrating traditional spiritual elements, others are driven by secular motivations, cultural tourism or interest in historical sites. The non-significance of religious motivations in Model I suggests that, when route choice is analyzed without controlling for sociodemographic and contextual factors, their effect is diluted. Once these factors are included (Models II, III, V and VI), the underlying association becomes clearer.

Because the terms *secular* and *cultural* appear frequently in literature and among pilgrims, a conceptual distinction is needed. Secular motivations refer to non-religious reasons such as leisure, physical well-being, tourism, or escape. Cultural motivations are a subset of secular motivations focused specifically on heritage, history, art, or identity. While all cultural motivations are secular, not all secular motivations are cultural. A pilgrim may, for instance, be motivated to walk the way due to an interest in medieval history, monuments, or local traditions, without necessarily seeking transcendence or spirituality. This distinction enables a more nuanced understanding of the diversity of pilgrims' experiences and reinforces the idea that the

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way is now a plural space, where religious, spiritual, cultural, and tourist dimensions coexist. These findings emphasize the complex and multifaceted nature of pilgrimage decision-making, reinforcing the notion that religious tourism is not defined solely by faith. Different types of motivations, religious, secular, or a combination of both, appeal to distinct segments of visitors resulting in diverse experiences (Nolan & Nolan, 1992; Bond & Ballantyne, 2015).

Empirical research on the *Santiago* ways confirms this complexity. Studies identify motivations such as spiritual and religious goals, physical challenge, cultural interest, reflection, escape from routine, social interaction, novelty seeking, discovery, and non-religious personal meaning (Schnell & Pali, 2013; Lopez, 2014; Kim et al., 2016; Nilsson & Tesfahuney, 2016; Amaro et al., 2018; Farias et al., 2019; Casais & Sousa, 2020; Lienau et al., 2022), sensation seeking, life direction, a sense of community (Oviedo et al., 2014; Nelson-Becker et al., 2023), historical or cultural interest, and gratitude (Nelson-Becker et al., 2023).

In studies focused on the Portuguese ways, new motivations are evident. Gomes et al. (2019) identified two main clusters of motivations: 1. secular motivations, which include the desire to escape, personal renewal, communication, cultural knowledge, and social interactions. 2. religious-spiritual motivations, such as the seeking sacred meaning, spiritual purification, closeness to God, and the fulfillment of vows or promises. For Castro-Fernández et al. (2016), the cultural and scenic appeal of the route was their main reason for these ways. Other reasons included lower levels of congestion, a pleasant atmosphere, clear signage, quality accommodation, and the route's traditional character or familiarity.

Given the multiple motivations observed in pilgrimage, some authors have proposed typologies to better categorize different types of pilgrims, such as the division between pilgrims, hikers, and tourists (Padin et al., 2016), or between devotional pilgrims, spiritual seekers, and accidental tourists (Finney et al., 2009). The preference of secular and hybrid profiles for the

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Coastal way also reinforces the idea of convergence between tourism and religious practices, as previously suggested by Lois-González and Santos (2015); Lopez et al. (2017), and Santos (2022).

These profiles align with the patterns in Models V and VI. Religious motivation predicts the Portuguese Central way. Mixed motivations predict the Coastal way, indicating a more experience-oriented profile. This interpretation aligns with recent classifications that blend spiritual and secular motivations. More recently, Brumec et al. (2023) refined this categorization by organizing motivations into three types: (1) religious (e.g., prayer, learning, community); (2) spiritual (e.g., self-discovery, inner peace, existential clarity); and (3) secular or secular-spiritual (e.g., cultural curiosity, novelty, nature appreciation, and social interaction). For instance, Model VI demonstrated that purely religious motivations significantly increase the likelihood of selecting the Portuguese Central way, reinforcing Brumec's "religious" category. Meanwhile, pilgrims with mixed motivations (religious and secular) showed a consistent and significant preference for the Portuguese Coastal way, aligning with the "secular-spiritual" or "tourist" categories. These empirical patterns underscore the heterogeneity of pilgrimage profiles and validate the theoretical typologies proposed in recent literature. Finally, several authors have pointed to the growing convergence between tourism and pilgrimage. Lopez et al. (2017) argue that both pilgrims and tourists interpret their experiences through internal spiritual dimensions, even when motivations differ. According to Santos (2022), the *Santiago* ways exemplify this fusion, where traditional religious routes are increasingly framed by modern tourist practices. This interpretation aligns with previous research (Lois-González & Santos, 2015), who emphasize that the success of the *Santiago* pilgrimage lies precisely in its capacity to blend classical spiritual elements with contemporary tourist appeal. The diversity of motivations among pilgrims on the Portuguese ways is also reflected in their behavior

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profiles (Ambrósio et al., 2019). These authors distinguish two main types of walkers: tourist walkers and pilgrim-walkers. According to their findings, tourist walkers tend to seek more comfort at the end of their walking day, preferring accommodation with greater amenities. In contrast, pilgrim walkers often value staying in basic pilgrim hostels, which offer more modest conditions in line with the traditional spirit of pilgrimage.

The preferences of each group extend beyond accommodation. For pilgrim walkers, the most important aspects include: (1) routes that follow nature trails or rural paths, (2) safety and security, (3) availability of pilgrim menus in restaurants, (4) a warm welcome and support from locals, and (5) access to cooking facilities. Tourist walkers also prioritize rural or scenic trails and safety but place more value on (1) high-quality gastronomy, (2) conservation of built heritage, such as churches and oratories, and (3) services like luggage transfer between overnight stops.

This segmentation reflects a broader trend in how pilgrimage is increasingly framed within the context of spiritual tourism, rather than as a simple return to traditional religious practice. As Moulin-Stożek, (2019) points out, the growing popularity of walking pilgrimages to *Santiago de Compostela* across northern Spain reveals a shift toward more individualized and experience-based spiritual journeys.

In the context of this study, motivations were categorized as religious, non-religious, and secular (i.e., a combination of both). Overall, the results of this thesis confirm that, in the context of the Portuguese ways, **motivations play a central and structuring role in route choice**.

7.1.2 Cultural and National Influences on Route Choice

One of the main objectives of this thesis was to examine how cultural background, proxied by nationality, influences pilgrims' destination choices. The results of Models I, II and III provide empirical support for the idea that **nationality significantly affects preferences when**

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choosing between the Portuguese Central way (more religious) and the Portuguese Coastal way (more tourism-oriented), thereby confirming Hypothesis 1 (H_1b).

Across these models, most international pilgrims demonstrate a marked preference for the Portuguese Coastal way. In the simplest specification (Model I), Brazilian and Dutch pilgrims appear slightly more likely to choose the Portuguese Central way than Portuguese pilgrims. However, once route attributes and other controls are included (Models II and III), these differences lose significance or even reverse sign, confirming that the general pattern is a stronger preference for the Portuguese Coastal way among most international pilgrims. Trend may reflect the tourism-oriented nature of the route as it offers a broader cultural experience.

In 2022, the Portuguese *Santiago* ways were undertaken by pilgrims from a wide range of nationalities. From the perspective of cultural influence (proxied by country of origin), the results obtained across the three logistic regression models (Model I, Model II, and Model III), reveal a consistent and robust pattern regarding the influence of nationality on the choice between the Portuguese Central way and the Portuguese Coastal way. **Most nationalities display negative coefficients, indicating a lower probability of choosing the Portuguese Central way when compared to Portuguese pilgrims.**

These findings suggest that geographic proximity to *Santiago de Compostela* is associated with a higher likelihood of choosing the Portuguese Central way. In contrast, pilgrims from countries, including United States, Italy, or Czech Republic, tend to choose the Portuguese Coastal way, possibly influenced by secular or non-religious motivations. These results are consistent with the findings of Silva Lopes et al. (2025), who identified two distinct segments of pilgrims on the Portuguese Central way. The first group, consisting primarily of Portuguese and Spanish pilgrims, came from nearby countries. The second group, composed mainly of German and Italian pilgrims, originated from more distant locations. Similarly, Farias et al.

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(2019) found that the majority of pilgrims originated from Spain (30.5%), followed by Germany (18.9%), the United States (6.5%), France (5.7%), and Brazil (5.4%). Previous studies also show motivational differences by nationality (Pizam & Sussmann, 1995; Jönsson & Devonish, 2008). Fourie et al. (2015) argue that tourists prefer culturally familiar destinations.

7.1.3 Route Attributes, External Factors, and Social Interactions

The second objective of this thesis was to develop a model that explains route choice behavior in pilgrimage tourism. It focuses on the relationship between route attributes (e.g., route length, starting point, and mode of travel), external factors (e.g., seasonality), and social interactions (e.g., individual versus group travel), as addressed in Hypotheses H_2, H_3, H_4, H_5, and H_6. Overall, the evidence provides substantial support for Hypotheses H_2, H_3 and H_4, while H_5 is only partially confirmed and H_6 is not consistently supported across model specifications.

7.1.3.1 Route Length

The results from the logistic regression models (Models II and III) and the multilevel binary logistic regression models (Models V and VI) indicate that travel distance significantly influences pilgrims' decisions when choosing between the Portuguese Central way and the Portuguese Coastal way (H_2). **The comparison between logistic and multilevel models reveals that the effect of mid-range distances (141–235 km) depends on whether country-level differences are considered**. In the standard logistic models, this distance is associated with a lower probability of choosing the Portuguese Central way. **However, once nationality-level variation is incorporated in Model VI, the direction of the effect shifts, indicating that some national groups show a stronger preference for the Portuguese Central way even at mid-range distances.** This is not a contradiction but a demonstration that hierarchical effects modify the interpretation of individual-level variables. Thus, multilevel modelling provides a more accurate understanding of route choice behavior. **In sum, mid-range distances**

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(141–235 km) tend to be associated with the Portuguese Coastal way in the standard models, whereas the Portuguese Central way becomes more likely once nationality is considered. Longer distances (over 236 km) are consistently associated with the Portuguese Central way, reinforcing its role as a more demanding and symbolically intense route.

These results emphasize the need to consider sociodemographic characteristics, as well cultural and national contexts when analyzing route choices in pilgrimage tourism, as hierarchical effects may influence the interpretation of individual-level variables. This reinforces the importance of multilevel approaches in tourism behavior research.

The variable route length refers to the total distance, in kilometers, traveled by each pilgrim from their point of departure to *Santiago de Compostela*. This measure reflects both the physical and symbolic intensity of the pilgrimage, as longer ways demand more time, effort, and commitment. Previous research highlights that the length of the journey is closely connected to the depth of pilgrims' experiences and motivations. In addition, travel characteristics, such as nationality, travel mode (individual versus group traveled), and travel type, also influence stay duration (Alén et al., 2014). According to Alegre and Pou (2006), group travel tends to reduce trip duration. An important contribution to the study of length of the stay in the context *of Santiago de Compostela* was made by Rodríguez et al. (2018). The authors found that age significantly influences the decision to stay overnight, although it does not significantly affect the total number of nights spent. Gender, in contrast, was not found to influence the decision to stay overnight, while motivation plays a crucial role. Pilgrims motivated by religion are more likely to stay overnight than those traveling for leisure purposes. Seasonality is also a determining factor. Pilgrims traveling during the mid-season (spring and autumn) are more

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likely to stay overnight compared to those traveling in the high season, while low-season pilgrims tend to have the shortest stays.

Vistad et al. (2020) distinguish between short-distance and long-distance pilgrims, noting that those who undertake longer hikes tend to interpret their experience as an inner and spiritual journey, often associated with self-reflection and transformation. Similarly, Murray and Graham (1997) observe that international pilgrims, who often complete the *Santiago* ways in their entirety, link the longer journey to ideas of personal commitment, authenticity, and symbolic renewal, whereas domestic pilgrims typically choose shorter sections for practical or touristic reasons. Therefore, route length serves as a key indicator of behavioral and motivational differentiation among pilgrims, reflecting not only the degree of physical and symbolic engagement but also the overall orientation of the experience, more religious for long ways, and more touristic for short ways.

7.1.3.2 Starting Point

For Hypothesis H_3, the analysis examined whether physical characteristics, particularly the starting point, influence the choice between a more religious route (Portuguese Central way) and a more tourism-oriented route (Portuguese Coastal way). As expected, the results from both the logistic (Models I to Model III) and multilevel logistic regression models (Models V to Model VI) **confirm that the starting location plays a significant role in pilgrims' route choice, reflecting the spatial configuration and accessibility of the Portuguese ways.** In both modelling approaches, **starting the journey in *Tui* is positively associated with choosing the Portuguese Central way**, which is consistent with its proximity to *Santiago de Compostela* (approximately 119 km) and its symbolic relevance as the traditional entry point into *Galicia*. In the logistic regression models (Models II and III), **beginning in *Vigo* is associated with a higher probability of choosing the Portuguese Coastal way,**

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reflecting its location along the Atlantic coast and its more urban and tourism-oriented environment. In the multilevel models (Models V and VI), however, *Vigo* is not estimated as a separate category. **This suggests that starting-point effects are partly absorbed by country-level influences. Other starting points also change direction between models, indicating contextual moderation.**

Overall, while the influence of the starting point aligns with expectations, the multilevel model results highlight the importance of considering broader contextual effects, including national travel patterns, cultural preferences, and route accessibility, when analyzing spatial decision-making in pilgrimage tourism.

7.1.3.3 Mode of Travel

Considering the Hypothesis H_4, which examined whether physical characteristics, specifically the mode of travel, influence the choice between a more religious route (Portuguese Central way) and a more tourism-oriented route (Portuguese Coastal way), **the results confirm that travel mode plays a significant role in route choice**. Models II and III partially support this finding. Pilgrims who travel by bicycle do not demonstrate a statistically significant preference for either route, as the coefficients are not statistically significant. However, alternative travel modes, such as wheelchairs (176 pilgrims) or boats (475 pilgrims), show statistically significant negative coefficients, indicating a higher likelihood of choosing the Portuguese Coastal way over the Portuguese Central way. The multilevel logistic regression models (Models V and VI) further support the influence of travel mode on route choice. **While bicycle travel is not significant in the initial logistic models**, it becomes positively significant in the **multilevel models, suggesting that country-level factors may mediate the relationship between mode of travel and route preference**.

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7.1.3.4 Seasonality

Hypothesis H_5 which assessed whether external factors, particularly seasonality, have a significant impact on the choice between a religious route (Portuguese Central way) and a tourism-oriented route (Portuguese Coastal way), is partially confirmed. **In Models II and III, the positive and statistically significant coefficient for the low season indicates that pilgrims traveling during this period are more likely to choose the Portuguese Central way over the Portuguese Coastal way. However, the coefficient for the middle season (spring and autumn) is not statistically significant, suggesting that pilgrims traveling during these months do not show a clear preference for either route.** In contrast, Models V and VI (multilevel logistic regression) show a stronger and more nuanced influence of seasonality. **In Models II and III, the positive and statistically significant coefficient for the low season indicates that pilgrims travelling during this period are more likely to choose the Portuguese Central way over the Portuguese Coastal way, while the middle season shows no clear effect. In contrast, in the multilevel models (Models V and VI), only the middle season remains statistically significant, and with a negative sign, suggesting a higher propensity to choose the Portuguese Coastal way during spring and autumn. The effect of the low season, however, loses statistical significance once country-level variation is considered. This pattern reinforces the idea that seasonal preferences are partly conditioned by the pilgrim's countries of origin and their broader travel cultures.**

These findings highlight the moderating effect of country-level factors in shaping the role of seasonality in route selection. They suggest that cultural characteristics associated with pilgrims' countries of origin may influence seasonal travel preferences.

This interpretation is supported by Lopez and González (2021) who observed a decline in religious motivation during the peak summer months (July, August, and September), a period typically associated with increased secular or leisure-driven travel. These results confirm that

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external actors are key determinants in route choice, reinforcing the behavioral complexity of pilgrimage tourism.

7.1.3.5 Social Interactions

For Hypothesis H_6, the findings show that the impact of social interactions (group vs. individual pilgrimage) on route choice is weak and unstable across models. While group travel appears to be significant in some simpler specifications (such as Models II and IV), its effect loses statistical significance once sociodemographic controls and country-level variation are introduced (Models III and VI). This suggests that the influence of travelling alone or in a group is largely mediated or overshadowed by variables such as age, gender, or nationality. As a result, Hypothesis H_6 cannot be considered robustly confirmed.

Group pilgrimages are often organized by churches or religious associations, which may explain the stronger preference for the Portuguese Central way among group travelers. In contrast, many pilgrims perceive individual pilgrimage as an essential element of the *Santiago* ways experience, seeing it as an opportunity for introspection and personal transformation. Malis et al. (2023) highlight that solitude is central to the spiritual journey of many pilgrims. This aligns with Davidsson Bremborg (2013), who observes that silence is a key feature of individualized spirituality and one of the defining elements of the pilgrimage experience. Adopting a new social role is also an important dimension of pilgrimage. By stepping away from familiar social environments, individuals gain the opportunity to reflect more deeply on their everyday roles and responsibilities. This temporary distancing enables self-evaluation and fosters personal insight within the unique context of pilgrimage. Although the Portuguese Central way is more closely associated with traditional religious practice, the Portuguese Coastal way offers greater flexibility, autonomy, and scenic diversity. These characteristics

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make it particularly appealing to individual pilgrims who seek a more personal, introspective, and self-directed experience, even when their motivations are not primarily religious.

7.1.4 Sociodemographic Determinants of Route Choice

The third objective of this thesis is to analyze how religious, secular, and cultural motivations, route attributes, external factors, social interactions, demographic variables, and country-level Christian religiosity influence pilgrims' behaviors and decision-making processes in within religious tourism contexts (Hypotheses H_7 and H_8).

Results from Models III and VI **confirm that gender, and age, significantly influence route choice,** supporting Hypothesis H_7. However, this effect is not uniform across all employment categories.

These findings provide insights into how demographic factors shape decisions between the more religious Portuguese Central way and the more tourism-oriented Portuguese Coastal way. Female pilgrims are less likely to choose the Portuguese Central way than male pilgrims, which indicates a relatively stronger preference for the Portuguese Coastal way among women, possibly due to perceptions of greater comfort, safety, and accessibility.

The results obtained from Models III and VI reveal a consistent pattern concerning the effect of age on the choice of the Portuguese ways. Younger pilgrims are proportionally more likely to choose the Portuguese Central way, whereas older age groups show a stronger tendency to choose the Portuguese Coastal way. When comparing the two models, it becomes evident that the multilevel model, by incorporating the religiosity of the country of origin, slightly increases the magnitude of these negative effects for older ages. This suggests that age-related differences become even more pronounced when pilgrims' religious-cultural background is considered, reinforcing the sensitivity of this variable to broader sociocultural contexts. Regarding age profiles, the 45–54 age group consistently shows the lowest probability of choosing the

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Portuguese Central way in both models. This may indicate that pilgrims at this stage of life place greater value on experiences linked to well-being, coastal landscapes, comfort, and accessibility, features more commonly associated with the Portuguese Coastal way. In contrast, the 35–44 age group presents the least negative coefficients, suggesting that among adults they have the highest relative likelihood of choosing the Portuguese Central way, possibly due to a more balanced combination of physical challenge, cultural interest, and spiritual motivation. These results have been confirmed by several authors. Namely, Bicalho et al. (2018) confirm that physical activity tends to decrease with age. According to Jang and Ham (2009), the tourism industry should pay close attention to the senior market due to its rapid growth and purchasing power. Senior pilgrims often prioritize educational value and national identity linked to sacred sites, whereas younger visitors may be less influenced by these factors (Irimiás et al., 2016).

In terms of professional status, unemployed and retired pilgrims did not exhibit statistically significant preferences. In contrast, other employment categories did show significant effects on route choice, being comparatively more likely to select the Portuguese Coastal way (Model II and Modelo IV). This aligns with research in religious tourism that highlights generational differences.

Demographic factors, such as age, gender, and nationality have been shown to influence destination choices, especially for religious sites and pilgrimage routes (Anderson & Langmeyer, 1982; Frew & Shaw, 1999; Heung et al., 2001; Deslandes, 2007; Jönsson & Devonish, 2008; Jang & Ham, 2009; Lin et al., 2014; Bernini & Cracolici, 2015; Kara & Mkwizu, 2020; Milićević et al., 2020; Wambani et al., 2021). However, Sahoo and Mohanty (2022) report contrasting evidence from their study on Jagannath Dham in India, where demographic factors like age, education, gender, and marital status did not significantly

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influence tourist behavior. This suggests that the role of demographic variables may vary depending on cultural, geographic, and site-specific contexts.

7.1.5 Country-level Christian religiosity and Pilgrims' Route Choice

Finally, Hypothesis H_8, which proposed that country-level Christian religiosity would have a positive impact on the choice between a religious route (Portuguese Central way) and a more tourist route (Portuguese Coastal way), was not confirmed. **The analysis indicates that country-level Christian religiosity does not significantly influence pilgrims' route choice.** This finding is particularly interesting. It suggests that national levels of Christian religiosity do not necessarily translate into micro-level behavioral religious choices. In other words, the religious context of a country does not appear to shape how its citizens behave when choosing between pilgrimage routes. Instead, **individual-level religiosity and personal motivations carry more weight** than the broader religious culture of the country. **At the same time, the multilevel approach shows that country still matters through unobserved factors.** While the fixed effect of Christian religiosity was not significant, the random intercepts for country indicate substantial between-country variation. This means that other cultural, social, or structural characteristics—not captured by the religiosity measure—still influence route choice. As a result, pilgrims from countries with similar religiosity levels may nevertheless display heterogeneous behavioral patterns. **Within the context of the Portuguese ways, this finding suggests that pilgrims' decisions are guided more strongly by non-religious factors**, such as landscape, infrastructure, perceived congestion, and interest in cultural experiences, rather than by the overall religiosity of their country of origin.

In conclusion, Model VI, the multilevel logistic regression model, offers the most comprehensive representation of pilgrims' route choice behavior. It captures the combined influence of individual motivations, route attributes, external factors,

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social interactions, and sociodemographic characteristics, while also accounting for unobserved country-level effects. At the same time, inconsistencies across models, such as changes in the sign or significance of distance, seasonality, or social interactions, highlight the inherent complexity and context dependence of pilgrimage decision-making. These inconsistencies are therefore acknowledged as limitations of purely quantitative modelling.

7.2 CONCLUSIONS

This thesis addresses the four research gaps previously identified in the Introduction. First, it responds to the lack of studies examining how religious, secular (religious and other motivations), non-religious motivations and cultural background shape pilgrims' decision-making and destination choices. Second, it overcomes the limited attention given to route attributes, external conditions, and social interactions by empirically demonstrating their relevance in route selection. Third, it advances beyond prior research that analyzed isolated variables by offering an integrated understanding of how multiple factors operate jointly in shaping pilgrims' behavior. Finally, it fills the absence of a comprehensive, multilevel perspective by combining individual-level, contextual, and macro-level elements, thereby offering a holistic framework for explaining pilgrimage route choice.

Overall, the results show that route choice emerges from the interaction of motivations, sociodemographic factors, route attributes, external conditions, and nationality, rather than any single determinant. The multilevel model confirms that individual decisions are embedded in broader cultural and national contexts.

The findings highlight the multifaceted nature of decision-making in pilgrimage tourism, illustrating how modern pilgrims increasingly integrate traditional religious with secular motivations. The findings of this research offer several important insights:

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1. ***Motivational diversity and route preference pilgrimage****:* Religious motivations increase the likelihood of choosing the Portuguese Central way, while secular motivations are more frequent among those selecting the Portuguese Coastal way. Hybrid profiles combining both types of motivations confirm that modern pilgrimage is multifaceted. These results support the understanding that pilgrimage is no longer exclusively a religious practice, as it is increasingly influenced by cultural, social and personal dimensions.

2. ***The influence of culture and nationality*****:** nationality, used as a proxy for cultural background, significantly affects pilgrims' preferences. Pilgrims from countries closer to Santiago (Portugal, Spain) prefer the Portuguese Central way, whereas those from more distant countries tend to choose the Portuguese Coastal way, highlighting the role of cultural proximity and accessibility. This suggests that cultural familiarity, proximity, and accessibility may reinforce traditional religious route choices, while international tourists may prioritize scenic and cultural attributes.

3. ***Route attributes and travel behavior*****:** Route length, starting point and mode of travel affect route choice. Longer and more demanding routes are associated with the Portuguese Central way, while coastal entry points and alternative modes (boat, wheelchair) favor the Portuguese Coastal way.

4. ***External and social factors:*** Low-season pilgrims show a higher propensity to choose the Portuguese Central way in the standard logistic models, whereas in the multilevel specification only middle-season travel remains significant, being associated with a greater likelihood of choosing the Portuguese Coastal way. The effect of travelling in a group is weak and not robust across models, suggesting that social interactions are largely mediated by other individual and contextual characteristics.

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5. *Demographics and C*ountry-level Christian religiosity: Female and older pilgrims more often choose the Portuguese Coastal way. Country-level Christian religiosity does not significantly influence route choice, indicating that individual motivations outweigh macro-level religious context.

These findings show that contemporary pilgrimage is a hybrid phenomenon where devotional, cultural, personal and experiential dimensions coexist. Despite differences across models, the most consistent pattern is that religious motivations and structural route characteristics continue to shape behavior, while secular motivations and international backgrounds diversify the use of the Portuguese ways.

7.3 THEORETICAL CONTRIBUTIONS

This thesis offers several important theoretical contributions to the existing body of literature on pilgrimage and religious tourism, particularly by addressing a notable gap. Very few studies have focused specifically on the decision-making processes involved in choosing between distinct pilgrimage routes, especially within the context of the Portuguese ways. The application of quantitative models, including logistic and multilevel logistic regression, marks a pioneering approach in the field, especially in pilgrimage research. Furthermore, it contributes to filling the following gaps in the literature through:

1. ***Understanding hybrid motivations:*** The thesis demonstrates that motivations are not dichotomous but multidimensional, validating the concept of the *touripilgrims* and reinforcing the idea that pilgrimage integrates both religious and secular motivations.
2. ***Integration of sociodemographic and cultural variables***: This research enriches existing theoretical frameworks by integrating sociodemographic and cultural variables (such as age, gender, employment status, and nationality) into models of pilgrimage route choice. By doing so, it demonstrates that individual characteristics, in combination

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with macro-level cultural contexts, shape the selection of religious destinations. Importantly, this thesis reveals that even groups traditionally associated with strong religiosity (e.g., women and older individuals) may choose routes for reasons beyond faith, influenced by considerations of accessibility, physical demand, and comfort.

3. ***Cultural background as a moderator:*** Using nationality as a proxy for culture within a multilevel framework shows that cultural proximity influences route choice, even when aggregate national religiosity is not significant.
4. ***Theoretical implications for decision-making*:** The findings support decision-making models that account for emotional, symbolic, practical, and contextual dimensions rather than purely rational processes.
5. ***Methodological innovation in pilgrimage research*:** One of the most original contributions of this thesis lies in its methodological approach. By applying both logistic and multilevel logistic regression models, the study demonstrates the importance of accounting for the hierarchical structure of pilgrimage data, in which individuals are nested within countries. The multilevel models improve explanatory accuracy, reduce omitted-variable bias, and reveal how macro-level cultural contexts shape micro-level decisions, even when specific country-level variables (such as national religiosity) are not statistically significant. This dual modelling strategy provides a replicable methodological template for future research on route choice and tourism behavior.
5. ***Expanding the conceptual scope of pilgrimage studies:*** Analyzing the decision-making behavior across two distinct routes within the same pilgrimage ways, this study provides evidence that pilgrimage networks serve diverse symbolic and functional purposes. Different routes attract different motivational profiles and reflect distinct combinations of religious, cultural, experiential, and logistical attributes.

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This evidence broadens the conceptualization of pilgrimage, highlighting that a single pilgrimage network can simultaneously support traditional spiritual practices and contemporary experiential or leisure-driven forms of travel. These findings encourage further comparative and multidimensional research across pilgrimage routes and cultural contexts.

In sum, this thesis makes a substantial theoretical contribution to the field of religious tourism by framing pilgrimage as a hybrid practice shaped by interdependent religious, cultural, demographic, and route attributes. It opens for future research that adopts multidimensional and comparative approaches to better capture the complexity of contemporary pilgrimage behavior.

7.4 RECOMMENDATIONS

Based on the empirical findings, several practical implications and policy recommendations can be formulated for public authorities, private stakeholders, service providers, and religious institutions, aiming to improve the sustainable management of the Portuguese ways.

1. Public Policies:

1.1 Central authorities (e.g., Government of Portugal and Spain; Turismo de Portugal, Turespaña; Xunta de Galicia)

Central authorities should continue to promote pilgrimage tourism as a strategic priority, highlighting its growing economic, spiritual, and cultural relevance, as well as its importance to local communities. Although the Portuguese Central and Portuguese Coastal ways are already recognized within the tourism frameworks of Portugal and Spain, sustained commitment, coordinated investment, and strategic integration across various political areas are necessary for the full realization of its potential. Pilgrimage tourism as a multidimensional sector allows for the allocation of public and private resources in key areas such as infrastructure, promotion, and international dissemination. Furthermore, the

pilgrimage experience is not just a segment of religious tourism, but a religious, spiritual, cultural, and social phenomenon that attracts a wide variety of travelers every year, both national and international. In light of the conclusions of this study, and given the importance, for example, of the starting cities of the Portuguese ways, national authorities should promote investments in infrastructure, prioritizing a network of connectivity between the different cities (e.g., airports, rail and road networks) along the Central Portuguese way and the Portuguese Coastal way. Finally, it is important to highlight the role of information management in the context of the Portuguese ways. Through systematic collection and analysis of data, it becomes possible to monitor pilgrim flows, identify demographic trends, understand the diverse motivations of pilgrims, and assess the economic impacts associated with these ways. This knowledge allows for a more efficient allocation of resources and contributes to the creation of a more personalized experience for pilgrims on the Portuguese ways.

1.2 Regional and local authorities

Regional and local authorities have a fundamental responsibility in the implementation of both national and local strategies. Their proximity to the territories crossed by the Portuguese Central and Portuguese Coastal ways enables them to design and implement targeted measures in infrastructure, promotion, and visitor management. By aligning regional policies with the diverse profiles and expectations of pilgrims, these authorities can enhance the quality, authenticity, and sustainability of the pilgrimage experience.

Building on these responsibilities, several key areas of action emerge from the study's findings, beginning with tailored marketing and communication strategies.

2. Destination Management and Marketing

2.1 Pilgrim Profiles and Marketing Strategies

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The results of this thesis reveal that pilgrims on the Portuguese ways exhibit diverse motivations and demographic characteristics, calling for differentiated and targeted marketing and communication strategies. Recognizing these profiles allows tourism authorities and private stakeholders to design messages and experiences that align with pilgrims' specific motivations, expectations, and cultural backgrounds.

(i) The Traditional Pilgrim: The Portuguese Central

Motivations: Primarily religious, with a strong emphasis on devotion, spirituality, and cultural-religious heritage.

Demographics: Predominantly Portuguese and Spanish pilgrims, with men being relatively more represented on the Portuguese Central way than on the Portuguese Coastal way, even though women remain the majority in the overall pilgrim population. Younger pilgrims are comparatively more likely to choose the Portuguese Central way than older age groups.

*Travel behavior***:** Tends to start in *Tui* or *Porto*, often traveling during the low season to enjoy a quieter and more contemplative journey.

*Marketing strategies***:** Emphasize the spiritual and religious dimension of the pilgrimage by promoting sacred sites, historical churches, and cultural events such as local saints' days, processions, and liturgical celebrations in collaboration with dioceses and parishes. Campaigns should highlight the authenticity and symbolic depth of the Portuguese Central way as a traditional route of faith and introspection.

(ii) The Cultural-Leisure Pilgrim: Portuguese Coastal way

Motivations: Predominantly secular, culturally oriented, and tourism-driven, often reflecting a desire for personal enrichment, leisure, and experiential travel.

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Demographics: Mainly international pilgrims, particularly from Italy, Germany, and the United States, as well as middle-aged and older adults, although younger visitors are also present. A higher proportion of female and individual pilgrims is observed on this route, many of whom are drawn to its accessibility, perceived safety, and scenic coastal landscapes.

Travel behavior: Preference for coastal landscapes, shorter or mid-range distances, and starting points such as *Porto* or *Vigo*.

Marketing strategies: Promote the cultural and sensory richness of the Portuguese Coastal way such gastronomy, coastal villages, maritime heritage, and natural beauty. Digital storytelling, experiential tourism packages, and collaborations with local communities can strengthen emotional engagement and visitor satisfaction.

(iii) Hybrid Pilgrims: Bridging Spirituality and Experience

Motivations: Combine elements of faith, reflection, and cultural curiosity. These *touripilgrims* seek both inner meaning and leisure, representing an increasingly common profile on both routes.

Demographics: Diverse, including both domestic and international visitors seeking authenticity through personal transformation and cultural exploration.

Marketing strategies: Develop integrated campaigns that blend the symbolic and experiential dimensions of the pilgrimage, connecting heritage, spirituality, and well-being. Encourage slow tourism experiences, mindfulness activities, and cultural encounters that foster both reflection and connection.

2.2 Infrastructure development aligned with pilgrim expectations

2.2.1. Infrastructure development aligned with pilgrim expectations

(i) The Portuguese Central way: invest in preservation of religious sites.

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*(ii)*The Portuguese Coastal way: improve accommodation, transportation, safety measures, and interpretation of cultural/natural heritage.

2.3 Managing seasonality, visitor flows and overall pilgrimage

Most pilgrims travel during mid-season (May, June, September). To address overtourism: Promote sustainable pilgrimage practices and balanced visitor distribution throughout the year

The concentration of pilgrims during the peak season creates pressure on infrastructure and reduces the overall quality of the experience. To mitigate this:

(i) Authorities should promote pilgrimage during low seasons through pricing incentives, off-season religious events, and marketing campaigns emphasizing the benefits of quieter, more introspective journeys.

2.4 Recognizing the influence of nationality

Nationality significantly influences route choice, beyond proximity, as seen with Spanish and Portuguese pilgrims, but also through cultural, symbolic, and experiential preferences among international pilgrims. Design culturally adaptive marketing and services aligned with national and regional values.

2.5 Addressing emerging pilgrim profiles

Respond to the growth of *hybrid pilgrims* blending religious and secular motivations.

3. Private Sector and Religious Institutions

3.1 Private sector and stakeholders

(i) Tour operators and travel agencies

Create modular packages tailored to diverse motivations (religious, spiritual, cultural, leisure). Implement digital solutions for booking and navigation. Given the high presence of international and younger pilgrims along the Portuguese Coastal way,

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digital solutions for booking and navigation may increase perceived safety and accessibility

Form international partnerships (e.g., German, United States, Brazil) to co-design pilgrim experiences. Diversify product offerings for different pilgrim profiles. Pilgrims today are not a homogeneous group. As shown in this thesis, they exhibit diverse motivations, religious, secular, and non-religious. Private sector and stakeholders should design differentiated tourism products that address this heterogeneity. For example: Religiously motivated pilgrims may benefit from initiatives that promote spiritual retreats, religious ceremonies, or thematic heritage tours along the Portuguese Central way.

(ii) Hospitality sector (hotels, local accommodation, restaurants). Maintain quality and sustainability standards. Adjust services to cultural expectations and peak/low season fluctuations. Offer promotions during shoulder and low seasons to balance demand.

(iii) Private services for pilgrims. Provide complementary services (e.g., laundry, massage, backpack transport).

3.2 Religious Institutions

Dioceses (e.g., *Porto, Braga, Santiago*). Support preservation of religious heritage along the routes. Organize religious events to promote off-season pilgrimage.

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7.5 LIMITATIONS AND FUTURE RESEARCH

Despite offering important insights into the decision-making processes of pilgrims on the Portuguese ways, this study has several limitations that must be acknowledged.

1. Data limitations:

First, a primary limitation concerns the dataset obtained from the Pilgrim's Welcome Office dataset which, although robust in terms of scale and coverage, lacks several relevant variables. While the data span 2003–2023, this study focused on 2022 to ensure post-pandemic consistency and data stability. However, there are key factors such as personal income, prior pilgrimage experience. Specifically, the variable secular motivation, which derives from the religious and other motivations variable (secular motivations) and other aggregated motivational dimensions, does not allow us to identify what these other underlying motivations are. As a result, it is not possible to determine whether secular motivation stems from cultural interests, well-being, adventure, or other non-religious factors. Similarly, the variable group does not indicate the type of group to which the pilgrim belongs. It is not possible to distinguish whether the pilgrim is travelling in a religious group, with family, with friends, or in an organized group, categories that may exhibit very different preferences and behaviors when choosing between the Portuguese Central way and the Portuguese Coastal way. These omissions limit the explanatory depth of the models and may partially account for unobserved heterogeneity in pilgrim decision-making.

2. Geographical scope:

This study is geographically limited to two specific routes: the Portuguese Central way and the Portuguese Coastal way. While these are among the fastest-growing paths within the *Santiago* pilgrimage network, the findings may not be fully generalizable to other routes, such as the French, Northern, or *Primitivo* ways or to other international religious itineraries (e.g., the *Via*

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Francigena in Italy or the Kumano Kodo in Japan). To improve external validity, future research should replicate this study across different pilgrimage routes and cultural contexts, which may reveal route-specific motivations and broader behavioral patterns. Such comparative analyses would also test the robustness of multilevel models across distinct pilgrimage ways.

3. Methodological constraints:

A methodological limitation is the cross-sectional nature of the data, which captures pilgrim behavior at a single point in time (2022 for pilgrim data; 2023 for country-level Christian religiosity data from Pew Research Center), this approach does not account for temporal fluctuations in motivation or behavior that may arise due to broader socio-economic or political shifts. Longitudinal research could offer a more dynamic understanding of how motivation evolve over time or in response to crises like pandemics, inflation, or climate-related disruptions.

In terms of statistical methods, the analysis relied on logistic and multilevel logistic regression models, which are powerful for identifying relationships between hierarchical variables. However, these models are limited in addressing unobserved heterogeneity in decision-making. Future studies could employ more advanced methods, such as mixed logit or latent class models, to capture individual-level variations and segment pilgrims more precisely.

4. Lack of qualitative depth:

While this study offered a robust quantitative analysis, it did not include qualitative data that could provide depth and context. Understanding how different nationalities perceive the religious or cultural significance of the Portuguese ways, for example, would benefit from in-depth interviews or ethnographic methods. Combining qualitative and quantitative approaches in future research could yield a more holistic view of pilgrimage behavior.

5. Technology and seasonality as emerging themes:

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Another area for future exploration is the influence of technology on pilgrimage. Digital platforms, social media, and mobile apps are increasingly shaping how pilgrims choose their routes, prepare for the journey, and reflect on their experiences. Investigating the role of these tools could enhance communication strategies and service delivery, particularly for younger or international pilgrims. Seasonality emerged as a key variable in this study, yet further research could explore how it interacts with pilgrim satisfaction, safety, and sustainability. Strategies to redistribute flows across the year, such as off-season spiritual events or discount programs, could be tested and evaluated.

6. Post-pilgrimage outcomes:

Future research should also consider post-pilgrimage experiences, including satisfaction, personal transformation, and intentions to return. Understanding whether and how different routes fulfill pilgrims' expectations can inform the development of products, services, and communication strategies that align more closely with diverse pilgrim profiles.

In Table 20 an overview of the main findings of this thesis is presented, highlighting the key theoretical contributions, practical implications, and directions for future research. It also provides concrete recommendations for stakeholders and identifies opportunities for further scholarly exploration.

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Table 20 Overview of the Thesis Results: Theoretical and Practical Insights with Recommendations and Future Research

Key Finding	Theoretical Contribution	Managerial Implications	Future Research Suggestions
Pilgrims in Portuguese ways have heterogeneous profiles shaped by age, gender, and nationality.	Integrates sociodemographic factors into pilgrimage decision-making models, reinforcing their role in destination and route choice.	Segment services and promotional strategies by demographic and national profiles to better meet pilgrims' needs.	Study how pilgrim profiles evolve over time and across different pilgrimage contexts.
Pilgrim's motivations are hybrid (religious, non-religious, and secular motivations).	Advances the conceptualization of the *touripilgrim*, and challenges the dichotomy between religious, non-religious and secular motivations.	Develop differentiated marketing strategies for religious, secular, and mixed-motivation pilgrims.	Examine motivational shifts over time and in response to cultural or social trends.
Pilgrimage motivations are a key factor in determining route choice.	Supports the view that motivations in the *Santiago* pilgrimage are multidimensional and dynamic.	Design tourism products and services that reflect the diverse motivational patterns.	Explore how motivations affect post-pilgrimage behavior (satisfaction, intention to return). Conduct comparative studies with other routes (e.g., French way).
Sociodemographic and cultural factors influence route choice.	Emphasizes the integration of micro-level (individual) and macro-level (cultural) variables into decision-making models.	Develop culturally and demographically tailored products and services.	Examine how sociodemographic and cultural backgrounds influence religious route choices in other destinations.
Distinct pilgrimage routes within the same network respond to different pilgrim profiles, offering unique symbolic and practical experiences.	Expands the conceptualization of pilgrimage networks as heterogeneous systems, where routes hold different meanings and functions depending on pilgrim motivations, country, external factors and the attributes of the way.	Encourage destination managers to differentiate promotional strategies, services, and infrastructure according to the specific profiles attracted by each route.	Investigate how route characteristics and external factors align with pilgrim motivations; compare symbolic and experiential values across multiple pilgrimage routes.
Country of origin is a determinant in route preferences.	Suggests that the culture is a moderator in tourism decision-making models.	Tailor promotional efforts by nationality, Invest in culturally adaptive service.	Extend models to other countries and routes to test cultural generalizability and religious destinations.
The Portuguese Central way is perceived as more traditional and religious.	Reinforces the identity of religious routes within pilgrimage networks.	Preserve and highlight spiritual and cultural-religious heritage along the Portuguese Central way.	Study how pilgrims perceive authenticity and tradition in pilgrimage settings.
The Portuguese Coastal way is perceived as more tourism-oriented.	Supports the conceptualization of pilgrimage as a hybrid practice blending religious and leisure-oriented experiences.	Promote the Portuguese Coastal way with emphasis on its cultural, scenic, and leisure attributes.	Assess how secular motivations shape expectations and satisfaction on tourism-oriented pilgrimage routes.

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Table 20 Overview of the Thesis Results: Theoretical and Practical Insights with Recommendations and Future Research (continuations)

Key Finding	Theoretical Contribution	Managerial Implications	Future Research Suggestions
Route choice reflects multidimensional decision-making involving motivations, route attributes (distance, starting point), travel mode, and external factors.	Strengthens multi-criteria decision-making frameworks in tourism behavior.	Encourage integrated management strategies that reflect the complexity of pilgrims' decision-making.	Develop and test decision-making models that incorporate interactions between motivations, seasonality, and group.
Route choice is not purely rational or logistical.	Challenges traditional choice models in religious tourism and route choice.	Design experiences that integrate motivations and logistical needs.	Investigate motivations and logistics factors using mixed methods analysis.
Consistent results across logistic and multilevel models confirm model robustness.	Shows how hierarchical structures refine the understanding of variable effects and increase explanatory power.	Support tourism strategies that combine traveler profiles with broader cultural influences.	Compare results using alternative modelling techniques (e.g., mixed logits); apply this strategy to other routes and destinations.
Multilevel modelling reveals significant country-level effects on route choice.	Demonstrates the value of hierarchical analytical frameworks in tourism and pilgrimage behavior.	Encourage destination managers to integrate micro-level (individual) and macro-level (cultural) considerations.	Apply hierarchical models to other religious and cultural tourism contexts, exploring cross-national comparisons.

Author's own elaboration

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CHAPTER 8: BIBLIOGRAPHY

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CHAPTER 9: ANNEXES

ANNEX I PILGRIM REGISTRATION

1. Way. Select a way

2. Conveyance. Select a conveyance

3. Reasons for pilgrimage. Select a reason for pilgrimage

4. Sex. Select a Sex

5. Profession. Select a profession from

6. Start of the way. Select a Start of the way from

7. Nationality. Select a nationality from

8. Age_____

9.Start date_____

10. Arrival date (approximate)_____

11. Group name_____

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Table 21 Pilgrimage Registration Form

Way	Conveyance	Sex	Profession	Reasons for pilgrimage
Camino de Geira-Arrieros	Bicycle By	Women	Artists Athletes	Not religious
Camino de Invierno	Horse	Man	Employees	Others Religious
Camino de Barbanza	Sailing	Others	Farmers	
Camino del Mar	Walking		Housewives	
Camino del Norte	Wheelchair		Managers Officials	
Camino de Muros-Noia			Priests	
Camino de San Rosendo			Professionals	
Camino de San Salvador			Religious Retirees	
Camino Francés			Sailors Students	
Camino Inglés			Teachers	
Camino Olvidado			Technicians	
Camino Portugués				
Camino Portugués por la Costa				
Camino Primitivo Miñoto				
Ribeiro Muxía-Finisterre				
Otros Caminos				
Vía Céltica				
Vía de la Plata				

Start of the Way					
2115 Castilla la Mancha otros	2178 Irlanda	2237 Salas	2292 Abadin	2346 Lisboa	2442 Castro
2116 Reino Unido C.F.	C.F. 2179 Irún	2238 Samos	2293 Rusia	Costa	Leboreiro C.G.A
2117 Castilla La Mancha VP	2180 Italia	2239 San Juan de Ortega	2294 Resto Africa 2295 San Sebastián	2347 Resto de Portugal	2443 Azoreira C.G.A
2118 Vega de Valcarce	2181 Jaca	2240 Santander		2348 Barbadelo	2444 San Amaro
2119 Vezelay	2182 La Bañeza	2241 Sarria	2296 Montserrat	2349 Coimbra	C.G.A
2120 Arles	2183 La Mesa	2242 Sevilla	2297 Resto Galicia	Costa	2445 Cortegada
2121 Republica Checa	2184 Lalín	2246 Somport	2298 Baamonde	2350 Xinzo de Limia	C.G.A
2122 Murcia	2185 Laza	2247 Sto. Domingo de la Calzada	2299 Monforte de Lemos	2351 Ferreiros	2446 Río Arnoia
2123 Valencia O.C.	2186 Le Puy			2352 Luarca	C.G.A
2124 Artieda	2187 León	2248 Suiza	2300 Chantada	2353 Resto de Europa	2447 Ribadavia
2125 Astorga	2188 Leyre	2250 Tineo - C.P. 2251 Triacastela	2301 A Rúa	2354 Suecia	C.G.A
2126 Austria	2189 Lisboa		2302 Las Médulas 2303 O Barco de Valdeorras	2355 Murcia	2448 Berán
2127 Avilés	2190 Logroño	2252 Tui 2253 Valcarlos 2254 Valença do Minho		V.P.	C.G.A
2128 Badajoz	2191 Lourdes			2356 Noruega	2450 Laxe
2129 Barcelona	2193 Lugo - C.P. 2194 Luxemburgo			2357 Berán	2451 Ponteceso
2130 Bélgica	2195 Madrid - V.P. 2196 Madrid - C.F. 2198 Mérida		2304 Quiroga	C.G.A.	2452 Corme
			2306 Baiona	2358 Ribadavia	2453 Malpica
			2308 Navarra	C.G.A.	2454 Caión
			2309 La Rioja		2455 Barizo
					2456 Fisterra
					2457 Muxía

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ANNEX II PERCENTAGE OF CHRISTIANS LIVING IN EACH COUNTRY, 2023

Region	Country	Christians
Asia-Pacific	Afghanistan	< 1.0
Europe	Albania	18.0
Middle East-North Africa	Algeria	< 1.0
Asia-Pacific	American Samoa	98.3
Europe	Andorra	89.5
Sub-Saharan Africa	Angola	90.5
Latin America-Caribbean	Anguilla	90.6
Latin America-Caribbean	Antigua and Barbuda	93.0
Latin America-Caribbean	Argentina	85.2
Asia-Pacific	Armenia	98.5
Latin America-Caribbean	Aruba	91.9
Asia-Pacific	Australia	67.3
Europe	Austria	80.4
Asia-Pacific	Azerbaijan	3.0
Latin America-Caribbean	Bahamas	96.0
Middle East-North Africa	Bahrain	14.5
Asia-Pacific	Bangladesh	< 1.0
Latin America-Caribbean	Barbados	95.2
Europe	Belarus	71.2
Europe	Belgium	64.2
Latin America-Caribbean	Belize	87.6
Sub-Saharan Africa	Benin	53.0
North America	Bermuda	75.0
Asia-Pacific	Bhutan	< 1.0
Latin America-Caribbean	Bolivia	93.9
Europe	Bosnia-Herzegovina	52.3
Sub-Saharan Africa	Botswana	72.1
Latin America-Caribbean	Brazil	88.9
Latin America-Caribbean	British Virgin Islands	84.5
Asia-Pacific	Brunei	9.4
Europe	Bulgaria	82.1
Sub-Saharan Africa	Burkina Faso	22.5
Sub-Saharan Africa	Burundi	91.5
Asia-Pacific	Cambodia	< 1.0
Sub-Saharan Africa	Cameroon	70.3
North America	Canada	69.0
Sub-Saharan Africa	Cape Verde	89.1
Latin America-Caribbean	Cayman Islands	83.5
Sub-Saharan Africa	Central African Republic	89.5
Sub-Saharan Africa	Chad	40.6
Europe	Channel Islands	85.2
Latin America-Caribbean	Chile	89.4
Asia-Pacific	China	5.1
Latin America-Caribbean	Colombia	92.5
Sub-Saharan Africa	Comoros	< 1.0
Sub-Saharan Africa	Republic of the Congo	85.9
Sub-Saharan Africa	Democratic Republic of the Congo	95.8
Asia-Pacific	Cook Islands	96.0
Latin America-Caribbean	Costa Rica	90.9
Sub-Saharan Africa	Ivory Coast	44.1
Europe	Croatia	93.4
Latin America-Caribbean	Cuba	59.2
Asia-Pacific	Cyprus	73.2
Europe	Czech Republic	23.3
Europe	Denmark	83.5
Sub-Saharan Africa	Djibouti	2.3
Latin America-Caribbean	Dominica	94.4
Latin America-Caribbean	Dominican Republic	88.0
Latin America-Caribbean	Ecuador	94.1
Middle East-North Africa	Egypt	5.1
Latin America-Caribbean	El Salvador	88.2
Sub-Saharan Africa	Equatorial Guinea	88.7
Sub-Saharan Africa	Eritrea	62.9
Europe	Estonia	39.9
Sub-Saharan Africa	Ethiopia	62.8
Europe	Faeroe Islands	98.0
Latin America-Caribbean	Falkland Islands (Malvinas)	67.2
Asia-Pacific	Fiji	64.4
Europe	Finland	80.1
Europe	France	63.0
Latin America-Caribbean	French Guiana	84.4
Asia-Pacific	French Polynesia	94.0
Sub-Saharan Africa	Gabon	76.5
Sub-Saharan Africa	Gambia	4.5
Europe	Georgia	88.5
Europe	Germany	68.7
Sub-Saharan Africa	Ghana	74.9
Europe	Gibraltar	88.8
Europe	Greece	88.1
North America	Greenland	96.1
Latin America-Caribbean	Grenada	96.6
Latin America-Caribbean	Guadeloupe	95.9
Asia-Pacific	Guam	94.2
Latin America-Caribbean	Guatemala	95.2
Sub-Saharan Africa	Guinea	10.9

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Sub-Saharan Africa	Guinea-Bissau	19.7
Latin America-Caribbean	Guyana	66.0
Latin America-Caribbean	Haiti	86.9
Europe	Vatican City	>99.0
Latin America-Caribbean	Honduras	87.6
Asia-Pacific	Hong Kong	14.3
Europe	Hungary	81.0
Europe	Iceland	95.0
Asia-Pacific	India	2.5
Asia-Pacific	Indonesia	9.9
Asia-Pacific	Iran	< 1.0
Middle East-North Africa	Iraq	< 1.0
Europe	Ireland	92.0
Europe	Isle of Man	84.1
Middle East-North Africa	Israel	2.0
Europe	Italy	83.3
Latin America-Caribbean	Jamaica	77.2
Asia-Pacific	Japan	1.6
Middle East-North Africa	Jordan	2.2
Asia-Pacific	Kazakhstan	24.7
Sub-Saharan Africa	Kenya	84.8
Asia-Pacific	Kiribati	97.0
Europe	Kosovo	6.1
Middle East-North Africa	Kuwait	14.3
Asia-Pacific	Kyrgyzstan	11.4
Asia-Pacific	Laos	1.5
Europe	Latvia	55.8
Middle East-North Africa	Lebanon	38.3
Sub-Saharan Africa	Lesotho	96.8
Sub-Saharan Africa	Liberia	85.9
Middle East-North Africa	Libya	2.7
Europe	Liechtenstein	91.9
Europe	Lithuania	89.8
Europe	Luxembourg	70.4
Asia-Pacific	Macau	7.2
Europe	Republic of Macedonia	59.3
Sub-Saharan Africa	Madagascar	85.3
Sub-Saharan Africa	Malawi	82.7
Asia-Pacific	Malaysia	9.4
Asia-Pacific	Maldives	< 1.0
Sub-Saharan Africa	Mali	2.4
Europe	Malta	97.0
Asia-Pacific	Marshall Islands	97.5
Latin America-Caribbean	Martinique	96.5
Sub-Saharan Africa	Mauritania	< 1.0
Sub-Saharan Africa	Mauritius	32.7
Sub-Saharan Africa	Mayotte	< 1.0
Latin America-Caribbean	Mexico	95.1
Asia-Pacific	Federated States of Micronesia	95.3
Europe	Moldova	97.4
Europe	Monaco	86.0
Asia-Pacific	Mongolia	2.3
Europe	Montenegro	78.1
Latin America-Caribbean	Montserrat	93.5
Middle East-North Africa	Morocco	< 1.0
Sub-Saharan Africa	Mozambique	56.7
Asia-Pacific	Burma (Myanmar)	7.8
Sub-Saharan Africa	Namibia	97.5
Asia-Pacific	Nauru	79.0
Asia-Pacific	Nepal	< 1.0
Europe	Netherlands	50.6
Asia-Pacific	New Caledonia	85.2
Asia-Pacific	New Zealand	57.0
Latin America-Caribbean	Nicaragua	85.8
Sub-Saharan Africa	Niger	< 1.0
Sub-Saharan Africa	Nigeria	49.3
Asia-Pacific	Niue	96.4
Asia-Pacific	North Korea	2.0
Asia-Pacific	Northern Mariana Islands	81.3
Europe	Norway	84.7
Middle East-North Africa	Oman	6.5
Asia-Pacific	Pakistan	1.6
Asia-Pacific	Palau	86.7
Middle East-North Africa	Palestinian territories	2.4
Latin America-Caribbean	Panama	93.0
Asia-Pacific	Papua New Guinea	>99.0
Latin America-Caribbean	Paraguay	96.9
Latin America-Caribbean	Peru	95.5
Asia-Pacific	Philippines	92.6
Europe	Poland	94.3
Europe	Portugal	91.9
Latin America-Caribbean	Puerto Rico	96.7
Middle East-North Africa	Qatar	13.8
Sub-Saharan Africa	Reunion	87.6
Europe	Romania	>99.0
Europe	Russia	73.3

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Sub-Saharan Africa	Rwanda	93.4
Sub-Saharan Africa	St. Helena	96.5
Latin America-Caribbean	St. Kitts and Nevis	94.6
Latin America-Caribbean	St. Lucia	91.1
North America	St. Pierre and Miquelon	94.7
Latin America-Caribbean	St. Vincent and the Grenadines	88.7
Asia-Pacific	Samoa	96.8
Europe	San Marino	91.6
Sub-Saharan Africa	Sao Tome and Principe	82.2
Middle East-North Africa	Saudi Arabia	4.4
Sub-Saharan Africa	Senegal	3.6
Europe	Serbia	92.6
Sub-Saharan Africa	Seychelles	94.0
Sub-Saharan Africa	Sierra Leone	20.9
Asia-Pacific	Singapore	18.2
Europe	Slovakia	85.3
Europe	Slovenia	78.4
Asia-Pacific	Solomon Islands	97.4
Sub-Saharan Africa	Somalia	< 1.0
Sub-Saharan Africa	South Africa	81.2
Asia-Pacific	South Korea	29.4
Europe	Spain	78.6
Asia-Pacific	Sri Lanka	7.3
Middle East-North Africa	Sudan	5.4
Latin America-Caribbean	Suriname	51.6
Sub-Saharan Africa	Swaziland	88.1
Europe	Sweden	67.2
Europe	Switzerland	72.7
Middle East-North Africa	Syria	5.2
Asia-Pacific	Taiwan	5.5
Asia-Pacific	Tajikistan	1.6
Sub-Saharan Africa	Tanzania	61.4
Asia-Pacific	Thailand	< 1.0
Asia-Pacific	Timor-Leste	>99.0
Sub-Saharan Africa	Togo	43.7
Asia-Pacific	Tokelau	>99.0
Asia-Pacific	Tonga	98.9
Latin America-Caribbean	Trinidad and Tobago	65.9
Middle East-North Africa	Tunisia	< 1.0
Asia-Pacific	Turkey	< 1.0
Asia-Pacific	Turkmenistan	6.4
Latin America-Caribbean	Turks and Caicos Islands	92.1
Asia-Pacific	Tuvalu	96.7
Sub-Saharan Africa	Uganda	86.7
Europe	Ukraine	83.8
Middle East-North Africa	United Arab Emirates	12.6
Europe	United Kingdom	64.3
North America	United States	78.3
Latin America-Caribbean	U.S. Virgin Islands	94.8
Latin America-Caribbean	Uruguay	57.9
Asia-Pacific	Uzbekistan	2.3
Asia-Pacific	Vanuatu	93.3
Latin America-Caribbean	Venezuela	89.3
Asia-Pacific	Vietnam	8.2
Asia-Pacific	Wallis and Futuna	97.4
Middle East-North Africa	Western Sahara	< 1.0
Middle East-North Africa	Yemen	< 1.0
Sub-Saharan Africa	Zambia	97.6
Sub-Saharan Africa	Zimbabwe	87.0
Sub-Saharan Africa	South Sudan	60.5

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Pilgrimage decision-making models explain how individuals choose between alternatives influenced by multiple factors, while pilgrimage integrates diverse expectations, and religious motivation often stands at the core of these decisions. This doctoral thesis analyses how such factors influence pilgrims' choices between the Portuguese Central Way and the Portuguese Coastal Way. It proposes a multidimensional perspective on pilgrims’ decision-making behavior, highlighting the central role of religious motivation while acknowledging additional influences. The thesis offers new insights into the complexity of decision-making in pilgrimage route choice and contributes to a more comprehensive perspective on contemporary religious tourism.