

Mobility-as-a-Service (MaaS) in Tirol

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Kurzfassung

In der Ära der Digitalisierung und Automatisierung steht die urbane Mobilität vor großen zukünftigen Herausforderungen. Um eine nachhaltige Mobilität zu erreichen, sind hochwertige öffentliche Verkehrsdienste, die Vereinfachung des multimodalen Reisens und die Einbeziehung technologischer Fortschritte von entscheidender Bedeutung um die Abhängigkeit vom Auto zu verringern und umweltfreundliche Fahrten zu fördern. Während die Servicequalität die Bereitschaft zur Nutzung des öffentlichen Verkehrs bestimmt, kann die Verbesserung der Qualität der öffentlichen Verkehrsmittel entsprechend den Bedürfnissen des Nutzers ein entscheidendes Element sein um eine positive Einstellung zum öffentlichen Verkehr und eine Verkehrsverlagerung zu erreichen.

Der Übergang von einem produktbasierten Verkehrssystem zu Mobility-as-a-Service (MaaS) mit zugangsbasierten Servicebündeln weckt Hoffnung auf eine Steigerung der Effizienz des Verkehrssystems. Die Anpassung besserer Verkehrsdienste an die Bedürfnisse der Nutzer ohne die Notwendigkeit der Benutzung von motorisierten Privatfahrzeugen wird langfristig ein nachhaltiges Verkehrsverhalten fördern. Unter Berücksichtigung der Strategien des Landes Tirol, Nachhaltigkeit und Energieeffizienz bis 2050 zu erreichen, konzentriert sich diese Studie Bereitschaft multimodaler Reisender ihr gegenwärtiges pauschaliertes Zeitkartensystem durch ein MaaS-Abonnement zu ersetzen. Der Verhaltensrahmen kombiniert das dienstbasierte Vermittlungsmodell und das Zielrahmenmodell - das Handlungen mit drei motivierenden Perspektiven gestaltet: normativ, gewinnorientiert und hedonistisch. In einem "stated-preference choice"-Experiment wurden 1.416 Antworten von den Fahrgästen im Land Tirol gesammelt. Die empirische Analyse besteht in der Schätzung eines multinominalen Logit-Modells zusammen mit dem SEM zur Validierung des Modellrahmens.

Abstract

In an era of digitization and automation, urban mobility faces significant future challenges. To achieve sustainable mobility, high-quality transit service provision, simplifying multimodal travel, and incorporating technological advancements are vital to reduce car dependency and increase environmentally friendly trips. While service quality determines the propensity for transit use, improving transit service quality according to a user's needs can be a crucial element to achieving a positive attitude towards transit and attaining a modal shift.

Moving from a product-based transport system to mobility-as-a-service (MaaS) with access-based service bundles raises hopes of increasing the efficiency of the transport system. Tailoring better transport services to match user needs without the requirement of privately owned cars will encourage sustainable travel behavior in the long run. Considering the strategies of the Tyrol region to achieve sustainability and energy efficiency by 2050, this study focuses on the willingness of multimodal travelers to replace their current transit subscription with a MaaS subscription. The behavioral framework combines the service-based switching model and the goal-framing model — which shapes actions with three motivational perspectives: normative, gain, and hedonic. A stated-preference choice experiment collects 1,416 responses from the transit users in the Tyrol region. The empirical analysis consists of estimating a multinomial logit model along with SEM to validate the model framework.

1 BACKGROUND

This research investigates the potential of integrated multimodal services (Mobility-as-service) in Tyrol. Mobility-as-service (MaaS), namely aiming at transferring from car oriented regime to access-based transport-on-demand services in multimodal environments offers the possibility to efficient, tailor-made solutions, that on one hand can contribute to more sustainable travel and on the other hand can offer variety and flexibility to transit captives and less affluent travelers. Information and communication technologies available today provides a range of solutions to facilitate the introduction of wide-scale MaaS, including travel apps suggesting multimodal travel alternatives, vehicle/transit stop search and navigation instructions, the possibility for online booking and payment, remote vehicle-to-user communication. In terms of regulatory reforms and policies both public and private stakeholders in various European cities are showing greater propensity to form public-private partnerships and to promote innovative mobility solutions. There have been several long and short-term pilots such as UbiGo (Sweden) and Smile (Austria) conducted, however the commercial implementation of MaaS is still in its nascent phase. Willingness of the users to change existing mobility patterns towards this system is one of the challenges that associates with the market implementation of MaaS. During the field trial of the UbiGO MaaS solution, Sochor et al. (2016) identified matches and gaps between the expected and actual user experience with respect to cost, variety, transport mode accessibility, and usefulness for catering to specific trip purposes. Hesselgren et al. (2019) interviewed employees during a corporate MaaS experiment in Sweden and found that efficacy, flexibility, and convenience are potential satisfaction motivators. Conducting qualitative focus group sessions, Polydoropoulou et al. (2018) identified online payment, coverage, flexibility, and privacy versus personalization as important aspects of the development of MaaS solutions. Ho et al. (2018) showed with an SP survey that current travel with collective and shared-modes, demographic characteristics, and car use patterns explain MaaS adoption intentions. Information regarding demand-side user preferences is fundamental to answer the challenge of transforming MaaS from a niche service to full market implementation (Lyons, 2019). While the current stream of research offers case-specific insights based on the limited operations and short-term trials, there exists a research gap to explore the potential of MaaS to make it mainstream concerning users' willingness to adopt the solution. Therefore, this research1 explores the motivation to switch to MaaS from the current transit yearly subscription in Tyrol, Austria.

This research focus on multimodal young adults who use transit as one of their main mode as MaaS pioneer users. While the traditional reasoning for MaaS is to transform from car travel to more sustainable options, the motivation to target young public transport riders and multimodal users is three-fold. Firstly, in contrast to the common opinion that MaaS will attract

¹ This study is part of the doctoral research at the Unit for Intelligent Transport Systems at the University of Innsbruck. *Sarker, R. (2020). 'Application of behavioral theories to increase the resilience of transit systems based on user-operator interaction' (Doctoral thesis, University of Innsbruck, Austria).*

car owners, a recent Delphi survey among an international expert panel expected young, current transit users, and multimodal travelers to be early adopters of MaaS (Jittrapirom et al., 2018b). Indeed, Ho et al (2018) show that infrequent car users and travelers with higher number of days entitled to unlimited transit use are more likely to use MaaS. Possible reasons are that younger generations delay their licensure and car ownership age due to income uncertainty (Lyons et al., 2019), and that young adults may be more open towards technology, sharing economy and changing their travel behavior (Whittle, 2019). Secondly, the results of Matyas and Kamargianni (2019) show that transit service is a fundamental element of MaaS and travelers are seeking transit subscriptions within MaaS schemes. Karlsson et al. (2016) found similar results regarding the attractiveness of transit tickets provided as an integral part of the MaaS scheme. Albeit based on a small-scale field trial, Strömberg et al (2016) argue that the combination of collective and active transport modes satisfy most travelers' needs. Last, contrary to intuitive thinking, the experiment reported by Matyas and Kamargianni (2019) and by Karlsson et al. (2016) show that transit users would not easily deviate to MaaS despite the added benefit of flexibility and car access.

Notably, the current body of knowledge does not include the application of behavioral theories other than utility-based choice to explain MaaS adoption. Nevertheless, fully encompassing switching behavior to MaaS solutions necessitates the consideration of both external service factors of the new versus the existing system as well internal psychological motivators (Whittle et al., 2019). In this research, external factors within the model for switching between the current and new service bundles are considered (D'Alessandro et al, 2012, 2015). According to D'Alessandro et al (2012, 2015) switching behavior from the current dominant option, namely the transport incumbent operators, to a new service, necessitates the consideration of both the perceived quality of the current service and the perceived usefulness of the future service. As part of this framework, switching behavior relates to consumer satisfaction and market performance indicators of the current service, as well as the usefulness, ease of use and subjective norms associated with the new system (D'Alessandro et al., 2012, 2015).

Regarding internal motivators, Hesselgren et al. (2019) consider technological competences and meanings as internal motivators for MaaS adoption. Nevertheless, the widespread use of smartphones and travel apps and their user friendliness serve as important facilitators for MaaS adoption. Both local and global travel apps have a wide market reach, with global travel apps reaching 50 million consumers each across more than a thousand cities in the world. Thus, the ability of the MaaS solutions to generate social and emotional meanings beyond the mere functionality of the system remains the main motivator for its success. In this research, internal psychological motivators are conceptualized with the three-goal framework (3G), which encompasses normative, gain and hedonic motives (Lindenberg and Steg, 2007).

2 SCOPE OF INTEGRATED MOBILITY SERVICES IN THE TYROL REGION

Innsbruck is the capital of Tyrol in western Austria, with approximately 130 thousand inhabitants. The public transport agency and operator- Innsbrucker Verkehrsbetriebe und Stubaitalbahn GmbH (IVB) operates in the Innsbruck core zone with an integrated ticketing system. While, Verkehrsverbund Tirol (VVT), the Tyrolean Transport Agency collaborates with IVB and serves in Tyrol with 200 Lines including 29 regional buses, 38 commuter trains (S-Bahn), 5 Regional trains, 8 Long-distance trains with a network of 4.530 km and 3300 stations, carrying 70 million user trips per year (VVT, 2020a). At the time of the survey, the total length of the IVB route network was approx. 341 km and there were 24 bus lines and 3 tramlines. Currently, two new tramlines have been introduced, and an extension of these tramlines to the Greater Innsbruck district is expected by 2023. IVB operates with approximately 200 vehicles containing Integrated Onboard Information Systems (IBIS), facilitating real-time communication with the operational control center and signal prioritization (IVB, 2020). From 2017 data, the annual coverage of IVB tramlines consists of 715,149 timetabled kilometers with over 10.4 million user trips a year, while the bus lines comprise 5.5 million timetabled kilometers and 50.2 million user trips. (IVB, 2017).

VVT in collaboration with IVB provides an integrated ticketing system in Innsbruck and the rest of the Tyrol. Different types of tickets are offered by the operators (such as daily, weekly, monthly, yearly, city, and regional tickets). However, since June 2017, two annual tickets are newly introduced— the comprehensive Tirol ticket for the whole region with 490 Euros a year and a Regional ticket for 380 Euros a year, including Innsbruck city transport. These tickets made traveling throughout the Tyrol significantly cheaper than before. Users could have a reduction in transport cost more than 75 percent for Tyrolean commuters with a Tirol ticket and more than 65 percent with a Regional ticket. In 2019, VVT recorded 1, 35,000 yearly ticket users, which are 45% more than 2017 (VVT, 2020a). The IVB Ticket shop app and official websites of the operators allow online ticket purchases. Both operators have mobile and web trip planners (IVB Scout and VVT SmartRide) with real-time information and a dynamic updating system.

Apart from high quality transit service, additional mobility options such as bike-sharing and carsharing are available. The bike-sharing (Stadtrad) facility includes 43 stations and 350 bicycles in Innsbruck. The 'Stadrad' recorded 116,857 user trips in 2019 (IVB, 2019). There is a complimentary discount on the annual bike-sharing fee for the users with a yearly ticket subscription. Registration and booking of the Stadtrad system are available via nextbike-App. Carsharing 24/7 and Drivy are the two car-sharing providers in Innsbruck. Also, three electric car-sharing systems (Beecar, floMOBIL, and WEEZL) operate in Tyrol with varying car sizes from single-occupancy three-wheelers to four-seat family cars. Recently, VVT has collaborated with Beecar and floMOBIL to launch a car-sharing card on a trial basis. This integrated card allows 'annual transit ticket' holders (above 21 years old) to rent E-cars from these providers

within the whole year, by paying an additional 100 euro to their annual ticket. This package includes '20 free hours' and additional hour costs 4 euro/hour. VVT coordinates this new system, and this package can be purchased online with the 'Ticket shop' app. The integration of these E-carsharing services is part of the mobility project 'So drives Tyrol' to enable annual ticket subscribers to manage their 'last-mile' travel (VVT, 2019b). Moreover, this is an essential step to the 'Tyrol Energy Autonomy Programme,' which aims to induce sustainable mobility choices and energy efficiency by 2050, to achieve a 6% decrease in privately owned vehicles by 2020 (Land Tirol, 2017).

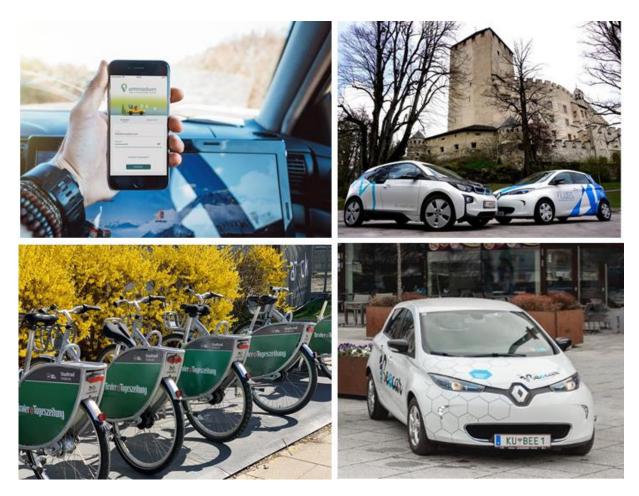


Figure 1: Existing co-mobility services in Tyrol (source: Ummadum, Beecar and flomobil²)

In addition to the public-private partnership of the transit operators and car-sharing providers, an app-based ride-hailing service 'Ummadum' is also launched in Tyrol, facilitating an innovative idea of collaborating with municipalities and companies (Ummadum, 2020). It is currently operating in three cities—Schwaz, Wattens, and Zillertal and expects to extend its operation in other parts of Austria soon. 'Ummadum' is a point-based car-sharing system, exclusive from the conventional car-sharing system, where both the users (driver and user)

https://www.ummadum.com/ https://beecar.at/ https://flo-mobil.com/en

needs to buy points called 'Ummadum Punkte' for using the system, and after each use, they get bonus points called 'Ummadum Punkte zum shoppen' to get discounts for shopping in any of the partner retailers. The additional merit of the system is that municipalities and companies can be a partner with Ummadum, and they can share points with their citizen or employees who want to use the system. In 2019, 'Ummadum' had 870 registered users, and they claimed to save 7.6 tonnes of CO2 gas altogether (Hermann, 2019). Besides the environmental benefits and co-operative mobility system, this service aims to strengthen the communication of the citizen and municipalities as well as the profits of the regional retailers by introducing new customers through the point-based shopping options. Figure 2 shows an overview of the booking and charging facilities of the potential MaaS provider.

	** [INNS' BRUCK	Stadtrad Innsbruck	Beecar	flo MOBIL	ummadum You'tl Never Ride Alone
Vehicle	650 buses 38 commuter trains	200 vehicles	350 bikes 2 cargo bikes	10 cars	56 cars	870 registered users
Service stations	3300 stations	All over Innsbruck	43 stations	3 Municipalities in Tyrol	15 municipalities in Tyrol	3 Municipalities in Tyrol
Tariff and Fees	Integrated Zone-based Tariff	Integrated Zone-based Tariff	€25 per year €1/30 min €15/day	€10 per 6 months €2-4 euro/hour €0.20/km	Monthly base fee €4.90 €2-3/hour €0.20/km	Point-based system Joint ride costs 10 UP Points/ km equals to €0.10
Special offers	Student, elderly and mobility impared	Student, elderly and mobility impared	Discount with yearly IVB/VVT ticket (€15/ year); First 30 min free;€9/day	Special offer for family and companies	Different tariffs for frequent and occasional drivers (no base cost)	Discount in retail shops for both driver and passenger
Booking and payment	Websites, Apps and ticket machines	Websites, Apps and ticket machines	Registration at station, with Apps and websites	Online registration and booking	Online registration and App-based booking	App-based booking

Figure 2: Overview of the potential MaaS collaborators in Tyrol

Considering the strategies for Energy Autonomy Programme, there is a scope to understand the demand for Mobility-as-a-Service (MaaS) to close the temporal and local gaps in transit services. Besides that, existing co-mobility offers in Tyrol entails the need to be integrated into the overall offer and financed permanently. The availability of a shared mobility card integrating transit and bike-sharing, ongoing trials for E-carsharing, as well as the innovative ride-hailing system already accomplish five of the seven conditions for MaaS success in Tyrol-, i.e., provision of physical infrastructure, availability of enabling technology, coordination between

transport stakeholders, availability of mobility data, and attractive business opportunities (Jittrapirom et al., 2018a).

Furthermore, the results from the former study in 2016 in Tyrol shows a reasonable share of multimodal usage (annual transit ticket users with weekly 30% additional car use and 21% additional bike use) and mobile apps usage (56%) for trip planning in Innsbruck (Sarker et al., 2019a). These findings initiate the need to evaluate service aspects of MaaS in comparison to the existing solutions from the users' perspective. Hence, this study focuses on the perceived value of MaaS compared to the current transit subscription, from the customers' perspective. As expected, the successful MaaS business models will depend primarily on the responsiveness of new on-demand mobility services to the daily travel needs of different groups of people, eventually determining the user's acceptance of MaaS.

3 RESEARCH OBJECTIVE AND RESEARCH QUESTIONS

This research is part of the doctoral project that is framed to contribute to the current body-of-knowledge in corroboration of the positive impact of user-centric service design in transit, which copes the evolving needs of the users, by enhancing core functionality of the transit services in the context of service resilience. This research aims to address the missing link between transit policies and user perceptions of the overall system by focusing on the effect of user-operator involvement on integrated mobility solutions, from a socio-technical perspective. Furthermore, it takes a holistic approach to understand the mobility behavior of transit users with the help of behavioral theories used in social sciences and consumer research, allowing to evaluate users' emotional aspects of the decision-making process for effective behavioral change in the system, for the success of a sustainable transit system in the long-run.

The province of Tyrol in Austria is in solidarity with other European regions for sustainable and energy-efficient mobility solutions, and it is part of the EU strategy for the Alpine Region (EUSALP)³, combining 48 regions from seven Alpine states. Mobility is one of the major sectors responsible for higher energy consumption (35%) in Tyrol. Therefore, the goal is to include innovative and ecological solutions for greener transport for energy efficiency by 2050. Attaining a modal shift to transit and increase transit ridership by 3% in 2020 is one of the pillars in Tyrol to achieve energy autonomy (Land Tirol, 2017). This research will contribute to the goal by:



Exploring the need to integrate service-based mobility solutions for transit users based on switching intention to MaaS over current transit subscription, considering the perceived quality of the current service and perceived usefulness of the new system as well as the internal psychological motivators to adopt such solution.

Hence it will investigate to answer the following research question:



"What is the potential of MaaS compared to the conventional transit system from the users' perspective?"

³ https://www.alpine-region.eu/

4 METHOD

4.1 Behavioral framework

Figure 3 presents the proposed behavioral Framework. The framework draws on two relevant models from consumer research and combines service- and consumer-based constructs.

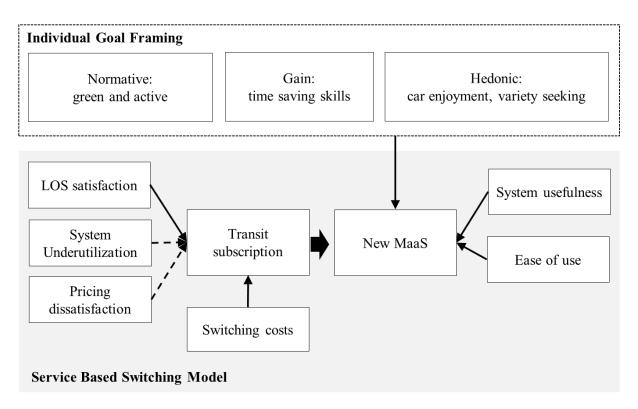


Figure 3: Behavioral framework for switching to MaaS from transit subscription

The first model is the service bundle switching (SBS), developed D'Allesandro et al. (2012) for access-based services, because the MaaS business model is often compared to other access-based consumption business models as mobile phone and digital media services (Bardhi and Eckhardt, 2017; Goodall et al., 2017; Jittrapirom et al., 2018a; Smith et al., 2018). While the adoption of new technologies is often represented with the Technology Acceptance Model (TAM) (Davis, 1993) and its later derivatives, its main disadvantage is that it focuses on the new product while neglecting the consumer view on existing products. Instead, there is much evidence that switching from one service to another depends on the existing product variation, the newly introduced service, and switching costs (D'Allesandro et al., 2015). Because MaaS is rather an evolutionary continuation of current transport integration trends (Lyons et al., 2019), the role of the perceived satisfaction from the current alternative may be significant for explaining switching intentions.

The SBS model expands the framework of the TAM by accounting the service-based push-pull factors for the current service, switching costs, and expectations related to the new service. Service-based factors associated with transit use include general level of service (LOS)

satisfaction, pricing satisfaction, and system underutilization in the case of fixed-price subscription (e.g., monthly or yearly travel card). While LOS satisfaction is not unanimously associated with customer loyalty (D'Allesandro et al., 2012), there is evidence that higher perceived transit LOS is related to higher transit use frequency (Kaplan et al., 2017).

While pricing satisfaction usually refers to bill-shocks related to over-consumption, it would not be the case for transit subscription. Nevertheless, users may perceive the pricing of the yearly transit subscription as too high for a single-mode and considering transit subsidies. While over-consumption is an advantage for transit users as it provides better value for money, system underutilization could be a reason to switch to another service. When transit card serves as an accessory rather than a sole service choice, multimodal travelers may underutilize their subscription, thus perceiving the subscription is less cost-effective. While transit users are sometimes captives, recent data show that they are becoming multimodal travelers. From a survey conducted among a representative sample of transit users in Sweden, more than 80% have a driving license and a car available, and only about 25% perceive themselves as transit captives (Abenoza et al., 2017). In addition, the survey conducted in Innsbruck in 2016, shows that among yearly transit ticket holders, 30% use cars, and 21% use bicycles more than twice weekly (Sarker et al.,2019a). Thus, multimodality could lead to transit subscription underutilization.

In addition to the satisfaction and use of the existing service, switching costs play an important role in the propensity to switch. If the switching costs are higher, consumers are less likely to switch from the exiting to the new service, regardless of their appeal (D'Allesandro et al., 2012). Switching costs from transit to MaaS subscription are hypothesized to be related not only to the price difference between the two service bundles but also to deviation from inertia and expected decision effort associated with complex multimodality.

The second model encompasses the internal motivation of the traveler to switch from the current service to the new service considering the expected functional and emotional benefits. Lindenberg and Steg (2007) introduced the goal-framing model, which shapes actions through three motivational perspectives: normative, gain, and hedonic.

The normative goal framing "be better" accounts for the need to behave following one's values and beliefs and to stay true to own self-concept. People with normative such as green, healthy, or active lifestyle could choose MaaS because of the inclusion of bike-sharing as an alternative travel mode.

The gain goal framing "do better" implies the pursuit of utilitarian values such as monetary or timesaving. In the context of MaaS, gains are better travel efficiency in matching trip characteristics and mode, and timesaving.

The hedonic goal framing "feel better" encapsulate the desire to derive pleasure and enjoyment because of the action taken. Hedonic travel experience links to enjoyment associated with the car, variety seeking, and higher flexibility. The three-goal (3G) model was found empirically valid

by Dastjerdi et al. (2019) for explaining one aspect of the first from the five stages of MaaS implementation described by Lyons et al. (2019), namely the intentions to use a mobility management multimodal travel app based on real-time travel information, albeit without the possibility of booking and payment.

The following research hypotheses stem from the behavioral framework:

- H1: Greater transit LOS satisfaction negatively relates to switching intentions
- **H2**: Higher perceived switching costs negatively relates to switching intentions
- **H3**: Transit system underutilization positively relates to switching intentions
- **H4**: Transit system pricing dissatisfaction positively relates to switching intentions
- H5: Higher perceived MaaS usefulness positively relates to switching intentions
- **H6**: Higher perceived difficulty of negatively relates to switching intentions
- H7: Normative goal framing positively relates to switching from transit to MaaS
- **H8**: Gain goal framing positively relates to switching from transit to MaaS
- H9: Hedonic goal framing positively relates to switching from transit to MaaS

5 DATA COLLECTION AND EMPIRICAL ANALYSIS

The data for investigating the research hypotheses were collected with a tailor-made web-based survey developed in collaboration with IVB and VVT. The survey was designed on the online platform 'Surveymonkey,' eliciting the intention of switching to app-based integrated mobility packages over current transit subscription. Figure 4 shows the research methodology and anticipated output at a glance.

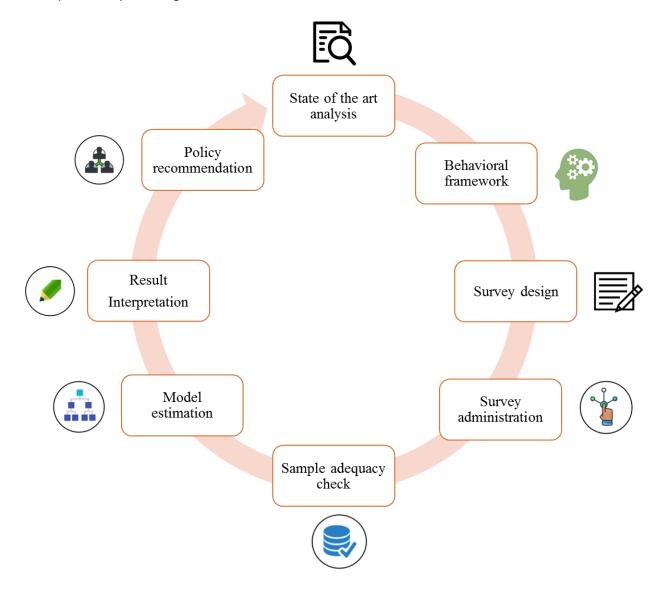


Figure 4: Research Methodology

The survey consisted of two parts –the first part comprised the choice experiment between the current subscription and MaaS packages, and the later part illustrated the latent construct underlying the decision of the chosen alternative. To help respondents in understanding the concept of MaaS and to facilitate the imagination of the respondents in real-life choice situations, a short description of the functionality of MaaS and a hypothetical app-based MaaS service 'INN Mobil' was introduced at the beginning of the survey. The pictures provided with the description were taken from the Vienna-based route-planning app, 'Wegfinder.' Notably, at the time of the

survey in 2019, there were no commercially operating MaaS services in Austria. However, 'Wegfinder' was already available in Vienna, functioning mainly as a route planning app, showing all the possible transport alternatives in the vicinity for a particular route and partially following MaaS principles by enabling users to buy transit tickets with this app (Wegfinder, 2020). Therefore, it was assumed that participants might relate more with the concept of MaaS associating these pictures, and some participants may have a previous user experience. However, the example above 'INN Mobil' on which the choice experiment evolves, was inspired by Helsinki's all-inclusive MaaS App 'Whim'-commercially operated by MaaS Global and acclaimed as the world's first MaaS operator.

Following an exploratory factor analysis, Structural Equations Model (SEM) served for the estimation of the relation between the intentions to share information and the hypothesized motivational factors. To understand users' preference for travel modes, services, or willingness to pay measures for specific travel attributes, Discrete choice experiments (DCE) are widely used (Bliemer and Rose, 2011). Therefore, This study has also used Multinomial Logit Model (MNL) model to estimate the data from a stated choice experiment using the maximum log-likelihood technique. The software used for the MNL estimation is Nlogit⁴. To formulate the choice experiments in this study, the D-efficient design method is used to minimize the standard errors and to provide more reliable parameter estimates (Bliemer and Rose, 2011). The commercial software Ngene⁵ was used to generate the experiment. The following part of this chapter describes the design of INN Mobil packages and the choice experiment in details.

5.1.1 Survey design - Part I: Choice experiment 'INN Mobil' representing switching costs

As already mentioned that the MaaS service in the experiment 'INN Mobil' was inspired by 'Whim,' which was first launched in Helsinki in 2017 and later extended its endeavor to cities in western Europe (Antwerp, West Midland, Vienna) and Asia (Singapore and Greater Tokyo) (Whim,2020). At the time of the survey in 2019, Whim only had three different packages-Whim to go, Whim Urban and Whim Unlimited.

'Whim to go' offers the flexibility of using different transport modes spontaneously (excluding city bike) without any subscription fee. 'Whim Urban' includes monthly subscription fee with additional benefits on the use of transit, city bike as well as taxi. 'Whim Unlimited,' is another monthly subscription package with a much higher price compared to Whim urban, offering additional unlimited taxi rides and car rental kilometers. Figure 5 shows the Whim plans in 2019, which were taken into consideration while designing the packages for this study. However, the current 'Whim' system is updated with two more mobility packages and does not show this image on their website.

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⁴ http://www.limdep.com/products/nlogit/

⁵ http://www.choice-metrics.com/features.html

	Whim To Go	Whim Urban	Whim Unlimited	
Monthly payment	Free	49€	499€	
Local public transport	Pay per ride	Unlimited Single Tickets	Unlimited Single Tickets	
City Bike	Not included	Unlimited (30min)	Unlimited	
Taxi (5km radius)	Pay per ride	10€ per ride	Unlimited	
Car rental	Pay per ride	49€ per day	Unlimited	
Car share	Coming soon	Coming soon	\odot	
Cancel anytime	\otimes	\odot	\odot	

Figure 5: Whim packages (source depicts data in Hartikainen et al., 2019)

Initially, the 'INN Mobil' service in the stated preference choice experiment comprised two MaaS packages— 'Pay & Go' and 'Tyrol Flex,' depicting the key alternatives of 'Whim Go' and 'Whim Urban.' However, the car rental was excluded. The pricing of the alternatives among the packages of 'INN Mobil' was adopted based on the existing fare for yearly transit subscription, city bike, and E-car-sharing system in Tyrol to provide realistic options, as this type of experiments with hypothetical situations might encourage response bias. Additionally, while designing the new MaaS service, the potential of the E-bike in Innsbruck was considered due to its topography. Hence, the E-bike was included in the service instead of the conventional city bike, and the pricing was adopted from the present bike- sharing facility (Stadrad).

For the choice sets in the experiment, d-efficient design method was used to create scenarios of choice alternatives for complete choice situations (Bliemer and Rose, 2011). The prior expectation of the size and sign of the attributes' effect was assumed from previous relevant literature and pilot surveys. Commercial software 'Ngene' served to produce an efficient design for this experiment (ChoiceMetrics, 2019). The experimental design was divided into nine blocks, and each block consisted of four choice situations with three alternatives, i.e., 'Current transit ticket,' 'Pay & Go,' and 'Tyrol flex.' At the beginning of the survey, respondents were asked about the last digit of their mobile number to distribute the block numbers randomly.

Before the final survey administration, two pilot surveys were conducted in June 2019, to check the comprehensibility of the questionnaire as well as the understanding of package pricing among the respondents. The first pilot was distributed via email among 60 students, who were registered for the exercise course' Transport Planning' for BSc in Civil and Environmental Engineering, offered by the Unit for Intelligent Transport Systems and obtained 212 choice observations, where 53 respondents fully completed four choice tasks. The result of this pilot and respondents'

feedback indicated the complication with design, in terms of attributes and attribute levels. Therefore, the experiment was simplified by excluding the 'Pay & Go' option along with two other attributes—cancellation and taxi service.

The revised design of INN Mobil consisted of two MaaS packages— 'Tyrol Flex1' and 'Tyrol Flex 2,' including transit trips, bike-sharing, and car-sharing attributes with variations in price and options. These packages partially represented the key characteristics of 'Whim Urban,' which also includes transit tickets and city bikes (Whim, 2020). Moreover, as the existing transit fare structure provide tickets for students and elderly users (above 64 years) with lower price, therefore the survey included two different price schemes for the MaaS packages, one depicting the regular price and another one with 30 % price reduction.

Afterward, the second pilot was conducted with the revised design using the CAPI method at different locations in Innsbruck, accumulating 99 samples and 396 choice observations based on four choice tasks—representing different socio-economic backgrounds and travel habits. Based on the result of the second pilot and consultation with the operators, the final experiment was prepared using Ngene. MNL estimates of the parameters from the data obtained in the second pilot were used as priors for the final experiment. The final design was also divided into nine blocks for each of the options (regular and discount), and each block consisted of four choice situations with three alternatives, i.e., 'Current transit ticket,' 'Tyrol flex1,' and 'Tyrol flex 2'.In the same way, at the beginning of the survey, respondents were asked about the last digit of their mobile number to distribute the block numbers randomly. Next, participants were asked if their current transit subscription included semester ticket or yearly senior ticket. Based on their answer, they were assigned to the respective price scheme, i.e., regular or discount. The price schemes appeared to the respondents four times, each time with three alternatives.

Table 1: Atrributes for INN Mobil packages

Alternatives	Attribute	User group	Attribute Levels
	Current ticket price per month (€)	Regular	39
Package	Current ticket price per month (c)	Discount	27
1 ackage	MaaS Subscription per month (€)	Regular	49, 59, 69
	Maas Subscription per month (c)	Discount	34, 41, 48
Transit	Transit free Trips		20, 40, 60
	Free use (minutes)	1	30, 60
E-car	Time-based cost (euro per hour)		5
	Discount on 5€ (%)	Both	10, 20, 30
E-bike	Price per 15 minutes (€)		0.25, 0.50, 0.75
L DING	Free Trips per ride (minutes)		15, 30

Table 1 shows the final pricing attributes and their varied levels for regular transit users as well as users with discounts. The price for current transit ticket for a month and MaaS packages varied

between the two groups, defined by their existing transit subscription. In the choice sets, the price for the alternative 'Current transit ticket' is fixed, and the MaaS packages are varied in three levels. In terms of transit tickets, three levels of transit trips are assumed practical, considering the usage of alternative modes within the package. Monthly time-based free use of E-car varied in two levels, but the time-based cost is fixed at five euro per hour, and an additional discount on this time-based cost varied in three levels. The free minutes per ride included in E-bike varied in two levels, and cost for extra hours varied in three levels, correlating the current city bike (Stadtrad) tariff in Innsbruck, which provides a discount for both yearly and semester ticket holders. Overall, the efficient design of 36 choice sets (for each group) was developed using priors obtained from the second pilot. Figure 6 shows an example of the choice situations for regular transit users in the survey. For a better understanding of the experiment, the complete survey questionnaire is provided in ANNEX.

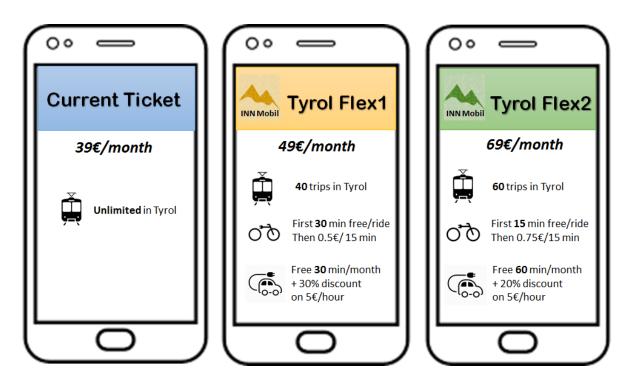


Figure 6: Example of the INN Mobil bundles provided in the survey for regular users

It is worth mentioning that the initial analytical framework involved the 'Integrated choice and latent Variable Model (ICLV)' or commonly known as the Hybrid choice model (HCM), following the procedure tested and described in Kim et al. (2017). HCM allows simultaneous identification of personal latent characteristics (i.e., level of satisfaction and individual goals) and their effects on the switching intention, by incorporating a latent variable model into a discrete choice model. The latent variable model is based on an exploratory factor analysis that identifies the underlying structures among the measured variables, followed by confirmatory measurement equations linking the underlying latent individual goals and estimation of their observed indicators.

However, due to time constraints and various factors associated with estimating such a complex model, this study presents separately a discrete choice (MNL) model, followed by the SEM to understand the use intention of MaaS over the current transit subscription. Notably, the estimation using HCM will continue, and the expected outcomes are described in section 7. The following part of this chapter details the second part of the survey, which includes questions on latent constructs, travel habits, as well as socio-economic characteristics.

5.1.2 Survey design - Part II: Attitudinal questions and socio-demographics

5.1.2.1 Satisfaction with transit LOS, system usage and pricing

The SBS model in the behavioral framework relates use intention of transit with current LOS satisfaction. Hence, the satisfaction with the current transit system in the survey addressed accessibility and reliability of transit system, network coverage in terms of lines and stops, convenient operating hours, frequency, travel time and waiting-time, comfort and cleanliness of station facilities, and about the travel information apps. It was assessed on a 5-point Likert scale ranging from very dissatisfied to very satisfied.

Another aspect of the service-based factors to initiate switching from current subscription concerns the extent of current service use and the difference between perceived and actual use. Here, system underutilization was addressed in terms of transit lines, frequency of alternative mode use, and one's preference for access to transit without the need for optimal use.

As already stated that multimodal travelers may perceive the current subscription as less value for money due to the underutilization, therefore price dissatisfaction is an important indicator to understand the behavioral intention to stay or switch to a new service. The survey addressed price dissatisfaction by including bill-shock and users' perceived monthly price efficiency.

5.1.2.2 Use intention of INN Mobil

The future use intention of MaaS relies on the perceived usefulness of the services to the current travel options. The survey addressed the advantages with the new MaaS system 'INN Mobil' considering the benefit of different mode availability compared to the current system as well as the simplicity of booking and payment options. Travel time efficiency and expansion of travel distance due to the convenience of the tailored trip were also addressed.

However, the difficulty of use included the perceived complexity of switching to this new system, compatibility to imagine using such a system, and expected time effort in being familiarized with the app. Concerns with service availability addressed sufficient car fleet, valuable information share (e.g., credit card details), as well as being skeptical about the user-friendly interface. The perceived discomfort in riding a shared bike and inexperience with driving an E-car were also included as perceived difficulties with the MaaS service. All the items were elicited with a 5-point Likert scale ranging from strongly disagree to strongly agree.

5.1.2.3 Goal framing theory

Normative Goal framing addressed motivation to use active travel modes to achieve fitness and maintain a healthy lifestyle. Environmental awareness was also incorporated by asking the intention to reduce car use and willingness to pay more for greener transport. The items were elicited with a 5-point Likert scale ranging from strongly disagree to strongly agree.

Gain goal addressed the individuals' time-saving preferences over monetary cost. Hedonic motives involved enjoyment with car driving, acceleration, and speed, as well as self-identity associated with it. The preference for flexible mode choice based on travel needs and the destination was also incorporated. Both of them were measured on a 5-point Likert scale ranging from never to always. Further, one's curiosity for innovative mobility solutions was also included, measured on a 5-point Likert scale ranging from strongly disagree to strongly agree.

5.1.2.4 Travel habits

Participants were asked regarding the frequency of using various transit modes (i.e., bus, tram, and rail) and the frequency of using alternative modes (e.g., bike and car). Experience with different shared transport services was also asked. Trip characteristics consisted of trip purpose, average daily travel duration, use of travel information apps, and payment method (i.e., single trip, multi-trip, or yearly ticket).

5.1.2.5 Socio-economic attributes

This part of the questionnaire included age, gender, employment status, income, and ownership of bike, car, or driving license. The income level was decided based on the documentation about the net monthly income of employed persons in the Austrian Federal States (Statistik Austria, 2018). Notably, Respondents' socio-economic attributes, trip purpose, and daily travel duration were elicited using the scales from the Austrian Mobility Survey in 2013-14 (BMVIT, 2016).

5.1.3 Survey administration

The final survey was administered in German during August 2019 as Computer Assisted Personal Interviewing (CAPI) survey onboard and as online survey. Online surveys were distributed with the web links through university mailing lists with the possibility to reach around 32,000 participants. Additionally, it was distributed through the official websites and social media sites of IVB and VVT as well as personal contacts. As the focus group of the survey comprises not only transit users but also car users, it was also distributed among the employees of the private organizations in Innsbruck through an agency (Standortagentur Tirol GmbH) assuming more car travel among the participants from the companies rather than onboard transit users.

The students as official surveyors administered the onboard survey with CAPI method. The survey took place on weekdays covering both off-peak morning hours (09:00-12:00) and evening peak hours (15:00-18:00) and during weekends, covering the whole day. While the expected survey completion time was estimated at 15 minutes from the pilots, the expected sample

collection was based on four surveys per hour. An independent reviewer observed the onboard survey to make sure that the devices were working properly and that transit riders were approached randomly and with courtesy. The buses to board were randomly chosen by the surveyors using the "first vehicle" strategy, which takes into account stratification by line frequency. Transit riders were approached in the four central stops: the city center (Maria-Theresien-Strasse), the main city bus and tram hub (Marktplatz), the central rail station (Hauptbahnhof), the regional bus station (Finanzamt) and a stop nearby a shopping mall (Sillpark). These stops included bike-sharing facilities and the surveyors were also instructed to approach the potential users of the new system from bike-sharing facilities. However, adequate responses could not be collected at these bike-sharing facilities, possibly due to the resistance of the users to answer for monetary issues (e.g. the bike-sharing app starts accumulating free bike minutes as soon as it is removed from the docking station).

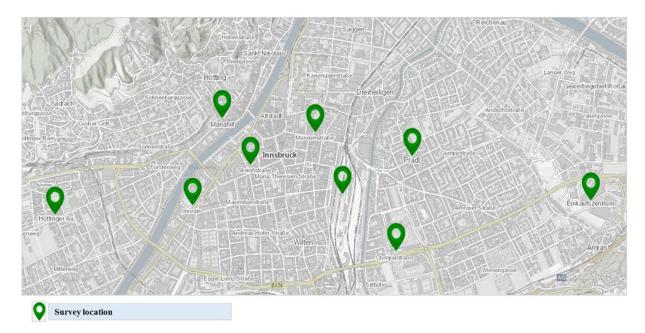


Figure 7: Survey locations in Innsbruck (Map source: Tiris, 2020)

The onboard survey covered 42% of the city lines, 58% of the regional lines including 5 out of 6 suburban train lines. Apart from the onboard survey, 19% of the responses were accumulated from stations, popular leisure destinations (e.g. shopping malls in Innsbruck) and outdoor parking area of the shopping mall DEZ/IKEA.

Upon completing the survey onboard and onsite, the participants received chocolates as a token for their participation. In addition, the participants could participate in a prize raffle by giving their email addresses. The types of prizes for the raffle were selected based on the locally popular activities to increase the response of the survey. The prize raffle in Innsbruck with the total value of 500 Euro consisted of three breakfast-for-two invitations in a well-known mountain restaurant, five tickets for a panoramic mountain view, five 20 Euro gift cards from a well-known book store, and tickets from transit operators (typically yearly, monthly and weekly transit card). The total cost for the prize raffle was 2 Euros per respondent for each survey.

6 RESULT

6.1 Sample characteristics

6.1.1 Willingness to switch to 'INN Mobil'

In total, the survey yielded 1,416 complete responses (98% response rate). The online survey yielded 70% of the completed questionnaires. Figure 8 shows the choice between current ticket versus the new MaaS system 'INN Mobil' for regular users and users with reduced fare. About three-quarters of the respondents choose the current transit subscription over the tailored mobility packages in both categories. Among the respondents, 38% have their current transit subscription with reduced fare (semester ticket or yearly ticket for elderly).

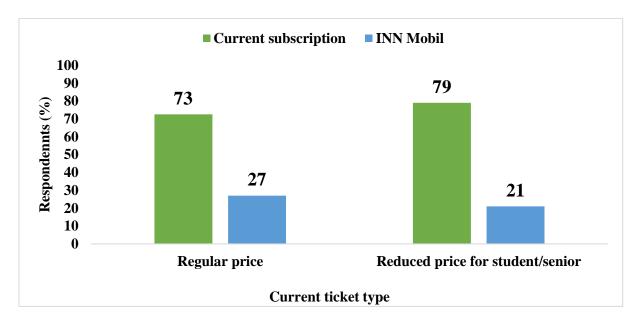


Figure 8: Choice between current transit ticket and MaaS system 'INN Mobil'

Table 2 presents the sample characteristics. In this survey, more than half of respondents are female transit users. The age distribution shows relatively higher percentage of younger population. Regarding the employment, one-third of the respondents are engaged in both work and study and 23% of the respondents are only studying. In terms of wages, nearly half of the respondents earn less than the average income in Austria (i.e. between €2000-3000 per month) and nearly one-third of the respondents prefer not to notify their income.

Table 2: Sample characteristics

Variable	Categories (%)	
Gender	Male	43
	Female	57
Age	18-20	16

	21-30	46
	31-40	15
	41-50	10
	51-60	8
	>61	5
Employment status	Studying	23
	Working	37
	Both	34
	None	6
Average Income	<average< th=""><th>41</th></average<>	41
	Average	28
	>average	11
	don't prefer to answer	20
Own bike/license/car	Bike	88
	Driving License	92
	Car-always available	39
	Car- partially available	43
	Car-none	18

6.1.2 Trip Characteristics

In terms of car use, the majority of the respondents hold a driving license and have access to cars and bikes. Figure 9 shows respondents' frequency of mode use. Notably, 39% of the respondents use the car regularly, and 47% of the respondents travel with bicycles frequently. When considering transit captives, only 30% of respondents do not have a car and bike, solely using transit (see Table 2 above). Hence, this sample reflects sufficient multimodal trips.

Table 3 presents the trip characteristics of the respondents. More than half of the respondents are regular customers, using yearly and semester tickets. One-third of the respondents travel considerably longer with transit (>46 min). Respondents used transit mostly for going to work, shopping, and leisure activity. Considering experience with shared transport services, only one-third of the respondents have experience with car-sharing and bike-sharing services in Tyrol.

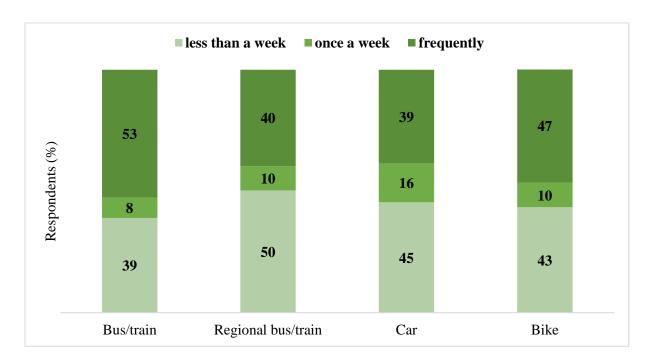


Figure 9: Frequency of mode use

Table 3: Trip characteristics

Variable	Categories (%)	
Ticket type	Yearly*	35
	Semester	32
	8-trip	12
	One-way	15
	Others	6
Average daily travel with transit	<15 min	12
	16-30 min	31
	31-45 min	18
	46-60 min	16
	>60 min	19
Trip purpose**	Work	24
	Education	17

		Shopping	21
		Escort	4
		Leisure	34
Service experience	Car-sharing	Informed	86
		Experienced	12
	Bike-sharing	Informed	82
		Experienced	17

^{*}Yearly ticket combines both regular and special yearly tickets; including yearly-senior tickets.

6.1.3 Experience with shared transport services

Although only a limited number of respondents have experience with the services, Figure 10 and figure 11 shows that respondents who have their car and bike somewhat inquisitively used the services more than those who do not have access to these modes. Respondents who have access to cars partially, they have more experience with bike-sharing schemes than the carsharing facilities. It should be noted that 92% of the respondents have driving license.

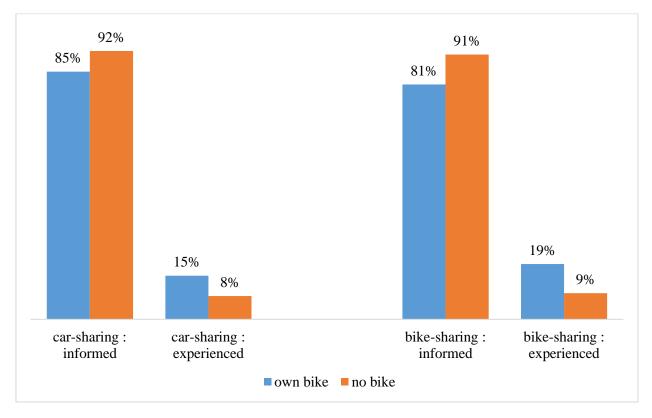


Figure 10: Bike availability and shared service experience

^{**}respondents could choose more than one answer

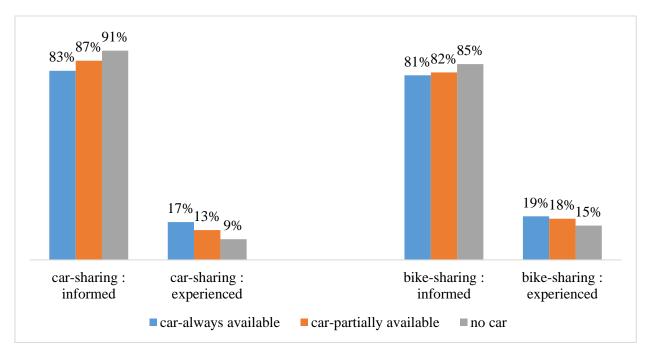


Figure 11: Car availability and shared service experience

6.1.4 Familiarity with app-based ticketing system

Travel information apps are frequently used by the respondents, provided by the IVB, VVT and the Austrian railway (ÖBB) (see Figure 12, respondents could choose more than one answer). However, only 12% of the respondents buy the ticket online with the app "Ticketshop"— an integrated app allowing users to purchase all types of tickets for bus, tram, and commuter trains in Tyrol as well as tickets for long-distance trains to other destinations in Austria. This app was launched in April 2019, so the potential of this app may not be fully explored from this sample, as it was relatively new at the time of the survey. Nevertheless, the operators expect to sell 25% of all tickets with this app by the end of 2020 (Tiroler Tageszeitung, 2019).

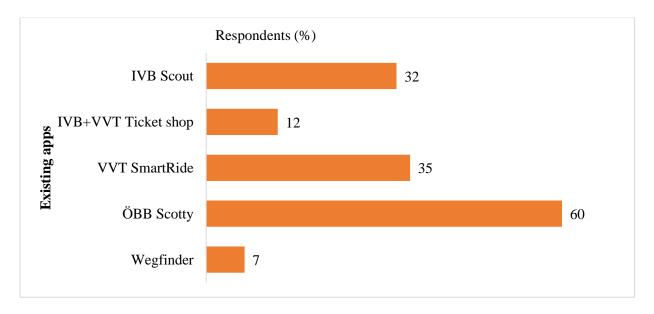


Figure 12: Current app usage

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6.1.5 Price dissatisfaction as a motivator in switching

While the price of yearly transit subscription is generally fixed and intended to use abundantly to gain 'full' value for money, it could be perceived as expensive for a single-mode by the multimodal travelers and can initiate the dissatisfaction with the existing subscription. When asked about the satisfaction with present travel expenses (Figure 13), nearly half of the respondents agreed that their monthly travel expenses, including all transport modes, are costly, and the full value for the price is ambivalent. Figure 14 shows that mainly students having semester tickets and occasional transit riders have *strongly agreed* to the statements compared to the yearly subscription holders.

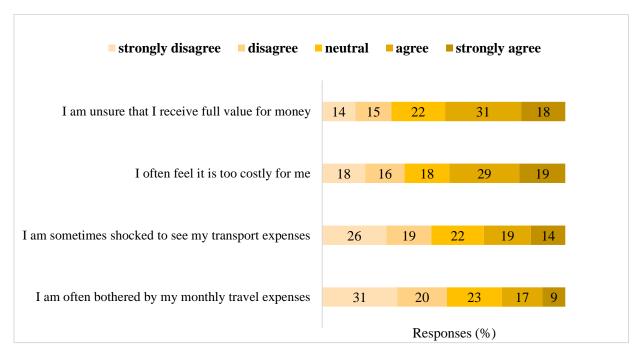


Figure 13: Frequency of price dissatisfaction with current travel expense

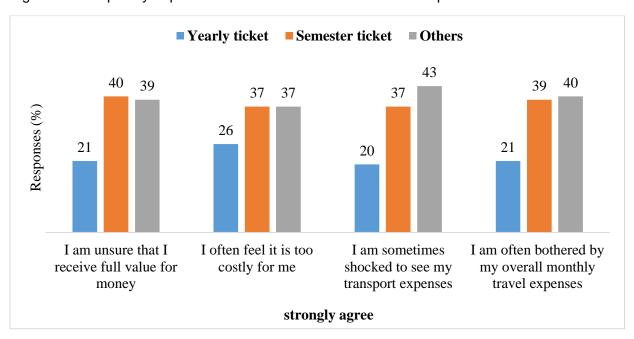


Figure 14: Responses on the price dissatisfaction based on ticket types

Also, analyzing the ticket type versus respondents' income level identify that the respondents from both 'average' and 'above average income' group have a similar amount of subscription of yearly transit tickets for Tyrol region (> 30%) in comparison to the lower-income group (12%), where more than half of the respondents possess semester ticket (52%). In particular, there is a significant increase in the use of a one-way ticket (27%) among the higher-income group than any other income group.

Mostly occasional riders and students with lower-income are not satisfied with the monthly expense. Apparently, overestimation of the transit trips and additional expenses with unplanned transit use can aggravate their dissatisfaction with the unforeseen monthly expense, resulting in switching to new services with a more flexible and predictable mobility plan. Figure 15 shows the responses with *strongly agree* for the price dissatisfaction based on the income level.

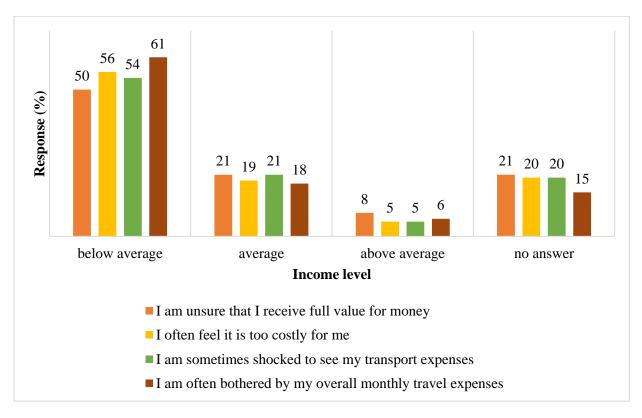


Figure 15: 'Strong agreement' with price satisfaction based on the income level

6.1.6 Strengths and limitations of the new MaaS service 'INN Mobil'

A limited number of respondents in this study choose MaaS instead of the current yearly transit subscription. However, the participants agreed that it would bring positive changes in their current travel behavior in terms of a simplified payment option (53%) and flexibility to use more travel modes (62%). Figure 16 shows the responses to the expected advantages of the INN Mobil service. This sample has transit captives (30%); however, it has very few car-only respondents, which limits exploring the intention of these user groups in switching to MaaS. Based on the frequency of mode use, 60% of the frequent transit users agreed that it would provide them access to other modes, while 64% of the daily bike users agreed that it would expand their travel

distance. The majority of the respondents (68%) who travel daily with the car also agreed on the merit of this system in providing access to other modes compared to the non-car travelers (59%).

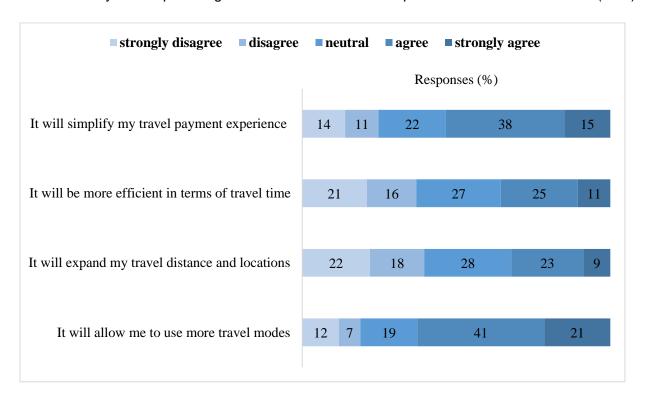


Figure 16: Expected advantages with 'INN Mobil'

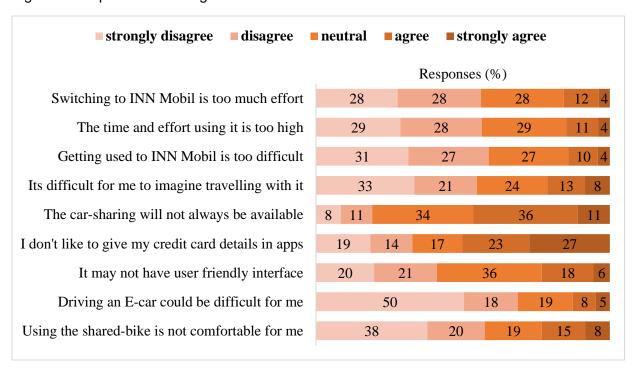


Figure 17: Perceived difficulties of switching to INN Mobil

Accentuating the switching costs in the form of effort expectancy to adopt a new service, the respondents mostly perceived difficulties with this system regarding data privacy and availability of the car-sharing fleet. Figure 17 above shows the responses on the perceived difficulty of the

service INN Mobil. However, this result illustrates that MaaS has the potential for early market intervention in Tyrol if promoted correctly. With transparent communication on handling personal information, as well as service availability, can increase the user acceptance, as more than half of the respondents agreed that it is not difficult to imagine traveling and acquainting with INN Mobil.

6.2 Exploratory factor analysis

The eleven factors—namely pro-cycling attitudes, perceived difficulty of using the MaaS app-based service INN Mobil, price dissatisfaction, satisfaction with the current service, pro-car attitudes, perceived usefulness of the app INN Mobil, mode flexibility, pro-environmental attitudes, taste for innovative mobility options, time-saving preferences, and current system underuse were extracted by Principle Axis Factoring, and Varimax rotation with Kaiser Normalization was applied to form the orthogonal solution. The factor loadings showing the correlation coefficient between observed variables and latent factors are provided in the table 4. As the data consists of many variables, factor loadings are part of the data reduction to explain which of the factors appear in which of the observed variables. In this case, the 'cut off' of 0.40 was set to simplify factor labelling, by retaining a set of items representing the factors. As an example, the observed variables or items for cycling and sport activities were correlated and appeared as the factor "Pro-cycling attitudes".

The Kaiser-Meyer-Olkin (KMO) values are within the required range, well above 0.6, for most items showing good sampling adequacy. KMO actually shows how suitable the data is for factor analysis. So, the scale validity, reliability, and sample adequacy were tested and confirmed using Cronbach's alpha = 0.730 and KMO = 0.833, confirming data suitability for the SEM estimation. Barlett's test for Sphericity rejects the null hypothesis that the correlation matrix is an identity matrix (p=0.000).

Table 4: Exploratory factor analysis

Factor name	Item	КМО	Factor loadings
Pro cycle attitudes (F1)	Cycling helps me stay in shape	0.879	0.887
, ,	Cycling helps me reach my fitness goals	0.900	0.859
	Cycling helps me maintain high energy	0.871	0.909
	Cycling helps me to get the exercise I need	0.885	0.894
Perceived Difficulties	Switching to INN Mobil is too much effort	0.841	0.779
with INN Mobil (F2)	The time and effort using INN Mobil is too high	0.829	0.783
	Getting used to INN Mobil is too difficult	0.881	0.771

	It's difficult for me to imagine travelling with INN Mobil	0.917	0.514
	I don't like to give my credit card details in an app	0.868	0.389
	It may not have user friendly interface	0.875	0.425
	Driving an E-car could be difficult for me	0.830	0.355
	Using the shared-bike is not comfortable for me	0.879	0.404
Price dissatisfaction	I am unsure that I receive full value for money	0.851	0.624
(F3)	I often feel it is too costly for me	0.823	0.857
	I am sometimes shocked to see my transport expenses	0.779	0.877
	I am often bothered by my overall monthly travel expenses	0.800	0.839
LOS satisfaction	satisfaction-Travel time	0.804	0.578
(F4)	satisfaction- Waiting time	0.757	0.668
	satisfaction- Operating hour	0.843	0.619
	satisfaction- Network	0.796	0.653
	satisfaction- Stops/facilities	0.817	0.663
	satisfaction- Reliability & Punctuality	0.824	0.541
	satisfaction- Information Apps	0.848	0.452
Pro-car attitudes (F5)	I like driving a nice car	0.890	0.670
	I think driving is cool	0.832	0.786
	I feel great when I drive	0.804	0.833
	I enjoy the car acceleration and speed	0.844	0.763
INN Mobil usefulness (F6)	It will simplify my travel experience (e.g. one-stop- shop for tickets)	0.854	0.686
	It will be more efficient in terms of travel time	.810	0.762
	It will expand my travel distance and locations	0.804	0.705
	It will allow me to use more travel modes	0.834	0.663
Mode flexibility (F7)	I often change my travel mode according to my needs	0.866	0.699

	I often change my travel modes on the same day	0.781	0.756
	I often change my travel modes between days	0.787	0.762
	I often change my travel mode by my travel destination	0.808	0.512
Pro- environment attitudes (F8)	It is my responsibility to take action to be environmentally friendly	0.849	0.704
	I limit my auto travel to reduce congestion and environmental pollution	0.859	0.602
	We must act and take decisions to limit emissions of greenhouse gas	0.835	0.706
	I am willing to pay more for supporting environmentally friendly initiatives	0.871	0.537
Taste for innovation (F9)	I think it is fun to try out new transport options	0.797	0.771
	I am curious about new transport options	0.784	0.825
	I prefer to use familiar transport options	0.879	-0.427
	I am interested in searching various transport options	0.889	0.597
Time-saving preference (F10)	I often choose the fastest option even if it means paying more	0.746	0.721
	I often arrive on-time even if it means paying more	0.783	0.682
	I often avoid waiting time even if it means paying more	0.704	0.852
System underuse	I often feel that I have not used it as I have expected	0.797	0.389
(F11)	I like to have it just in case so I don't use it to the maximum	0.732	0.404
	Although I have my card I often use other modes	0.797	0.601
	I am only using very few lines so I don't need the full network coverage	0.705	0.521
	I .	l	1

6.3 Model estimation

6.3.1 Multinomial Logit Model (MNL)

Concerning the effect of switching costs regarding the package price difference and alternative attributes, a simple multinomial logit model is estimated, with 1416 respondents making 5664

choices and 16992 observations. The deterministic components in this analysis combined monthly package prices, the number of free transit trips, discount on using E-car and monthly free use, the minute-based price for E-bike use, and free bike minutes per ride—for both the user groups (regular and discount). The logit model used in this study is based on the random utility theory, $U_{in} = \beta_{i1} X_{in1} + \beta_{i2} X_{in2+...+} \beta_{ik} X_{ink+...+} \beta_{ik} X_{ink+} \varepsilon_{in}$, where, $U_{in} = \text{utility of alternative i of individual n}$, $X_{ink} = k^{th}$ attribute of individual n corresponding alternative I, $\beta_{ik} = \beta_{ik} X_{ink+...+} \beta_$

U (Current transit subscription) = b0_Current Transit subscription +b1*Price

U (Tyrol Flex 1) = b1*PP1 + b2*PTT1 + b3* ED1+ b4*EF1+ b5* BP1 + b6*BFT1

U (Tyrol Flex 2) = b1*PP2 + b2*PTT2 + b3* ED2+ b4*EFT2+ b5* BP2 + b6*BFT2

Where, PP= Package price, PTT=Transit trips, ED= Discount on time-based cost (E-car), EFT= E-car free minutes, BP=E-bike price, BFT= E-bike free rides and (b0, b1, b2, b3, b4, b5, b6) = Coefficients to be estimated.

Table 5 shows the estimated result based on 5664 choices, combining both groups, i.e., users with regular transit tickets and users with a reduced fare. The Goodness-of-fit index in the table explains if the sample represents the data one would expect to get in actual population. These are statistical tests to understand if the set of observed values are similar to those expected under applicable model.

Table 5: Estimated results for combined user groups

	Attribute	Estimate	Standard error	z- statistics
Alternative- attribute	Package price	-0.058***	0.005	-11.52
	Transit trips	0.016***	0.002	7.32
	Free minutes (E-car)	-0.001	0.002	-0.65
	Discount on time-based cost (E-car)	0.006*	0.004	1.67
	Price per 15 minutes (E-bike)	-0.191	0.151	-1.27
	Free rides(E-bike)	0.008**	0.004	2.05
Alternative-specific constant	Current transit subscription	1.615***	0.236	6.86

Goodness-of-fit index	Log likelihood -constant only	-4171.9334
	Likelihood ratio index R ²	0.0280
	Adjusted R-squared	0.0274
	Akaike Information criterion-AIC	8124.6
***, **, * Significance	at 1%, 5%, 10% level	1

The current transit subscription is set as the reference alternative. The result shows that respondents prefer to use current transit tickets compared to the new MaaS system. The negative signs of the estimated parameters regarding package price means that the higher the price of the package is people are less likely to choose MaaS. However, the positive signs relating the estimated parameters of cost-related attributes such as including transit trips and discounts will instigate the use of MaaS over current subscription. These findings are in line with the theoretical expectations and significant, except the free minutes for E-car and minute-based cost for E-bike. However, these parameters are statistically insignificant.

In particular, the parameter of transit trips in the package is higher than car and bike attributes, reflecting on the proposition that transit subscriptions will increase the attractiveness of the MaaS scheme (Matyas and Kamargianni, 2019). Table 6 shows a separate analysis only on regular users, and Table 7 illustrates the result for users with a discount. Both of the results show a similar pattern, like the combined result, depicting preference for using the current option. Nevertheless, for regular users with 3532 choices, the parameter for 'discount on the time-based cost of E-car' as well as the significance level is relatively higher (Table 6). On the other hand, 'free bike rides' show a lower significance level among the users' group with a discount (Table 7). While this group comprises mostly students, free bike rides for the first 30 minutes are not as exciting considering their permanent access to the bike. This result supports the recommendation of Ratilainen (2017) to include unlimited packages for bike use to maximize the utility of the MaaS packages for cyclists. Notably, the adjusted R-squared value is low in all three cases; however, the model is underspecified, only with generic attributes and without socio-demographic attributes, which can generate lower estimates.

Table 6: Estimated result for regular users

Attribute		Estimate	Standard error	z- statistics
Alternative- attribute	Package price	-0.077***	0.006	12.80
	Transit trips	0.020***	0.003	6.96

	Free minutes (E-car)	0.004	0.003	1.52
	Discount on time-based cost (E-car)	0.014***	0.005	2.91
	Price per 15 minutes (E-bike)	.06835	0.188	0.36
	Free rides(E-bike)	0.009**	0.005	2.04
Alternative- specific constant	Current transit subscription	1.717***	0.290	5.92
Goodness-of-fit index	Log likelihood -constant only	-2748.2065		
	Likelihood ratio index R ²	0.0423		
	Adjusted R-squared	0.0413		
	Akaike Information criterion AIC	5278.0		
***, **, * Significance at	1%, 5%, 10% level	I		

Table 7: Estimated result for users with a discount

	Attribute	Estimate	Standard error	z- statistics
Alternative- attribute	Package price	-0.097***	0.012	-8.00
	Transit trips	0.030***	0.004	7.27
	Free minutes (E-car)	0.005	0.004	1.28
	Discount on time-based cost (E-car)	0.014**	0.007	1.98
	Price per 15 minutes (E-bike)	0.082	0.273	0.30
	Free rides(E-bike)	0.012*	0.007	1.78
Alternative- specific constant	Current transit subscription	2.765***	0.428	6.47
	Log likelihood -constant only	-1407.9759	1	

Goodness-of-fit index	Likelihood ratio index R ²	0.0362
	Adjusted R-squared	0.0346
	Akaike Information criterion AIC	2728.1
***, **, * Significance at	1%, 5%, 10% level	

6.3.2 Structural Equation Model (SEM)

The estimated structural equation model for the affective and behavioral reactions validates the proposed framework and shows an excellent goodness of fit (CFI=0.944) and (RMSEA=0.044) within the acceptable range. Table 8 presents the measurement equations of the model.

Table 8: Measurement equations

Pro-cycling attitudes (F1)	estimate	t-stat
Cycling helps me stay in shape	1.000	-
Cycling helps me reach my fitness goals	0.980	172.88
Cycling helps me maintain high energy	1.013	204.82
Cycling helps me to get the exercise I need	1.009	204.66
Perceived difficulty of using INN Mobil (F2)	estimate	t-stat
Switching to INN Mobil is too much effort	1.000	-
The time and effort using INN Mobil is too high	1.031	57.53
Getting used to INN Mobil is too difficult	0.956	61.52
It's difficult for me to imagine travelling with INN Mobil	0.744	33.18
I don't like to give my credit card details in an app	0.508	17.89
It may not have user friendly interface	0.542	19.79
Driving an E-car could be difficult for me	0.587	19.38
Using the shared-bike is not comfortable for me	0.652	23.40
Price dissatisfaction (F3)	estimate	t-stat
I am unsure that I receive full value for money	1.000	-
I often feel it is too costly for me	1.246	49.14
I am sometimes shocked to see my transport expenses	1.299	51.14

I am often bothered by my overall monthly travel expenses	1.279	50.74
LOS satisfaction (F4)	estimate	t-stat
Travel time	1.000	-
Waiting time	1.175	30.32
Operating hour	1.091	27.67
Network	1.209	30.67
Stops/facilities	1.230	28.31
Reliability & Punctuality	1.024	25.71
Information Apps	0.847	20.25
Pro-car attitudes (F5)	estimate	t-stat
I like driving a nice car	1.000	-
I think driving is cool	1.074	55.20
I feel great when I drive	1.116	54.55
I enjoy the car acceleration and speed	1.031	54.72
Perceived usefulness with INN Mobil (F6)	estimate	t-stat
It will simplify my travel experience (e.g. one-stop-shop for ticket)	1.000	-
It will be more efficient in terms of travel time	1.029	37.18
It will expand my travel distance and locations	1.005	37.16
It will allow me to use more travel modes	1.009	37.13
Mode flexibility(F7)	estimate	t-stat
I often change my travel mode according to my needs	1.000	-
I often change my travel modes on the same day	1.003	35.81
I often change my travel modes between days	0.983	34.59
I often change my travel mode by my travel destination	0.706	21.71
Pro-environmental attitudes (F8)	estimate	t-stat
It is my responsibility to take action to be environmentally friendly	1.000	-
I limit my auto travel to reduce congestion and environmental pollution	0.851	26.39

We must act and take decisions to limit emissions of greenhouse gas	1.069	29.30
I am willing to pay more for supporting environmentally friendly initiatives	0.788	24.90
Taste for innovation (F9)	estimate	t-stat
I think it is fun to try out new transport options	1.000	-
I am curious about new transport options	1.061	53.58
I prefer to use familiar transport options	-0.459	-17.73
I am interested in searching various transport options	0.856	45.37
Time-saving preference (F10)	estimate	t-stat
I often choose the fastest option even if it means paying more	1.000	-
I often arrive on-time even if it means paying more	1.020	42.76
I often avoid waiting time even if it means paying more	1.182	34.35
System underuse (F11)	estimate	t-stat
I like to have it just in case so I don't use it to the maximum	1.000	-
Although I have my card I often use other modes	1.672	8.61
I am only using few lines, I don't need the full network coverage	1.070	7.53
*parameters are significant at the 1% significance level (t-values are higher than 2	2.56)	<u>I</u>

The results of the measurement equations show a statistically significant correlation among the indicators of the personal latent characteristics. Figure 18 shows the structural equations of the model linking the individual goal framing with perceived system usefulness and difficulty of new MaaS system along with the LOS satisfaction to the intention to stay with the current subscription.

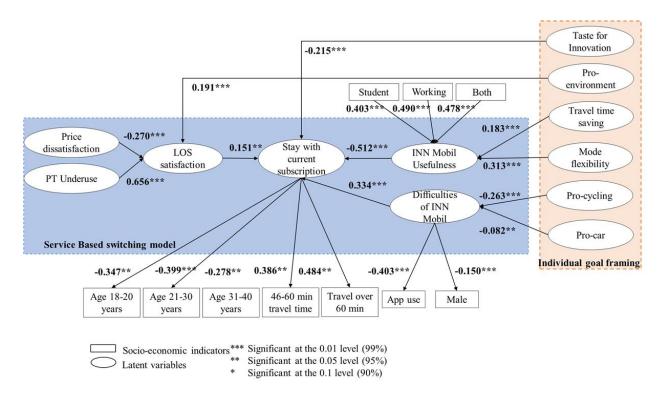


Figure 18: The estimated structural model

The results reported in Figure 18 confirm the proposed behavioral framework and shows that:

- i. Satisfaction with transit is negatively associated with price dissatisfaction and positively associated with system underutilization and pro-environment attitude, presumably the use of other modes alleviate the disappointment with the system. However, satisfaction with the LOS is positively associated with staying intentions to current service. Thus confirming hypotheses H1 and H4.
- ii. Travel time-saving preference, preference for mode flexibility, and working population are positively associated with MaaS usefulness, and higher perceived MaaS usefulness negatively relates to staying intentions, hence confirming H5 and H8.
- iii. Familiarity with the existing app is negatively associated with perceived difficulty of MaaS system and female as compared to male respondents perceive more difficulties in using the new system.
- iv. Perceived difficulty of the MaaS system use linking to switching costs is positively associated with staying intentions; confirming the hypothesis H2 that switching costs negatively relates to switching intention.
- v. Pro-car and pro-cycling attitudes are negatively associated with the perceived difficulty of MaaS. It means that respondents who generally feel pleasure in driving and intrinsically

prefer to adhere fitness with regular cycling are more likely to choose MaaS compared to the current transit subscription.

- vi. Additionally, the perceived difficulty of use is positively associated with staying intention. Thus confirming hypothesis H7 and H9 that normative and hedonic goal framing relates positively to switching from transit to the MaaS system.
- vii. Taste for innovative mobility solutions is negatively associated with staying intention with current transit. Therefore, people with variety-seeking behavior will opt for INN Mobil hence confirming the hypothesis H9.
- viii. Younger population is likely to switch to the new system, which is also in line with the findings of Jittrapirom et al. (2018b) and Caiati et al. (2020), that younger age groups are likely to subscribe for MaaS.
- ix. Daily travel duration of over 45 minutes is related to staying intentions with the current subscription. A plausible reason could be that longer travel distance with transit is associated with yearly tax deduction as a form of commuter allowance in Austria, and people who are habitual long-distance traveler may have considered the uncertainty of tax deduction while using a system like INN Mobil.

7 CONCLUSION

7.1 Achievement of the research objective

This research combines the service-based switching model and goal framing theory to explore the user's perspective on switching from access-based transit service into a service-based mobility solution. The findings suggest that the presence of transit subscriptions increases the attractiveness of the mobility-as-a-service (MaaS) scheme, but the 'bundles' or package needs to be designed cost-effectively, especially in a high-quality transit environment. The results show that disappointment with monthly travel expense can lead to dissatisfaction with the transit service. Mostly students and occasional transit riders in this study are dissatisfied with their present travel expenses and are likely to switch to MaaS.

Although current ticket structure in Tyrol provide discounts for students and elderly transit users, 30% of the transit users between the age group of 16-29 years can see a reduction in their future transit use, when asked about their future mobility behavior in the 2016 IVB official survey. Also, 24% of the users from this specific age group mentioned that they would prefer to use other modes instead of transit if they had the choice (ÖPNV Kundenbarometer, 2016). The responses from younger participants in the current study are also in agreement with the official survey.

Hence, this study contributes by understanding and confirming the demand for a comprehensive MaaS system among the younger population and active travelers (working, studying). Furthermore, this study observes that people prioritizing travel-time saving, along with flexible mode use, consider MaaS useful. Intrinsic motives as pro-car, pro-cycling, and higher interest in innovation exclude the perceived difficulties of MaaS use; however, pro-environment attitude relates to staying intention.

MaaS includes mostly conventional car-sharing; yet, this study includes the E-car-sharing in the package. As the service is relatively new in Tyrol, presumably, this study could not quantify the full potential of E-car-sharing in MaaS, but it reflects on an important point to connect greener fuel alternatives in MaaS and pro-environmental travelers.

Despite showing lower intention to MaaS adaption than current transit subscription, the findings confirm that promotional measures to signify the simplified payment option and increased visibility of the existing shared-services to the end-users could be an essential step for the MaaS intervention, to reduce the gap in transit services.

7.2 Policy recommendation for integrating MaaS within the current system

To achieve a sustainable transport system, disposal of private cars in its entirety may not be necessarily required, but how efficiently transit and other modes can be integrated is a crucial question for the future mobility conundrums. The emerging concept of MaaS with the theme to become 'user instead of owner' is gaining attention as the future of mobility solutions, for its

potential to allocate travel resources efficiently (Schikofsky et al., 2020). Field-testing of MaaS relating budget and potential stakeholder preferences already explored consumers' preference for MaaS packages evolving around transit use (Ratilainen, 2017). While transit operators and users are crucial parts of the MaaS business model (Jittrapirom et al., 2017), users being risk-averse to this new disruptive service due to limited hands-on experience stresses to explore the motivational factors underlying future use intention of MaaS from demand-side. This current study relates switching intention to new service with both the perceived quality of the current service and the perceived usefulness of the future service. There are few points which are drawn from the results and can be incorporated to integrate innovative mobility solutions in the present transit system for improved user experience:

- The result shows that the presence of transit trips, free minutes in bike-sharing, and discount on the time-based cost of car-sharing is valued significantly in the proposed MaaS scheme. Especially the transit trips significantly increase the utility of the proposed packages. However, it shows that the 'bundles' or package needs to be designed cost-effectively, especially in a high-quality transit environment.
- Moreover, the result shows that price dissatisfaction can occur in a multimodal travel environment, leading to lower satisfaction with the transit LOS. Transit cost is one of the service attributes that is always susceptible to dissatisfaction, irrespective of income level, and users with varying intensity of use (Beirão and Cabral, 2009). Since the tariff reforming in 2016, a substantial increase in yearly transit ticket purchase (by 45% in 2020) has been observed in Tyrol (VVT, 2020b). However, improving quality attributes based on users' perceived 'value for price' may increase users' overall satisfaction and attract new users (Hensher et al., 2003). In this current study, nearly half of the respondents agreed that their monthly travel expenses, including all transport modes, are costly, and the full value for the price is ambivalent. Mainly students and occasional riders are not satisfied with the monthly expense, presumably due to lower-income and overestimation of the transit trips. Hence a flexible mobility plan like MaaS could be beneficial for this specific group. In agreement, the SEM estimation shows that people who are working and studying are positively related to the usefulness of MaaS.
- Regarding transit system underuse, the results display that 46% of the respondents do not use their ticket as anticipated, and 27% use it in conjunction with other modes. In addition, nearly half of the respondents purchase the ticket 'Just in case' for the flexibility of having access to transit and overall shows a positive association with LOS satisfaction. In agreement with this result, Clauss and Doeppe, (2016) illustrates that transition from monomodal to multimodality adds to the increased satisfaction with the transportation system by supporting high situational adaptability need of urban travelers. However, they argue that users are often inclined to specific alternatives due to the perceived complexity with self-selecting multimodal options and their perceived difficulty in using app-based

multimodal offers, despite the innovativeness of the system to allow flexibility and trip individuality. In contrast, this study considers the widespread use of disruptive technologies in the form of updated interfaces of smartphones and travel apps as an important enabler for MaaS adoption, and the result shows that familiarity with the existing app is negatively associated with perceived difficulty of a MaaS system.

- MaaS packages are promising in terms of various financial incentives for all types of users. This study includes switching costs from transit to MaaS subscription as an expected decision effort associated with complex multimodal environments as the main motivator for access-based service bundles versus product-based purchases. The switching costs in this study pertain to perceived difficulty with the system, in addition to the price difference between the two service bundles. The results show that the perceived difficulty of use is positively associated with staying intentions. Often individuals anticipate the usefulness of a new service based on the (dis)similarities with habitual patterns in other product consumptions and positive experience from a 'known habit patterns' determines the expected intensity of new service usage (Festinger, 1962). In this study, only one-third of the respondents are willing to choose MaaS over the current subscription, while the majority would prefer to stay with the existing solution. Concerns with the fleet size of the car-sharing services (36%) as well as valuable information sharing (23%) as a privacy intervention are the most agreed barriers by the respondents. Therefore, a transparent data sharing policy among the stakeholders and data openness from the supply side could be encouraging to curtail this barrier. Apart from the perceived high-quality transit services and existing price efficiency in Tyrol, presumably, minimal service experience with car-sharing and bike-sharing facilities could be one of the substantial barriers for users in MaaS adaptation. While transit should be the core elements in MaaS, experiences in other shared services must be increased to convince people in reduced private vehicle use (Ratilainen, 2017). Although, the amount of shared bike usage is increasing and the introduction of car-sharing is comparatively new in Tyrol, re-thinking the location of these facilities, as well as service visibility to the end-users could be compelling for the MaaS intervention.
- One of the critical aspects of this study is to investigate intrinsic motivational factors for switching to MaaS. This study shows that in addition to the perceived functional benefits of MaaS, hedonic travel experiences linking to enjoyment associated with the car, variety-seeking, and higher flexibility are important determinants of the intention to use, and are positively associated with adaptation to the MaaS system. The emotional benefits resulting from the use of shared services are essential to overcome the underlying risk of neglecting users' freedom of mode choice by only concentrating on 'hard' measures (banning and restricting private car use). Therefore, it is important to implement 'soft' or promotional measures to create social norms favoring the MaaS

system over an existing system (Laine et al., 2018; Schikofsky et al., 2020). Intuitively, the concept of shifting car owners to the new paradigm of 'shared' car use may not seem attractive to the people who much indulge in the feeling of exhilaration with driving and identify the car as a symbolic status. However, shift in car ownership, and usage in shared services are already being observed with the introduction of peer-to-peer carpooling and free-floating ride-hailing services like Uber and Car2Go, and it is expected that MaaS will expand this trend; especially among the young generations (Ho et al., 2018; Hensher et al., 2017). In line with the previous research findings, this study also shows that even within the limited usage of shared services among the respondents, car owners have more experience with shared mobility services rather than transit captives and this group agree that MaaS can change the role of car, if adopted.

- MaaS is unequivocally promising in terms of innovation and value creation for seamless travel with a one-stop payment option, eliminating the burden of downloading apps for every service. This study shows that the functionality of simplified travel (53%) and access to various modes (62%) are the expected advantages of MaaS from the users, and it is positively associated with the switching intention. People with trendsetting attitudes are positively associated with switching intention to MaaS, and they can be further promoted to influence people shifting towards the new system, as other people often follow trendsetters. The current study shows that more than half of the respondents are curious and think that 'it is fun to try out new travel options.' While the effect of technophile has been studied in terms of goal-driven behavior for travel apps (Dasterjadi et al., 2019; Velazquez et al., 2019), this research encourage further exploration on the positive effect of influencers (mainly relating to the social media influencers with vast followers to drive social engagement and purchase decision) for the promotion of MaaS.
- Integration of cycling in MaaS is the least researched area, and this study contributes by exploring the intrinsic motivators of bike enthusiasts adopting such a system. As bike-sharing has its limitation to be integrated as first or last-mile solutions in large metropolitan cities, but it is expected that MaaS could facilitate flexible payment and routing options for bike-sharing (Nikitas, 2017). Regarding the inclusion of bike trips in MaaS scheme, Ratilainen (2017) suggested including unlimited packages for bike use as usage reflects extremity (lots of use or not at all). This current study also shows that 'bike free minutes' is comparatively less attractive for the 'transit user group with a discount' or more specifically for students. As this group mostly own bike. Hence, this result suggests considering unlimited rides with bike-sharing services compared to minute-based incentives, to maximize the utility of the MaaS packages for regular cyclists. As a further development of the current study, an HCM-incorporating the latent variable model into a discrete choice model will be estimated, and the package price utility concerning provided bike trips, own bike usage, as well as pro-cycling attitude will be further explored.

- Regarding 'environmentalism,' the association of MaaS with it is somewhat controversial compared to its salient potential in multimodality. This current study shows that proenvironmental motives relate to staying with transit subscription. However, the previous case study in Tyrol in 2017 shows the counterintuitive reaction of this group with sensitivity to service disruptions (Sarker et al., 2019b). In 2018, Laine et al. showed the potential emission reduction with MaaS using vehicle fleet model PETRA. It is expected that the early implementation of MaaS with the electric vehicle fleet replacing fossil fuel-based transport modes may reduce emission. As this study includes E-car-sharing as an attribute in the MaaS packages, further assessment of this study with HCM estimation will focus on drawing the relationship between greener fuel alternatives in MaaS and intention of use for the pro-environmental travelers, hence seeking the measures to eliminate the gap in the second case study by increasing tolerance of this group to service failure.
- Moreover, this study shows that female respondents perceive more difficulties in using the app-based new system compared to male respondents. However, the findings from Beirão and Cabral (2008) in identifying different clusters of transit users and shows that female users are usually 'transit enthusiasts' and depicts high environmental awareness as 'green cruisers'. Hence, promotional measures directing the opportunity of MaaS as a sustainble mobility solutions are encouraged. Assuming the time for the wider market penetration of MaaS, it must go through substantial product development. One of the exciting features to attract green groups could be including the 'quantified self' movement in MaaS. Similar principles of lifelogging apps in health and time-use (e.g., calculating steps and calorie count) could be introduced to show activity with greener modes per trip chain in MaaS and setting personal 'green goals' for users to encourage sustainable mobility.
- Another important contribution of integrating MaaS could be efficiency in 'corporate mobility management.' Car is the dominant commuting mode (60%) in Austria and referred to 'routine routes' in the daily mobility patterns (VCÖ, 2020). Several companies in Austria have introduced campaigns to promote sustainable travel to work as a social responsibility. Policy interventions like a tax deduction for using transit to commute, free transit ticket instead of a car parking area, the E-bike-sharing fleet for employees, rewards for collective eco-points of the employees show a positive change in 'habit regeneralization' from a routine task of using the car to commute (VCÖ, 2020). This current study shows that time-saving travel preference and working population are positively associated with MaaS usefulness, and higher perceived MaaS usefulness negatively relates to the intention to stay in the current transit system. The flexibility of tailoring individual trips compared to transit could be one of the reason for the working population to be interested in MaaS. Hence integrating co-mobility services within the existing transit system as a package can increase the attractiveness of the transit, particularly for this user group.

• This study also analyzed the motivation of the young population to use MaaS, and it is positively related to the usefulness of MaaS. MaaS is already proclaimed to attract a relatively young user base underpinning technological enablement. Therefore, this study is in agreement with previous studies (Caiati et al., 2020; Jittrapirom et al., 2018b; Ratilainen, 2017). However, evaluation solely based on sociodemographic data may not sufficiently explain potential user groups, but further research is recommended to relate transitional events (e.g., new job, residence, family) and life-stage with the use of MaaS.

Although this study portrays limited use intention of MaaS compared to current subscription, it shows important aspects of users' need in service development regarding perceived enablers and barriers in the adaptation of MaaS. MaaS promises user-centered service; therefore, generalization of MaaS is not possible with existing limited trials and pilots. Thus, user-segment oriented research is more effective than incorporating all the target groups (Hensher et al., 2017; Haustein, 2012). This study sheds light on the aspect of whether MaaS is still too ambitious for medium-sized European cities with high-quality transit services.

Notably, this study has the limitation of using a hypothetical app, but further research should include choice intention in real applications. Utriainen et al. (2019), in their literature review, showed that trials should continue, and ex-ante evaluation is necessary. Therefore this study will continue to use the HCM with the collected data to understand price value trade-off decisions based on the proposed packages in the survey to explore realistic MaaS plans, in order to cater for the heterogeneous mobility needs of diverse groups of potential users in Tyrol.

7.3 Future research

This study on the use intention of MaaS over the current transit subscription reflects that young transit users are likely to switch to MaaS. It also shows that transit trips increases the attractiveness of the MaaS schemes. However, there are very limited researches on the role of bike-sharing in MaaS compared to carsharing counterparts, despite its presence in every scheme. Hence, as further development, this current study would explore the role of bike-sharing bundles to the functionality of MaaS.

As MaaS is often debated whether it is ecological while fossil fuels drive most carsharing services, this study includes packages with E-car-sharing options, and future research could focus on the greener fuel alternatives in MaaS and its use intention of pro-environmental travelers. This study shows that travel time-saving preference and working population are positively associated with MaaS usefulness. Compared to the traditional transit system, MaaS, with its flexibility of tailoring individual trips, has the potential to become the contemporary mobility solutions in the era of teleworking and co-working space. Hence, future research in this category is recommended to understand the rebound-effect of cost versus use.

Furthermore, the data-driven service, like MaaS has the potential to replace traditional mobility survey data and aggregate real-time data that will enable transit operators to optimize their operation based on the user's preference. Therefore, future research could incorporate the goal-driven behavior of the users with the Big-data analytics to enhance customized solutions for different kinds of MaaS users.

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9 REFERENCES

- Abenoza R.F., Cats, O., Susilo Y.O., 2017. Travel satisfaction with public transport: Determinants, user classes, regional disparities and their evolution. Transportation Research Part A, 95, pp.64–84
- 2. Bardhi, F. and Eckhardt, G.M., 2012. Access-based consumption: The case of car sharing. Journal of consumer research, 39(4), pp.881-898.
- 3. Beirão, G. and Cabral, J.S., 2009. Measuring dissatisfaction with public transport service. Transportation Research Board 88th Annual Compendium of Papers DVD.
- 4. Bliemer, M.C. and Rose, J.M., 2011. Experimental design influences on stated choice outputs: an empirical study in air travel choice. Transportation Research Part A: Policy and Practice, 45(1), pp.63-79.
- 5. Bundesministerium für Verkehr, Innovation und Technologie (BMVIT), 2016. Österreich unterwegs 2013/2014, Vienna. [Online] Available at: https://www.bmk.gv.at/ [Accessed 11 April 2020]
- Caiati, V., Feneri, A-M., Jittrapirom, P., Rasouli, S., & Timmermans, H. J. P., 2020. An
 analysis of the potential adoption of Mobility as a Service across different age groups and
 lifestages: A mixed-methods approach. Paper presented at Transport Research Arena
 2020, Helsinki, Finland.
- ChoiceMetrics, 2019. Choice-metrics.com [Online] Available at:http://www.choice-metrics.com/ [Accessed 11 April, 2020]
- 8. Clauss, T. and Döppe, S., 2016. Why do urban travelers select multimodal travel options: A repertory grid analysis. Transportation Research Part A: Policy and Practice, 93, pp.93-116.
- 9. D'Alessandro, S., Gray, D. and Carter, L., 2012, December. Push-pull factors in switching mobile service providers. In Proceedings of the Australian and New Zealand marketing academy conference (pp. 1-8).
- D'Alessandro, S., Johnson, L., Gray, D.M. and Carter, L., 2015. The market performance indicator: a macro understanding of service provider switching. Journal of Services Marketing, 29 (4), pp.302-313.
- 11. Dastjerdi Mehdizadeh, A., S. Kaplan, J. A. Silva, O. A. Nielsen, and F.C. Pereira, 2019. Participating in environmental loyalty program with a real-time multimodal travel app: User needs, environmental and privacy motivators. Transportation Research Part D, 67, pp.223–243.
- 12. Festinger, L., 1962. A theory of cognitive dissonance (Vol. 2). Stanford university press.
- 13. Goodall, W., Dovey, T., Bornstein, J. and Bonthron, B., 2017. The rise of mobility as a service. Deloitte Rev, 20, pp.112-129.
- 14. Hartikainen, A., Pitkänen, J.P., Riihelä, A., Räsänen, J., Sacs., I, Sirkiä, A., Uteng, A, 2019. WHIMPACT-Insights form the world's first Mobility-as-a-Service (MaaS) system. Ramboll. Available at: https://ramboll.com/-/media/files/rfi/publications/Ramboll whimpact-2019.pdf [Accessed 11 April 2020]

- 15. Haustein, S., 2012. Mobility behavior of the elderly: an attitude-based segmentation approach for a heterogeneous target group. Transportation, 39(6), pp.1079-1103.
- 16. Hensher, D.A., Stopher, P. and Bullock, P., 2003. Service quality—developing a service quality index in the provision of commercial bus contracts. Transportation Research Part A: Policy and Practice, 37(6), pp.499-517.
- Hermann Sileitsch-Parzer, 2019. 'Mitfahr-App ummadum: Ab 2020 österreichweit verfügbar', Kurier, Vienna, 30 June. [Online] Available at: https://kurier.at/wirtschaft/mitfahr-app-ummadum-ab-2020-oesterreichweit-verfuegbar/400528789 [Accessed 12 April, 2020]
- 18. Hesselgren, M. M. Sjöman, A. Pernestål., 2019. Understanding user practices in mobility service systems: Results from studying large scale corporate MaaS in practice. Travel Behaviour and Society. https://doi.org/10.1016/j.tbs.2018.12.005
- 19. Hietanen, S., 2014. Mobility as a Service. the new transport model, pp.2-4.
- 20. Ho, C.Q., D.A. Hensher, C. Mulley, Y.Z., 2018. Wong Potential uptake and willingness-to-pay for Mobility as a Service (MaaS): A stated choice study. Transportation Research Part A, 117, pp. 302–318.
- 21. Innsbrucker Verkehrsbetriebe und Stubaitalbahn GmbH (IVB), 2017. Gesamtbericht Trams/Bus2017.[Online]Availableat:https://www.ivb.at/fileadmin/downloads/Gesamtbericht_Tram_und_Bus_2017_02.pdf> [Accessed 11 April 2020].
- 22. Innsbrucker Verkehrsbetriebe und Stubaitalbahn GmbH (IVB), 2019. Ausbau Richtung Rum und Völs BusfahrerInnen im PorträtZehn Stationen mit: Team Tram. Zwei & Fünf, 3, pp.1-21.
- 23. Innsbrucker Verkehrsbetriebe und Stubaitalbahn GmbH (IVB), 2020. [Online] Available at: https://www.ivb.at/de/unternehmen/ueber-uns.html [Accessed 11 April, 2020]
- 24. Jittrapirom, P. Marchau, V., van der Heijden, R. and Meurs, H., 2018a. Dynamic adaptive policymaking for implementing Mobility-as-a Service (MaaS). Research in Transportation Business & Management, 27, pp.46-55.
- 25. Jittrapirom, P., V. Caiati, A.M. Feneri, S. Ebrahimigharehbaghi, M. J. Alonso-González, and J., Narayan., 2017. Mobility as a Service: A critical review of definitions, assessments of schemes, and key challenges. Urban Planning, 2(2), pp. 13–25.
- 26. Jittrapirom, P., V. Marchau, R. van der Heijden, H. Meurs., 2018b. Future implementation of mobility as a service (MaaS): Results of an international Delphi study. Travel Behaviour and Society, in press. https://doi.org/10.1016/j.tbs.2018.12.004
- 27. Kaplan, S., Monteiro, M.M., Anderson, M.K., Nielsen, O.A. and Dos Santos, E.M., 2017. The role of information systems in non-routine transit use of university students: Evidence from Brazil and Denmark. Transportation Research Part A: Policy and Practice, 95, pp.34-48.
- 28. Karlsson, I.M., Sochor, J. and Strömberg, H., 2016. Developing the 'Service'in Mobility as a Service: experiences from a field trial of an innovative travel brokerage. Transportation Research Procedia, 14, pp.3265-3273.

- 29. Kim J., Rasouli, S., Timmermans, H. 2017. The effects of activity-travel context and individual attitudes on car-sharing decisions under travel time uncertainty: A hybrid choice modeling approach. Transportation Research Part D, 56, pp.189–202.
- 30. Laine, A., Lampikoski, T., Rautiainen, T., Bröckl, M., Bang, C., Poulsen, N.S. and Kofoed-Wiuff, A., 2018. Mobility as a Service and Greener Transportation Systems in a Nordic context. Nordic Council of Ministers.
- 31. Land Tirol (Amt der Tiroler Landesregierung), 2017. Aktionsprogramme-mobilität. [ONLINE]

 Available at:https://www.tirol2050.at/uploads/tx_bh/aktionsprogramm_e_mob.pdf [Accessed, 28 March, 2019].
- 32. Likert, R. (1932). A technique for the measurement of attitudes. Archives of Psychology, 140, pp.44–53.
- 33. Lindenberg, S., and L. Steg, 2007. Normative, gain and hedonic goal frames guiding environmental behavior. Journal of Social Issues, 63, pp.117-137.
- 34. Lyons, G., P. Hammond, Kate Mackay., 2019. The importance of user perspective in the evolution of MaaS. Transportation Research Part A, 121, pp. 22–36.
- 35. Matyas, M. and Kamargianni, M., 2019. The potential of mobility as a service bundles as a mobility management tool. Transportation, 46(5), pp.1951-1968.
- 36. Nikitas, A., 2018. Understanding bike-sharing acceptability and expected usage patterns in the context of a small city novel to the concept: A story of 'Greek Drama'. Transportation research part F: traffic psychology and behaviour, 56, pp.306-321.
- 37. Polydoropoulou, A., Pagoni, I. and Tsirimpa, A., 2018. Ready for Mobility as a Service. Insights from stakeholders and end-users. Travel Behaviour and Society. in press. https://doi.org/10.1016/j.tbs.2018.11.003
- 38. Ratilainen, H., 2017. Mobility-as-a-service: Exploring consumer preferences for maas subscription packages using a stated choice experiment. http://resolver.tudelft.nl/uuid:e03dd3f5-8344-45eb-9c17-2be819186b67
- 39. Sarker, R. I., Kaplan, S., Anderson, M. K., Haustein, S., Mailer, M., & H.J.P. Timmermans, 2019a. Obtaining transit information from users of a collaborative transit app: Platform-based and individual-related motivators. Transportation Research Part C: Emerging Technologies, 102, 173-188.
- 40. Sarker, R.I., Kaplan, S., Mailer, M. and Timmermans, H.J., 2019b. Applying affective event theory to explain transit users' reactions to service disruptions. Transportation Research Part A: Policy and Practice, 130, pp.593-605.
- 41. Schikofsky, J., Dannewald, T. and Kowald, M., 2020. Exploring motivational mechanisms behind the intention to adopt mobility as a service (MaaS): Insights from Germany. Transportation Research Part A: Policy and Practice, 131, pp.296-312.
- 42. Smith, G., Sochor, J. and Karlsson, I.M., 2018. Mobility as a Service: Development scenarios and implications for public transport. Research in Transportation Economics, 69, pp.592-599.

- 43. Sochor, J., I.C.M. Karlsson, and H. Strömberg., 2016. Trying Out Mobility as a Service: Experiences from a Field Trial and Implications for Understanding Demand. Transportation Research Record, 2542, pp. 57–64.
- 44. Statistik Austria, 2018. Mikrozensus-Arbeitskräfteerhebung, Jahresdurchschnitt über alle Wochen, und Lohnsteuer-/HV-Daten. [Online] Available at: < https://www.statistik.at > [Accessed 11 April 2020].
- 45. Strömberg, H., O. Rexfelt, I.C.M. Karlsson, J. Sochor., 2016. Trying on change Trialability as a change moderator for sustainable travel behavior. Travel Behaviour and Society, 4, pp.60–68.
- 46. Tiris, 2020. [Online] Available at: https://www.tirol.gv.at/statistik-budget/tiris/ [Accessed 11 April, 2020]
- 47. Tiroler Tageszeitung, 2019. Online-Shop und neue Preise für VVT- und IVB-Tickets. 27 March. [Online] Available at :< https://www.tt.com/artikel/15472766/online-shop-und-neue-preise-fuer-vvt-und-ivb-tickets> [Accessed 11 April, 2020]
- 48. Ummadum, 2020. Ummadum.at. [Online] Available at: https://www.ummadum.com/">https://www.ummadum.com/ [Accessed 11 April, 2020]
- 49. Utriainen, R. and Pöllänen, M., 2019. Review on mobility as a service in scientific publications. Research in Transportation Business & Management, 27, pp.15-23.
- 50. VCÖ, 2020. Arbeitswege in Österreich auf Klimakurs bringen. ISBN 978-3-903265-04-2.
- 51. Velazquez, G., Kaplan, S., & Monzon, A., 2019. Ex-Ante and Ex-Post Evaluation of a New Transit Information App: Modeling Use Intentions and Actual Use. Transportation Research Record, 2672(50), pp.56-65.
- 52. Verkehrsverbund Tirol GesmbH (VVT), 2019a. Fact Sheet Verkehrsverbund Tirol GesmbH. [Online] Available at :< https://www.vvt.at> [Accessed 11 April 2020].
- 53. Verkehrsverbund Tirol GesmbH (VVT), 2019b. "Carsharing Tirol2050" ermöglicht kostengünstiges E-Carsharing. [Online] Available at :< https://www.vvt.at> [Accessed 11 April 2020].
- 54. Verkehrsverbund Tirol GesmbH (VVT), 2020a. Fact Sheet Verkehrsverbund Tirol GesmbH. [Online] Available at:< https://www.vvt.at> [Accessed 11 April 2020].
- 55. Verkehrsverbund Tirol GesmbH (VVT), 2020b.Zuwachs um über 45 Prozent: Wir sagen DANKE an 135.000 VVT StammkundInnen! [Online] Available at:< https://www.vvt.at> [Accessed 11 April 2020].
- 56. Wegfinder, 2020. Wegfinder.at. [Online] Available at: https://wegfinder.at/ [Accessed 11 April, 2020]
- 57. Whim, 2020. whimapp.com. [Online] Available at: https://whimapp.com/ [Accessed 11 April, 2020]
- 58. Whittle, C., Whitmarsh, L., Hagger, P., Morgan, P. and Parkhurst, G., 2019. User decision-making in transitions to electrified, autonomous, shared or reduced mobility. Transportation Research Part D: Transport and Environment, 71, pp.302-319

ANNEX



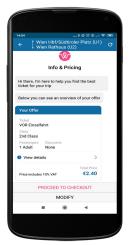
1. Einführung

Stellen Sie sich vor, es gibt eine App "INN-Mobil", die verschiedene Verkehrsmittel in Tirol vereint. Damit können Sie die öffentlichen Verkehrsmittel, Carsharing und Bike-Sharing online suchen, buchen und bezahlen bzw. monatliche Tarifpakete bestellen.









Wegfinder app (Vienna)

Solche Apps sind bereits in Österreich und anderen Ländern
verfügbar. Z.B. Whim Helsinki, Hannovermobil und Wegfinder Wien.
Stellen Sie sich nun vor, dass INN-Mobil in Tirol verfügbar ist, würden Sie es nutzen?
Mit der Teilnahme an der Umfrage helfen Sie die Grundlage für Mobility as a Service (MaaS)-System in Tirol zu entwickeln! Die Befragung dauert ca. 5 bis 7 Minuten.





2. Gewinnspiel

Als kleines Dankeschön für die Teilnahme an der Umfrage nehmen Sie an einer Verlosung teil, bei der Sie diese Preise gewinnen können:

- 1x Jahres-ticket Land
- 3x Monats-ticket Land
- 5x Wochen-ticket Land
- 3x Bergisel Gutscheine für 2 personen (Eintritt + Frühstück)
- 5x eine Berg- und Talfahrt auf die Nordkette
- **5x 20 Euro Tyrolia Wertgutscheine**

Die Umfrage ist anonym und die Daten werden nicht an Dritte weitergegeben.

VIELEN DANK FÜR IHRE HILFE & GENIEßEN SIE DIE FAHRT!

Bitte teilen Sie die Umfrage mit Ihren Freunden und Kollegen.

Die Umfrage ist bis 30.09.2019 geöffnet.

Die Bekanntgabe der Preisträger erfolgt am 10.10.2019.

Diese Umfrage wird vom Arbeitsbereich Intelligente Verkehrssyteme an der Universität Innsbruck in Zusammenarbeit mit IVB und VVT durchgeführt. Für weitere Informationen wenden Sie sich bitte an: rumana.sarker@uibk.ac.at.





3. Ermäßigung als StudentInnen/SeniorInnen

- Nutzen Sie ein Semester-ticket oder Jahres-ticket SeniorIn?
 - O Ja
 - Nein





4. Auswahl des Abonnements

Wir stellen Ihnen verschiedene Preismodelle vor. Die Auswahl erfolgt zufällig anhand der letzte Ziffer Ihrer Handynummer. Bitte wählen Sie Ihre Ziffer aus der Liste. Nach Eingabe der Zahl werden Sie auf die nächste Seite mit den Preismodellen weitergeleitet. Die Preise orientieren sich am aktuellen Tirol Ticket. Die Auswahlmöglichkeiten werden 4 mal mit verschiedenen Preismodellen angezeigt. Bitte beantworten Sie alle.







5. Auswahl des Abonnements (StudentInnen/SeniorInnen)

Wir stellen Ihnen verschiedene Preismodelle vor. Die Auswahl erfolgt zufällig anhand der letzte Ziffer Ihrer Handynummer. Bitte wählen Sie Ihre Ziffer aus der Liste. Nach Eingabe der Zahl werden Sie auf die nächste Seite mit den Preismodellen weitergeleitet. Die Preise orientieren sich am aktuellen Tirol Ticket. Die Auswahlmöglichkeiten werden 4 mal mit verschiedenen Preismodellen angezeigt. Bitte beantworten Sie alle.







6. Auswahl des Abonnements (Block

1

erste Kostenvariante

Aktuelles Ticket

39€/Monat



Unbegrenzt in Tirol

Inn-mobil Tyrol Flex1

59€/Monat



60 Fahrten in Tirol



Pro Fahrt 30 Minuten gratis danach 0.25€/15 Minuten



30 Minuten gratis/Monat + 20% <u>Ermäßigung</u> auf 5€/h

Inn-mobil Tyrol Flex2

59€/Monat



20 Fahrten in Tirol



Pro Fahrt 15 Minuten gratis danach 0.75€/ 15 Minuten



60 Minuten gratis/Monat + 10% <u>Ermäßigung</u> auf 5€/h

- 4) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





7. Auswahl des Abonnements (Block

1)

- 5 Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2

zweite Kostenvariante

Aktuelles Ticket

39€/monat



Unbegrenzt in Tirol

Inn-mobil Tyrol Flex1

69€/monat



60 Fahrten in Tirol



Pro Fahrt 15 Minuten gratis danach 0.75€/15 Minuten



60 Minuten gratis /Monat + 20% Ermäßigung auf 5€/h

Inn-mobil Tyrol Flex2

49€/monat



40 Fahrten in Tirol



Pro Fahrt 30 Minuten gratis danach 0.5€/ 15 Minuten



30 Minuten gratis/Monat + 30% Ermäßigung auf 5€/h





Aktuelles Ticket

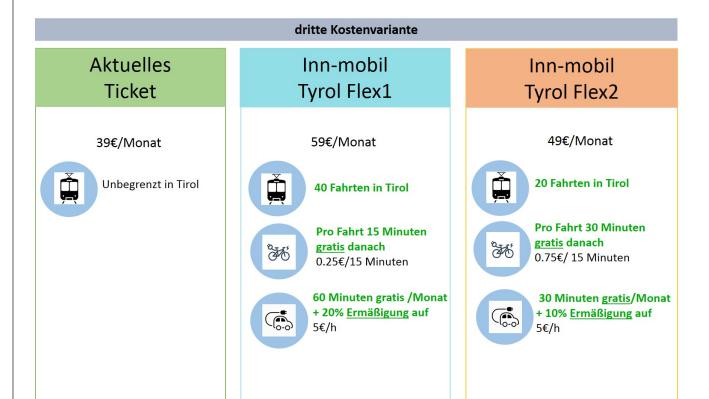
Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

8. Auswahl des Abonnements (Block

1







Aktuelles Ticket

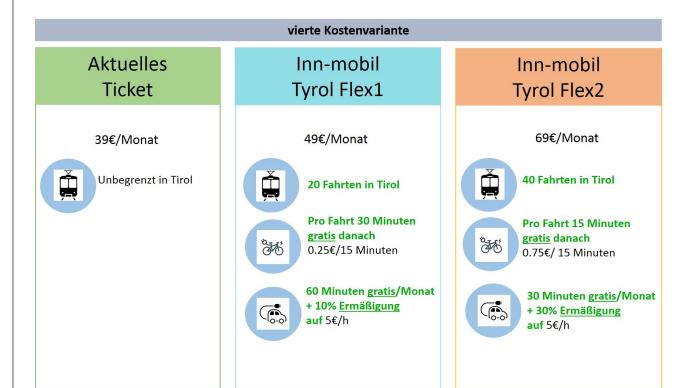
Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

9. Auswahl des Abonnements (Block

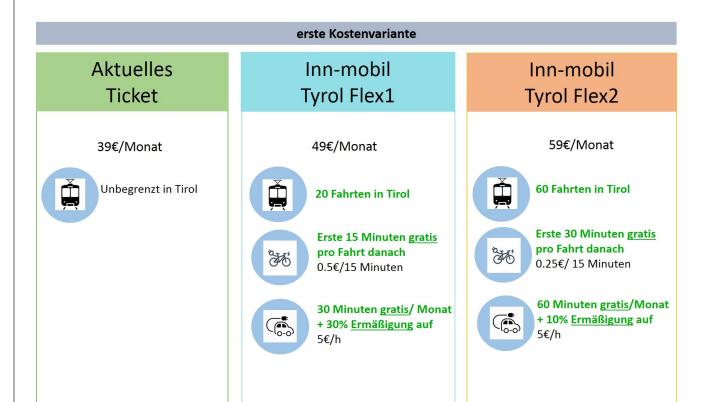
1







10. Auswahl des Abonnements (Block



- 8 Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





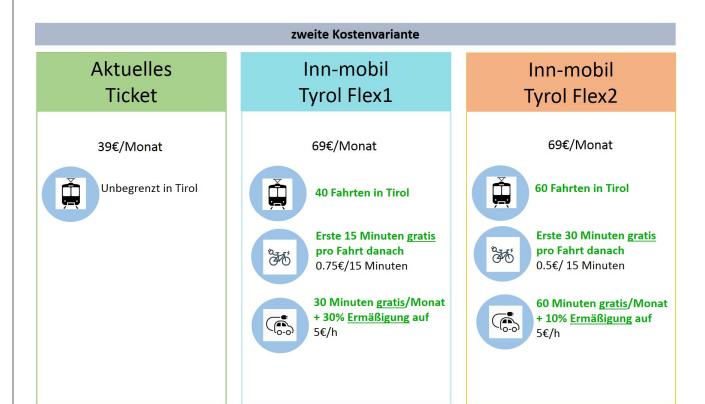
Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

11. Auswahl des Abonnements (Block







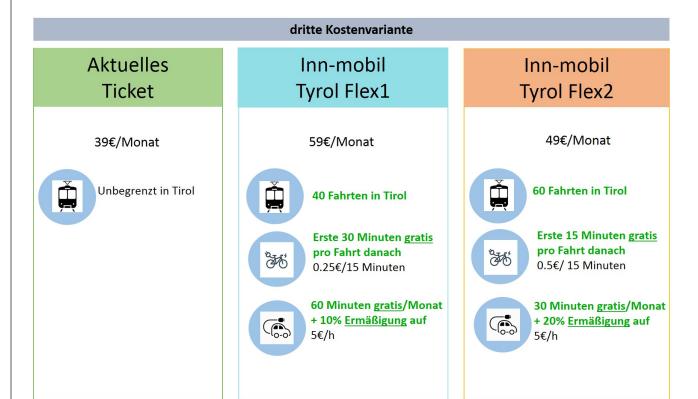
Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

12. Auswahl des Abonnements (Block







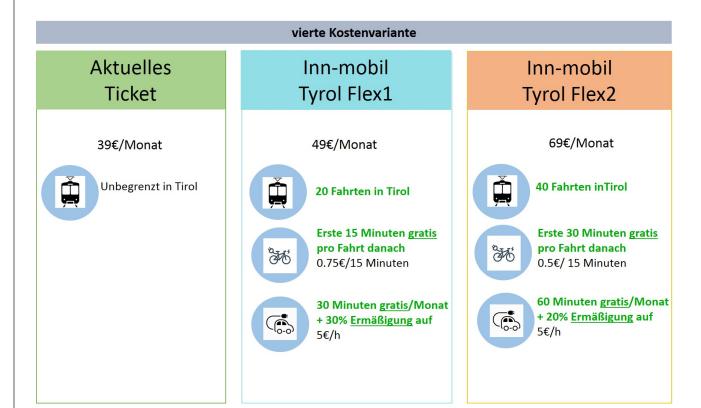
Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

13. Auswahl des Abonnements (Block







14. Auswahl des Abonnements (Block

3)

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex2 Tyrol Flex1 59€/Monat 59€/Monat 39€/Monat Unbegrenzt in Tirol 60 Fahrten in Tirol 20 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0.5€/ 15 Minuten 0.75€/15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





15. Auswahl des Abonnements (Block

3

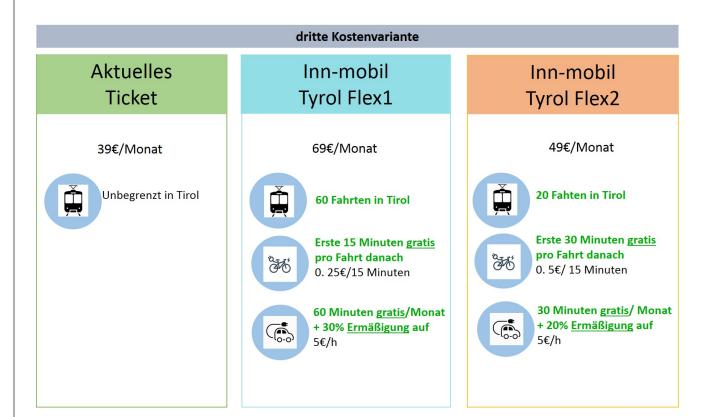
zweite Kostenvariante Aktuelles Inn-mobil Inn-mobil Ticket Tyrol Flex1 Tyrol Flex2 49€/Monat 59€/Monat 39€/Monat Unbegrenzt in Tirol 40 Fahrten in Tirol 20 Fahrten in Tirol Erste 15 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 0.75€/ 15 Minuten 0. 5€/15 Minuten 60 Minuten gratis/ Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





16. Auswahl des Abonnements (Block



- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





17. Auswahl des Abonnements (Block

3

vierte Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex2 Tyrol Flex1 59€/Monat 59€/Monat 39€/Monat Unbegrenzt in Tirol 20 Fahrten in Tirol 40 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 346 0. 25€/ 15 Minuten 0. 75€/15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 20% Ermäßigung auf + 20% Ermäßigung auf 5€/h 5€/h

- (15) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





18. Auswahl des Abonnements (Block

4

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 59€/Monat 59€/Monat 39€/Monat Unbegrenzt in Tirol 40 Fahrten in Tirol 60 Fahrten in Tirol Erste 15 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 5€/15 Minuten 0. 25€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- (16) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





19. Auswahl des Abonnements (Block

4

zweite Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 69€/Monat 69€/Monat 39€/Monat 60 Fahrten in Tirol Unbegrenzt in Tirol 20 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 75€/15 Minuten 0. 25€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





20. Auswahl des Abonnements (Block

4

dritte Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 59€/Monat 49€/Monat 39€/Monat Unbegrenzt in Tirol 40 Fahrten in Tirol 20 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 75€/15 Minuten 0. 5€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- (18) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





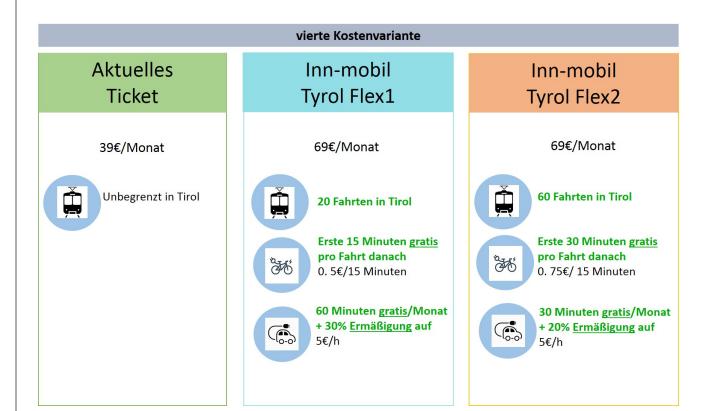
Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

21. Auswahl des Abonnements (Block







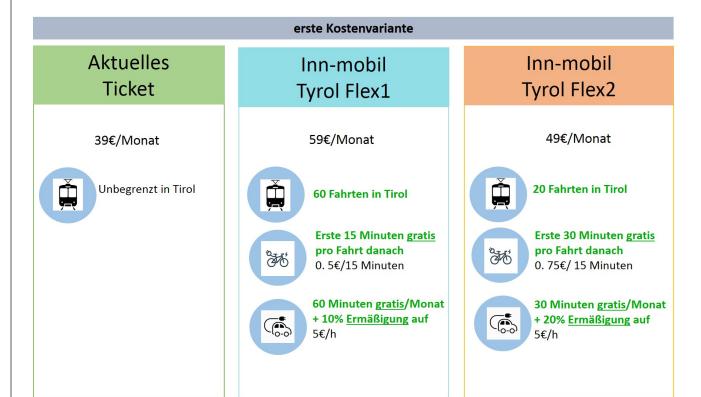
Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

22. Auswahl des Abonnements (Block







23. Auswahl des Abonnements (Block

5

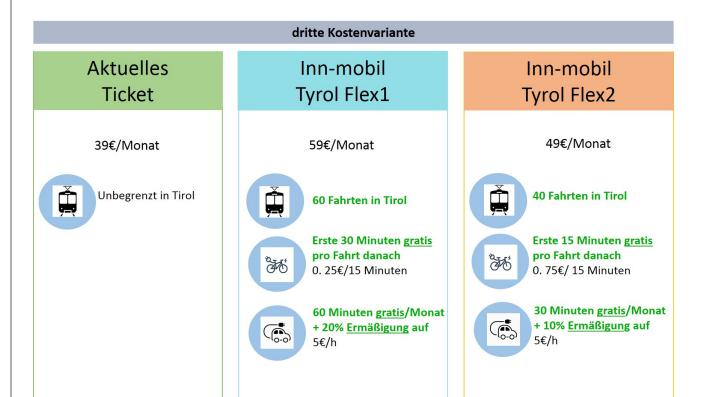
zweite Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 69€/Monat 69€/Monat 39€/Monat Unbegrenzt in Tirol 20 Fahrten in Tirol 60 Fahrten inTirol **Erste 30 Minuten gratis** Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 25€/ 15 Minuten 0. 75€/15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 30% Ermäßigung auf + 20% Ermäßigung auf 5€/h 5€/h

- ²¹ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





24. Auswahl des Abonnements (Block



- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





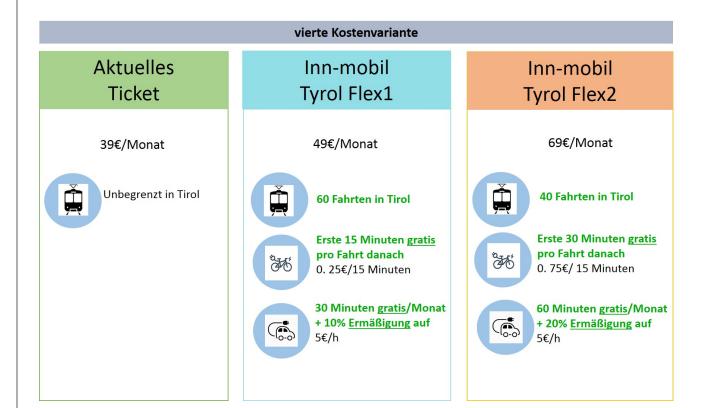
Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

25. Auswahl des Abonnements (Block







Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

26. Auswahl des Abonnements (Block

6

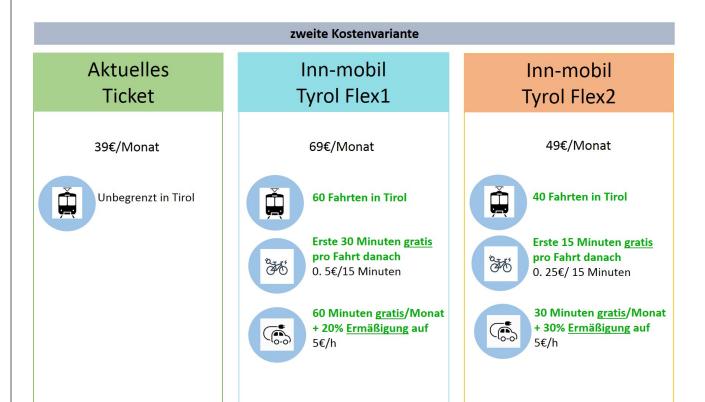
erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex2 Tyrol Flex1 69€/Monat 49€/Monat 39€/Monat 60 Fahrten in Tirol Unbegrenzt in Tirol 40 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 75€/15 Minuten 0. 5€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 10% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h





27. Auswahl des Abonnements (Block

6



Aktuelles Ticket

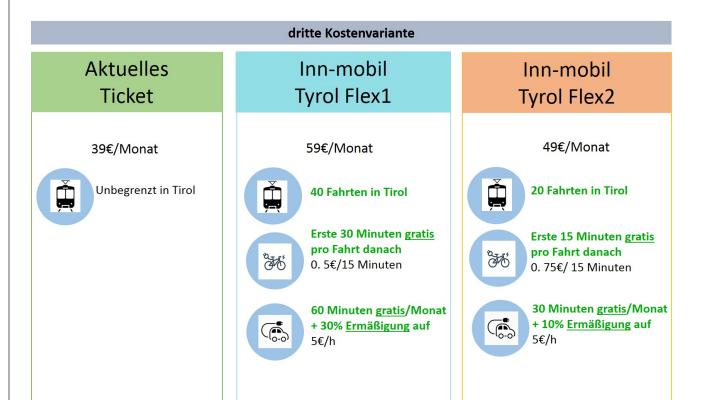
Welche Ticketvariante würden Sie wählen?

- Tyrol flex 1
- Tyrol flex 2





28. Auswahl des Abonnements (Block



- ²⁶ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





29. Auswahl des Abonnements (Block

6

vierte Kostenvariante Aktuelles Inn-mobil Inn-mobil Ticket Tyrol Flex1 Tyrol Flex2 69€/Monat 49€/Monat 39€/Monat Unbegrenzt in Tirol 20 Fahrten in Tirol 40 Fahrten in Tirol Erste 30 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 25€/15 Minuten 0. 5€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 10% Ermäßigung auf + 20% Ermäßigung auf 5€/h 5€/hour

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

30. Auswahl des Abonnements (Block

7

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 59€/Monat 59€/Monat 39€/Monat 20 Fahrten in Tirol Unbegrenzt in Tirol **60 Fahrten in Tirol** Erste 30 Minuten gratis Erste 15 Minuten gratis pro fahrt danach pro Fahrt danach 0. 25€/15 Minuten 0. 5€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 10% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h





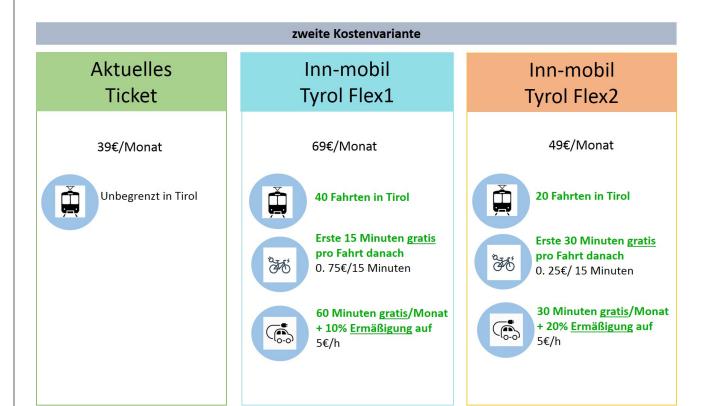
Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

31. Auswahl des Abonnements (Block







32. Auswahl des Abonnements (Block

7

dritte Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 69€/Monat 49€/Monat 39€/Monat 40 Fahrten in Tirol 60 Fahrten in Tirol Unbegrenzt in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 366 0. 25€/ 15 Minuten 0. 25€/15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 10% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h

- Welche Ticketvariante würden Sie wählen?

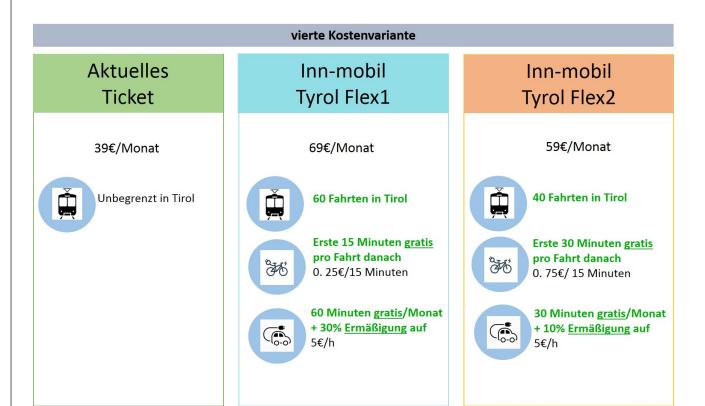
 Aktuelles Ticket

 - Tyrol flex 1
 - Tyrol flex 2





33. Auswahl des Abonnements (Block



- 31 Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





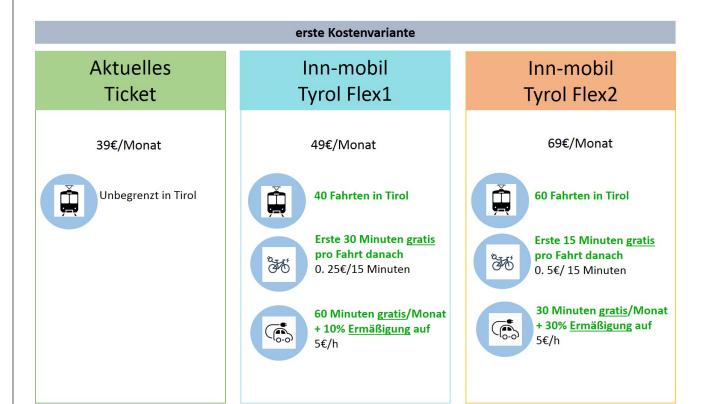
Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

34. Auswahl des Abonnements (Block







35. Auswahl des Abonnements (Block

8

zweite Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 49€/Monat 59€/Monat 39€/Monat Unbegrenzt in Tirol 40 Fahrten in Tirol 20 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 5€/15 Minuten 0. 25€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





36. Auswahl des Abonnements (Block

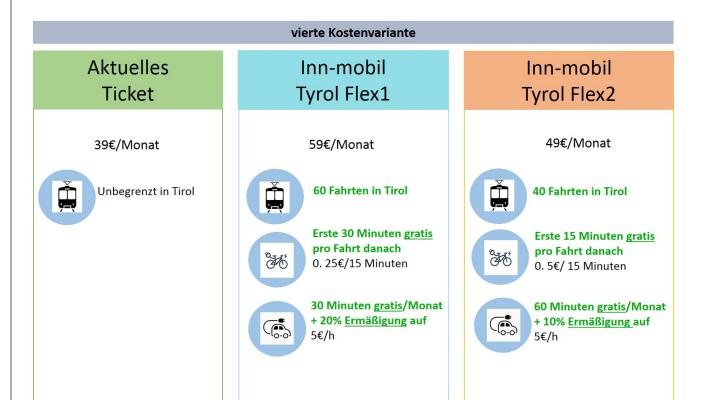
dritte Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 69€/Monat 39€/Monat 49€/Monat 20 Fahrten in Tirol Unbegrenzt in Tirol 40 Fahrten in Tirol Erste 15 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 25€/15 Minuten 0. 75€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 30% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- Tyrol flex 1
- Tyrol flex 2





37. Auswahl des Abonnements (Block

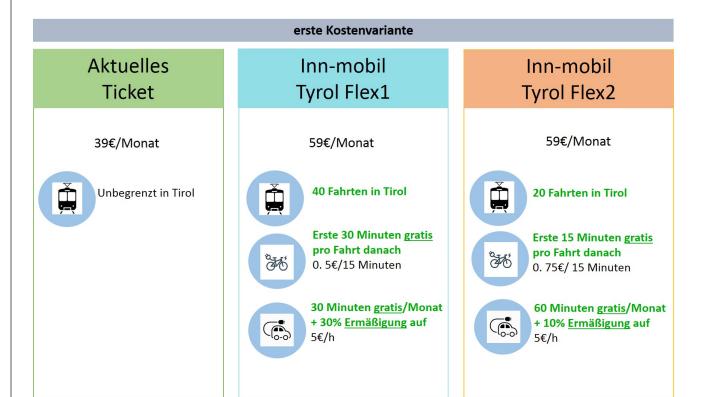


- ³⁵ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





38. Auswahl des Abonnements (Block



- 36) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





39. Auswahl des Abonnements (Block

9

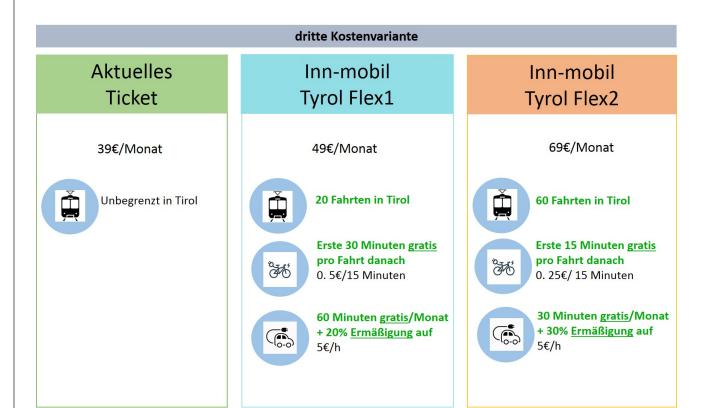
zweite Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 49€/Monat 69€/Monat 39€/Monat Unbegrenzt in Tirol 20 Fahrten in Tirol 60 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 366 0. 75€/15 Minuten 0. 5€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 30% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- ³⁷ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





40. Auswahl des Abonnements (Block

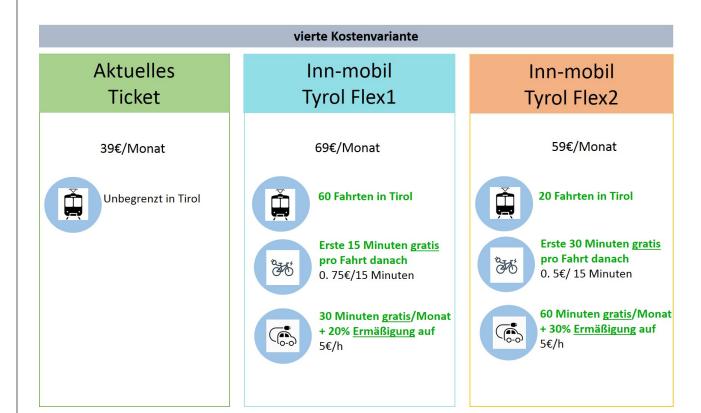


- 38) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





41. Auswahl des Abonnements (Block



- ³⁹ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





42. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

1

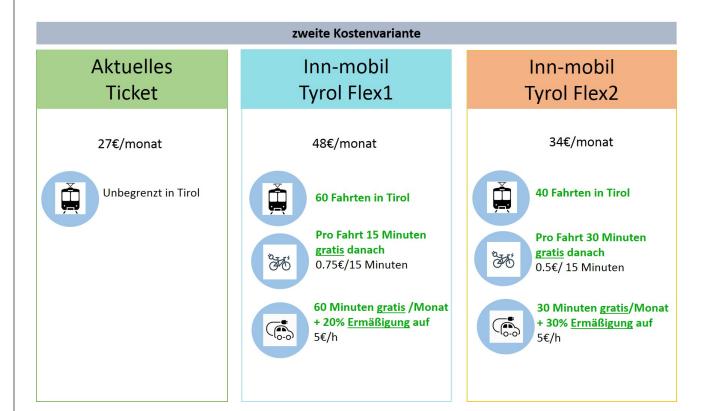
erste Kostenvariante **Aktuelles** Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 41€/Monat 41€/Monat 27€/Monat Unbegrenzt in Tirol 60 Fahrten in Tirol 20 Fahrten in Tirol Pro Fahrt 30 Minuten **Pro Fahrt 15 Minuten** gratis danach gratis danach 0.25€/15 Minuten 0.75€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 20% Ermäßigung + 10% Ermäßigung auf 5€/h auf 5€/h

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





43. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block



- Aktuelles Ticket
- Tyrol flex 1
- Tyrol flex 2





44. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

1)

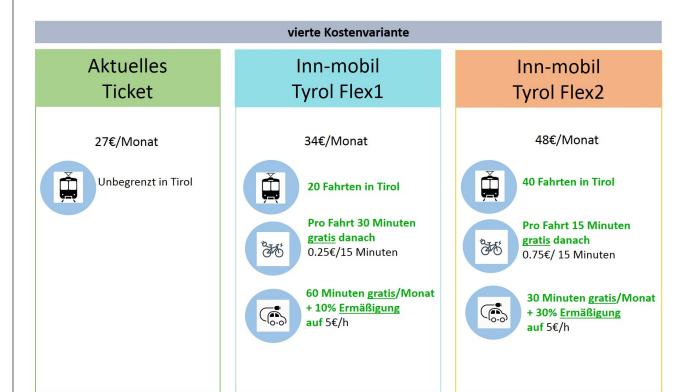
dritte Kostenvariante **Aktuelles** Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 34€/Monat 41€/Monat 27€/Monat Ď Ť Unbegrenzt in Tirol 20 Fahrten in Tirol 40 Fahrten in Tirol **Pro Fahrt 30 Minuten Pro Fahrt 15 Minuten** gratis danach gratis danach 0.75€/ 15 Minuten 0.25€/15 Minuten 60 Minuten gratis /Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- (42) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





45. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block



- (43) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

46. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

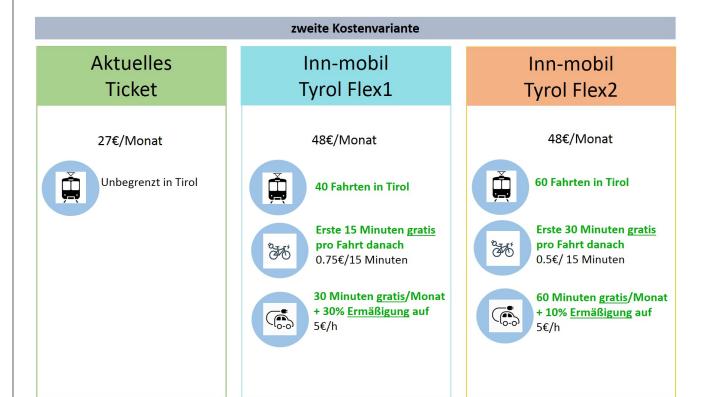
erste Kostenvariante **Aktuelles** Inn-mobil Inn-mobil Ticket Tyrol Flex1 Tyrol Flex2 41€/Monat 27€/Monat 34€/Monat Unbegrenzt in Tirol 60 Fahrten in Tirol 20 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0.25€/ 15 Minuten 0.5€/15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/ Monat + 10% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h





47. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

2



Tyrol flex 1

Aktuelles Ticket

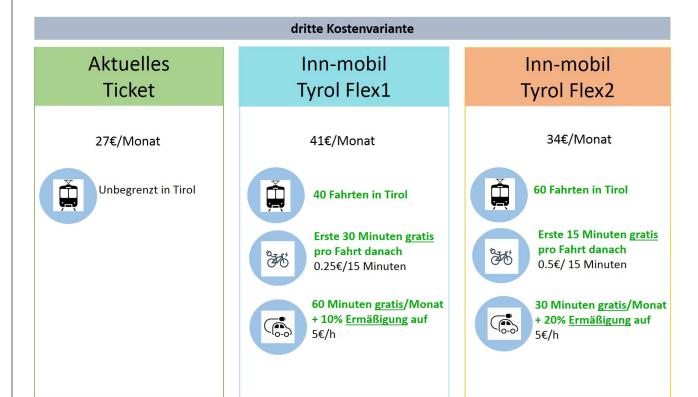
Welche Ticketvariante würden Sie wählen?

- Tyrol flex 2





48. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

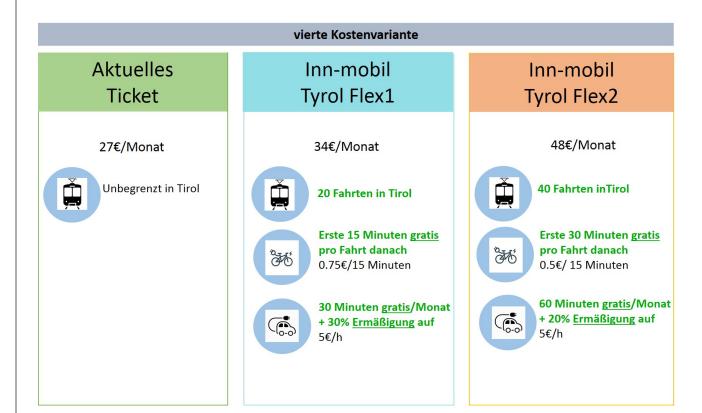


- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





49. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block



- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





50. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

3

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex2 Tyrol Flex1 41€/Monat 41€/Monat 27€/Monat Unbegrenzt in Tirol 60 Fahrten in Tirol 20 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0.5€/ 15 Minuten 0.75€/15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





51. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

3

zweite Kostenvariante Aktuelles Inn-mobil Inn-mobil Ticket Tyrol Flex1 Tyrol Flex2 34€/Monat 41€/Monat 27€/Monat Unbegrenzt in Tirol 40 Fahrten in Tirol 20 Fahrten in Tirol Erste 15 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 0.75€/ 15 Minuten 0. 5€/15 Minuten 60 Minuten gratis/ Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





52. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

3

dritte Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 34€/Monat 48€/Monat 27€/Monat Unbegrenzt in Tirol 20 Fahten in Tirol 60 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 5€/ 15 Minuten 0. 25€/15 Minuten 30 Minuten gratis/ Monat 60 Minuten gratis/Monat + 20% Ermäßigung auf + 30% Ermäßigung auf 5€/h

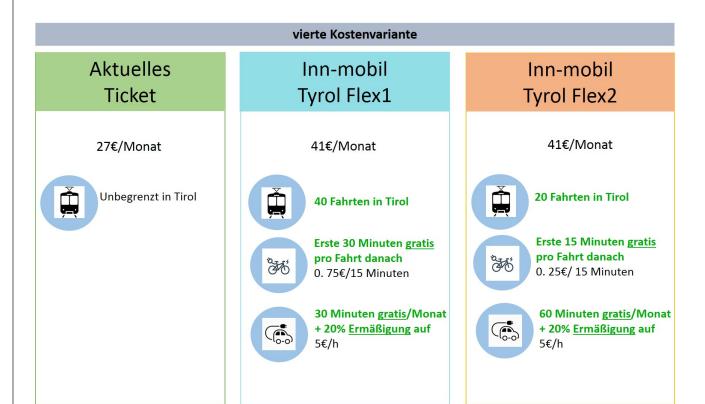
- 50) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





53. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

3



- ⁵¹ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





54. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

4

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 41€/Monat 41€/Monat 27€/Monat Unbegrenzt in Tirol 40 Fahrten in Tirol 60 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 5€/15 Minuten 0. 25€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- 52) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





55. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

4

zweite Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 48€/Monat 48€/Monat 27€/Monat 60 Fahrten in Tirol Unbegrenzt in Tirol 20 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 75€/15 Minuten 0. 25€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h

53) Welche Ticketvariante würden Sie wählen?

Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2





56. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

4

dritte Kostenvariante Aktuelles Inn-mobil Inn-mobil Ticket Tyrol Flex1 Tyrol Flex2 41€/Monat 34€/Monat 27€/Monat Unbegrenzt in Tirol 40 Fahrten in Tirol 20 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Jahr danach 0. 75€/15 Minuten 0. 5€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 20% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- 54) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





57. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

4

vierte Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 48€/Monat 48€/Monat 27€/Monat Unbegrenzt in Tirol 60 Fahrten in Tirol 20 Fahrten in Tirol Erste 15 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 5€/15 Minuten 0. 75€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 30% Ermäßigung auf + 20% Ermäßigung auf 5€/h 5€/h

- 55) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





58. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

5

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 34€/Monat 41€/Monat 27€/Monat Unbegrenzt in Tirol 20 Fahrten in Tirol 60 Fahrten in Tirol **Erste 30 Minuten gratis** Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 75€/ 15 Minuten 0.5€/15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 10% Ermäßigung auf + 20% Ermäßigung auf 5€/h 5€/h

- ⁵⁶ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





59. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

5

zweite Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 48€/Monat 48€/Monat 27€/Monat Unbegrenzt in Tirol 20 Fahrten in Tirol 60 Fahrten inTirol **Erste 30 Minuten gratis** Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 25€/ 15 Minuten 0. 75€/15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 30% Ermäßigung auf + 20% Ermäßigung auf 5€/h 5€/h

- ⁵⁷ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2







60. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

dritte Kostenvariante **Aktuelles** Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 34€/Monat 41€/Monat 27€/Monat Unbegrenzt in Tirol 40 Fahrten in Tirol 60 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 25€/15 Minuten 0. 75€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 10% Ermäßigung auf + 20% Ermäßigung auf 5€/h

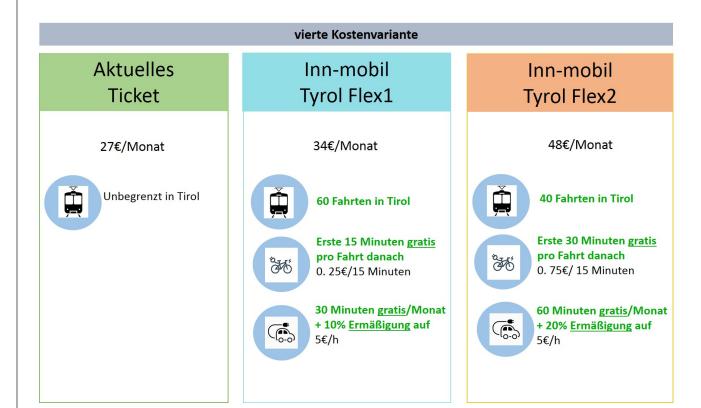
- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





61. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

5



- ⁵⁹ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





62. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

6

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex2 Tyrol Flex1 48€/Monat 34€/Monat 27€/Monat Unbegrenzt in Tirol 60 Fahrten in Tirol 40 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 75€/15 Minuten 0. 5€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 10% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h

- 60) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

63. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

6

zweite Kostenvariante **Aktuelles** Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 34€/Monat 27€/Monat 48€/Monat Unbegrenzt in Tirol 60 Fahrten in Tirol 40 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 5€/15 Minuten 0. 25€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 30% Ermäßigung auf + 20% Ermäßigung auf 5€/h 5€/h





64. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

6

dritte Kostenvariante

Aktuelles Ticket

27€/Monat



Unbegrenzt in Tirol

Inn-mobil Tyrol Flex1

41€/Monat



40 Fahrten in Tirol



Erste 30 Minuten gratis pro Fahrt danach 0. 5€/15 Minuten



60 Minuten gratis/Monat + 30% Ermäßigung auf 5€/h

Inn-mobil Tyrol Flex2

34€/Monat



20 Fahrten in Tirol



Erste 15 Minuten gratis pro Fahrt danach 0. 75€/ 15 Minuten



30 Minuten gratis/Monat + 10% Ermäßigung auf 5€/h

- 62) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





65. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

6

vierte Kostenvariante Aktuelles Inn-mobil Inn-mobil Ticket Tyrol Flex1 Tyrol Flex2 48€/Monat 34€/Monat 27€/Monat Unbegrenzt in Tirol 20 Fahrten in Tirol 40 Fahrten in Tirol Erste 30 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 25€/15 Minuten 0. 5€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 10% Ermäßigung auf + 20% Ermäßigung auf 5€/h 5€/hour

- 63) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





66. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

1

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 41€/Monat 41€/Monat 27€/Monat 20 Fahrten in Tirol Unbegrenzt in Tirol **60 Fahrten in Tirol** Erste 30 Minuten gratis Erste 15 Minuten gratis pro fahrt danach pro Fahrt danach 0. 5€/ 15 Minuten 0. 25€/15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 10% Ermäßigung auf + 30% Ermäßigung auf 5€/h 5€/h

- Welche Ticketvariante würden Sie wählen?

 Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2







67. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

zweite Kostenvariante **Aktuelles** Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 34€/Monat 27€/Monat 48€/Monat Unbegrenzt in Tirol 20 Fahrten in Tirol 40 Fahrten in Tirol Erste 15 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 346 0. 75€/15 Minuten 0. 25€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 20% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

Welche Ticketvariante würden Sie wählen? Aktuelles Ticket Tyrol flex 1 Tyrol flex 2





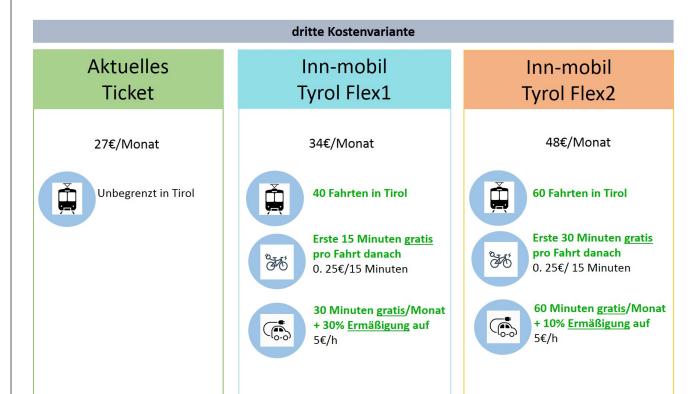
Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

68. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block



70







69. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

vierte Kostenvariante

Aktuelles **Ticket**

27€/Monat



Unbegrenzt in Tirol

Inn-mobil Tyrol Flex1

48€/Monat



60 Fahrten in Tirol



Erste 15 Minuten gratis pro Fahrt danach 0. 25€/15 Minuten



60 Minuten gratis/Monat + 30% Ermäßigung auf 5€/h

Inn-mobil Tyrol Flex2

41€/Monat



40 Fahrten in Tirol



Erste 30 Minuten gratis pro Fahrt danach 0. 75€/ 15 Minuten



30 Minuten gratis/Monat + 10% Ermäßigung auf 5€/h

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





70. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

8

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 48€/Monat 34€/Monat 27€/Monat Unbegrenzt in Tirol 40 Fahrten in Tirol 60 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 25€/15 Minuten 0. 5€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 30% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

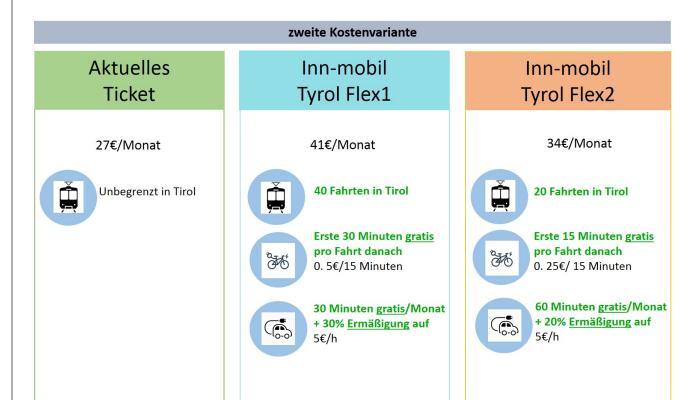
- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





71. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

8



- (69) Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





72. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

8

dritte Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 48€/Monat 27€/Monat 34€/Monat 20 Fahrten in Tirol Unbegrenzt in Tirol 40 Fahrten in Tirol Erste 15 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 25€/15 Minuten 0. 75€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 30% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





73. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

8

vierte Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 34€/Monat 41€/Monat 27€/Monat Unbegrenzt in Tirol 60 Fahrten in Tirol 40 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 25€/15 Minuten 0. 5€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 20% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h

- ⁷¹ Welche Ticketvariante würden Sie wählen?
 - Aktuelles Ticket
 - Tyrol flex 1
 - Tyrol flex 2





Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

74. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block 9)

erste Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 41€/Monat 41€/Monat 27€/Monat 40 Fahrten in Tirol Unbegrenzt in Tirol 20 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 346 0. 5€/15 Minuten 0. 75€/ 15 Minuten 30 Minuten gratis/Monat 60 Minuten gratis/Monat + 30% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h





Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2

Mobility-as-a-Service (MaaS) in Tirol_deutsch version

75. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

9)

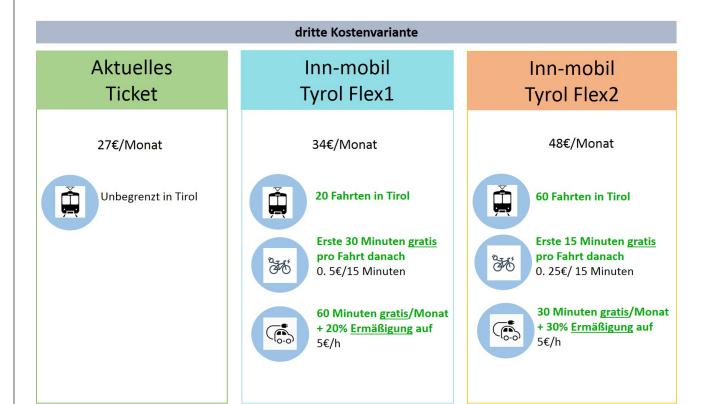
zweite Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 34€/Monat 48€/Monat 27€/Monat Unbegrenzt in Tirol 20 Fahrten in Tirol 60 Fahrten in Tirol Erste 30 Minuten gratis Erste 15 Minuten gratis pro Fahrt danach pro Fahrt danach 0. 75€/15 Minuten 0. 5€/ 15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 30% Ermäßigung auf + 10% Ermäßigung auf 5€/h 5€/h





Mobility-as-a-Service (MaaS) in Tirol_deutsch version

76. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block



Tyrol flex 2

Aktuelles Ticket

Tyrol flex 1





Aktuelles Ticket

Tyrol flex 1

Tyrol flex 2



Mobility-as-a-Service (MaaS) in Tirol_deutsch version

77. StudentInnen / SeniorInnen: Auswahl des Abonnements (Block

vierte Kostenvariante Aktuelles Inn-mobil Inn-mobil **Ticket** Tyrol Flex1 Tyrol Flex2 41€/Monat 27€/Monat 48€/Monat **60 Fahrten in Tirol** 20 Fahrten in Tirol Unbegrenzt in Tirol Erste 15 Minuten gratis Erste 30 Minuten gratis pro Fahrt danach pro Fahrt danach 346 0. 5€/ 15 Minuten 0. 75€/15 Minuten 60 Minuten gratis/Monat 30 Minuten gratis/Monat + 30% Ermäßigung auf + 20% Ermäßigung auf 5€/h 5€/h





78. Ihre Reiseverhalten

Wie oft nutzen Sie diese Verkehrsmittel?						
	nie	1x pro Monat oder weniger	2-3x pro Monat	1x pro Woche	-	täglich
Stadtbus/Straßenbahn						
Regionalbus/S-Bahn/Zug	\bigcirc					
Auto						
Fahrrad			\bigcirc	\bigcirc		

77	Wie lange ist Ihre durchschnittliche Reisezeit pro
	Tag, wenn Sie öffentlichen Verkehrsmitteln nutzen?
	<15 min
	16-30 min
	31-45 min
	46-60 min
	> 60 min
	Keine Angabe

(78) Z	u welchem Zweck fahren Sie üblicherweise mit öffentlichen
V	erkehrsmitteln (ÖV)? (mehrfache Antworten möglich)
	Arbeitsplatz
	Dienstlich/geschäftlich
	Schule/Ausbildung
	Einkaufen
	Bring-und Holweg
	Erledigung
	Freizeit
	Begleitung
	Besuch
	Ich fahre nie mit ÖV
	Andere (bitte Beispiele angeben)

79	Welches Ticket nutzen Sie üblicherv	veise?				
(Jahres-Ticket IVB					
(Jahres-Ticket Land					
(Jahres-Ticket Region					
(Jahres-Ticket SeniorIn					
(Jahres-Ticket Spezial					
(Semester-Ticket IVB					
(Semester-Ticket Land					
(SchulPlus-Ticket/LehrPlus-Ticket					
(Monats-Ticket					
(Wochen-Ticket					
(24h-Ticket					
(8-Fahrten-Ticket IVB					
(Einzel-Ticket					
(VVT Flexi-Rate					
(Andere (bitte Beispiele angeben)					
80	Wie sind Ihre Erfahrungen mit diese	n Dienstlei:	stungen (in	Tirol oder	anderswo)	?
		davon		Ich habe es ausprobiert und es hat mir gefallen.	Ich habe es mehrmals benutzt.	lch nutze es regelmäßig.
	Car-sharing					
	Bikeverleihe (Bike-sharing)					
	E-scooter					
	Lieferservice IVB					
	Fahrradmitnahme in Bus/Bahn					

Zusatzfrage für die F	ahrradmitnahme	e in Bus/Bahn.		
	ja, wie bisher	ja, aber seltener	nein, ich würde nicht mehr mit dem bus/bahn fahren	keine Angabe
Ich würde die Fahrradmitnahme auch nutzen, wenn diese nicht kostenlos ist.				





79. Zufriedenheit mit dem öffentlichen Verkehr (ÖV)

(0)	,						
83	Wie zufrieden sind Sie mit dem aktu	ellen öffent	tlichen Nahv	rerkehr	sangel	oot?	
		sehr unzufrieden	unzufrieden	neutra	l zut	frieden	sehr zufrieden
	Reisezeit						
	Wartezeit						
	Betriebszeit						
	Liniennetz					\bigcirc	
	Haltestellen						
	Verlässlichkeit und Pünktlichkeit						
	Reiseinformations Apps						
84) 1	Wie beurteilen Sie die Nutzung Ihres	s ÖV-Ticket	trifft nicht zu	trifft wenig zu	neutral	trifft zu	trifft vollkommen zu
	Ich habe das Ticket nicht so ausgenutzt, wie habe.	ich es erwarte	et 🔾				
	Ich habe es gern für alle Fälle dabei, auch we optimal ausnutze.	enn ich es nicl	nt		\bigcirc		
	Obwohl ich ein Ticket habe, verwende ich oft Verkehrsmittel.	andere					
	Ich benutze nur wenige Linien, so dass ich ni Angebot benötige	cht das gesar	mte				

Vie zufrieden sind Sie mit den monatlichen Kos Auto, ÖV, Rad, etc.)?					
	trifft nicht zu	trifft wenig zu	neutral	trifft zu	trifft vollkommen zu
Ich bin mir nicht sicher, ob das Preis-Leistungsverhältnis wirklich optimal ist.					
Ich denke oft, es ist zu teuer für mich.			\bigcirc	\bigcirc	
Ich bin manchmal schockiert, wenn ich meine Fahrtkosten sehe.					
Meine monatlichen Fahrtkosten ärgern mich oft.					





80. Wechseln zu INN-Mobil

	~					
	INN-Mobil ist in Tirol noch nicht verfügbar. Steller Sie Tarifpakete nach Ihren Bedürfnissen abonnier automatisch. Welche Vorteile erwarten Sie sich d	en könne	n und	die Zah	-	•
		trifft nicht zu	trifft wenig zu	neutral	trifft zu	trifft vollkommen zu
	Es wird meine Fahrten vereinfachen (z.B. one-stop-shop für Ticketkauf).					
	Die Reisezeit wird effizienter sein.					
	Es wird meine Reisedistanzen und -ziele erweitern.					
	Es wird mir ermöglichen, verschiedene Verkehrsmittel zu nutzen.					
87	Welche Erwartungen haben Sie an den Wechsel	zur diese	App?			
		trifft nicht zu	trifft wenig zu	neutral	trifft zu	trifft vollkommen zu
	Der Wechsel zu INN-Mobil ist zu kompliziert.					
	Der (Zeit-)Aufwand um INN-Mobil zu nutzen, ist zu hoch.					
	Die Eingewöhnung in INN-Mobil ist zu schwierig.					
	Ich kann mir nicht vorstellen, INN-Mobil zu nutzen.					

	trifft nicht zu	trifft wenig zu	neutral	trifft zu	trifft vollkommen zu
Das Carsharing wird nicht immer verfügbar sein.					
Ich möchte meine Kreditkartendaten nicht in einer App angeben.					
Es hat möglicherweise keine benutzerfreundliche Oberfläche.					
Das Fahren eines Elektroautos könnte für mich schwierig sein.					
Die Benutzung eines Leihrades (bike-sharing) ist für mich möglicherweise unkomfortabel.					





81. Ihre Reisevorlieben

89) 1	Wie ist Ihre Einstellung zu Verkehr und Umwelt?	trifft nicht zu	trifft wenig zu	neutral	trifft zu	trifft vollkommen zu
	Es liegt in meiner Verantwortung, Maßnahmen zu ergreifen, um umweltfreundlich zu sein.					
	Ich beschränke meine Autofahrten, um Staus und Umweltbelastungen zu reduzieren.					
	Wir müssen handeln und Entscheidungen treffen, um die Emissionen von Treibhausgasen zu begrenzen.					
	Ich bin bereit, mehr für die Unterstützung umweltfreundlicher Initiativen zu zahlen.					
90 \	Wie fühlen Sie sich beim Autofahren?	nie	selten	gelegent	lich o	ft immer
	Ich fahre gerne ein schönes Auto.					
	Ich denke, Autofahren ist cool.					
	Ich fühle mich großartig, wenn ich fahre.					
	Ich genieße die Beschleunigung und Geschwindigkeit des Autos.					
	Ich nutze das Auto nur, wenn ich muss.					

91	Was halten Sie vom Radfahren?					
		nie	selten	gelegentlich	n oft	immer
	Radfahren hilft mir, in Form zu bleiben.					
	Radfahren hilft mir, meine Fitnessziele zu erreichen.					
	Radfahren hilft mir, mein Wohlbefinden zu erhalten.					
	Radfahren hilft mir, die Bewegung zu bekommen, die ich brauche.					
92	Welche Zeitersparnis ist Ihnen beim Transport wich		le.		6	
	Lab custoshaida waish off fills die Lillerante Daisarait auch warm	nie	seiten	gelegentlich	n oft	immer
	Ich entscheide mich oft für die kürzeste Reisezeit, auch wenn es bedeutet, mehr zu bezahlen.					
	Ich komme gerne pünktlich an, auch wenn es bedeutet, mehr zu bezahlen.					
	Ich vermeide lieber Wartezeiten, auch wenn es bedeutet, mehr zu bezahlen.					
93	Wie heurteilen Sie die Nutzung der verschiedenen	Verkehi	rsmitte	12		
93)	Wie beurteilen Sie die Nutzung der verschiedenen	Verkehr trifft nicht zu	rsmitte trifft wenig zu	 ? neutral tri		trifft Ilkommen zu
93)	Wie beurteilen Sie die Nutzung der verschiedenen Ich denke, es macht Spaß, neue Verkehrsmittel auszuprobieren.	trifft	trifft wenig			llkommen
93)	Ich denke, es macht Spaß, neue Verkehrsmittel	trifft	trifft wenig			llkommen
93)	Ich denke, es macht Spaß, neue Verkehrsmittel auszuprobieren.	trifft	trifft wenig			llkommen
93	Ich denke, es macht Spaß, neue Verkehrsmittel auszuprobieren. Ich bin neugierig, welche neuen Verkehrsmittel es gibt.	trifft	trifft wenig			llkommen
	Ich denke, es macht Spaß, neue Verkehrsmittel auszuprobieren. Ich bin neugierig, welche neuen Verkehrsmittel es gibt. Ich ziehe es vor, mir bekannte Verkehrsmittel zu nutzen. Ich bin an der Suche nach verschiedenen Mobilitätsoptionen	trifft nicht zu	trifft wenig zu	neutral tri	fft zu	Illkommen zu
	Ich denke, es macht Spaß, neue Verkehrsmittel auszuprobieren. Ich bin neugierig, welche neuen Verkehrsmittel es gibt. Ich ziehe es vor, mir bekannte Verkehrsmittel zu nutzen. Ich bin an der Suche nach verschiedenen Mobilitätsoptionen interessiert. Wie oft wechseln Sie Ihr Verkehrsmittel?	trifft	trifft wenig zu		fft zu	llkommen
	Ich denke, es macht Spaß, neue Verkehrsmittel auszuprobieren. Ich bin neugierig, welche neuen Verkehrsmittel es gibt. Ich ziehe es vor, mir bekannte Verkehrsmittel zu nutzen. Ich bin an der Suche nach verschiedenen Mobilitätsoptionen interessiert. Wie oft wechseln Sie Ihr Verkehrsmittel? Ich ändere oft das Verkehrsmittel nach meinen Bedürfnissen.	trifft nicht zu	trifft wenig zu	neutral tri	fft zu	Illkommen zu
	Ich denke, es macht Spaß, neue Verkehrsmittel auszuprobieren. Ich bin neugierig, welche neuen Verkehrsmittel es gibt. Ich ziehe es vor, mir bekannte Verkehrsmittel zu nutzen. Ich bin an der Suche nach verschiedenen Mobilitätsoptionen interessiert. Wie oft wechseln Sie Ihr Verkehrsmittel?	trifft nicht zu	trifft wenig zu	neutral tri	fft zu	Illkommen zu

95	Alter und Geschlecht	Geschlecht		Altor	
				Alter	
	Alter und Geschlecht	\$		\$	
96	Verfügen Sie über ein Fa	hrrad / Führersche	en/ Auto?		
		Fahrrad	Führerschein	Auto	
	Fahrrad /				
	Führerschein / Auto	\$	\$		
97	Arbeiten/studieren Sie?				
	Nur studieren				
	Nur arbeiten				
	Arbeiten und studieren				
	Weder arbeiten noch studie	eren			
98	Dag Durahaghnittaginkan	nman in Österreisk	. haträgt 2000 200	NOS brutta Mia baab iat Ibr	
30)		nmen in Osterreici	i beiragi 2000-300	00€ brutto. Wie hoch ist Ihr	
	Einkommen?				
	unterdurchschnittlich				
	durchschnittlich				
	überdurchschnittlich				
	das möchte ich nicht beant	worten			





82.

99	Vielen Dank, dass Sie sich die Zeit genommen haben, diese Umfrage auszufüllen. Wenn Sie an der Verlosung teilnehmen möchten, hinterlassen Sie bitte Ihre E-Mail-Adresse:
100	Bitte lassen Sie es uns wissen, wenn Sie an unserer Umfrage ob Sie auch an einer wissenschaftlichen Studie teilnehmen wollen, bei der die Nutzung von ÖV und/oder Fahrrad mit einem Armband (Empatica E4) aufgezeichnet wird. Wenn Sie ja sagen, dann werden wir Ihre E-Mail-Adresse verwenden, um Sie zu kontaktieren. Es gibt attraktive Geschenke für alle TeilnehmerInnen.
	Ja Nein



Wie beurteilen Sie den Schwierigkeitsgrad dieser Umfrage?

sehr schwierig	schwierig	neutral	leicht	sehr leicht
\Rightarrow	\Rightarrow	\Rightarrow	$\stackrel{\wedge}{\bowtie}$	\Rightarrow