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SKY HIGH ECONOMICS

Chapter 3: Capitalising on changing passenger behaviour in a connected world

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SEPTEMBER 2019

IN ASSOCIATION WITH inmarsat aviation

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TABLE OF CONTENTS

The aircraft cabin isn't ready for the next generation of always-on passengers

To date, the adoption of connectivity in the cabin has been patchy and inconsistent — but the need for airlines to adopt a digital mindset is becoming more urgent.

Within the next decade, Generation Z (born between 1997-2012) and Next Gen (born after 2010) will together comprise the largest group of airline passengers worldwide, with a small overlap between the age of these cohorts. In turn, the digital natives will soon become the industry's prime customer base.

Paired with this demographic shift, the 'always-on' culture that is pervasive across all passenger groups is transferring to the cabin, driving expectations of inflight experience. When it comes to being connected, today's passengers no longer want to be limited.

Against the backdrop of major demographic change and digital disruption, the 'old rules' of customer loyalty apply less. Rewards alone don't create a favourite brand. Millennials (the largest air passenger group today, born between 1981-1996) value loyalty less than any previous generation – a trend set only to continue with younger generations.

The next decade therefore presents both a large opportunity and challenge for the industry. To gain market share and stay relevant in a competitive industry landscape, airlines must adapt to the behaviours and expectations of today's and tomorrow's passengers.

As observed of technology evolution on the ground in Accenture's 2019 Technology Trends report: *"new technologies allow consumers to access personalized products and services on demand, and they also enable businesses to* *produce customizable products more quickly and inexpensively. That combination has set consumer expectations on a constant climb."*[1]

In the cabin, this 'constant climb' of passenger expectation for personalised, on-demand services is yet to be met. But inflight Wi-Fi is set to reshape the relationship between passenger and airline by creating a wealth of opportunities for tailored interactions that build positive brand perception.

Personalised, relevant services will move to the forefront of passenger experience, echoing developments in terrestrial technology. Just as Uber and Netflix revolutionised the public transport and entertainment sectors, instant and value-added connected services will define the future of the cabin experience. The airlines that introduce the most innovative, differentiating services, from streamed entertainment to e-commerce, stand to gain a major competitive advantage.

So, what could this near-future look like for passengers?

Increased data access allows airlines to develop detailed passenger profiles based on preferences and past activity. Using this information, airlines could serve each passenger a catalogue of targeted destination offers and products that can be ordered inflight and delivered to the gate. They could be prompted to pick up where they left off on a film they were streaming before the flight. They could be kept up to date with travel information, including arrival times, onwards journey options and baggage tracking. They could earn back valuable time before their trip, safe in the knowledge that their hire car, destination experiences and dinner reservations can be arranged from their seat.

Sky High Economics: Chapter One forecast that broadband in the sky will generate $30 billion in additional revenue for airlines by 2035. Adapting to the behaviours of digitally minded passengers will be key to unlocking these lucrative new revenue streams, while gaining market share from competitors. This chapter predicts that — in addition to the multi-billion dollar revenue opportunity identified in Chapter One — an annual $33 billion in market share is on the table today, to be won by airlines developing the connected inflight experiences that passengers want.

In a competitive landscape, that's $33 billion to be won, and, equally, $33 billion to be lost. The key is to be on the right side of the equation.

Both the technology and infrastructure are ready to meet the expectations of always-on travellers. Airlines that act now stand ready to gain a substantial competitive advantage over their peers, becoming the dominant airlines of the future.

Is the industry ready for the challenge?

Dominic Walters
Vice President
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Dr Alexander Grous Biography

Department of Media and Communications, London School of Economics and Political Science

Dr Alexander Grous has been engaged at the LSE since 2005, and works across the Department of Media and Communications at LSE in a combined teaching and research role in the areas of Innovation, Socioeconomics, Communication Technology and Transport Economics, amongst other areas.

Dr Grous is also Senior Associate at LSE Consulting, engaged across multiple projects for clients. He brings considerable commercial experience to the LSE from previous roles at CxO level in mobile communications (including satellite), high-technology, FMCG, e-commerce, Banking and Finance.

Dr Grous specialises in the quantification of socioeconomic value encompassing both a social and economic impact at the company level, regional, national level, or wider. His extensive work in these areas has resulted in high profile reports and media coverage including the impact of cycling to the UK economy, business and health; the socioeconomic impact of mission critical broadband to the UK and the EU; the productivity enhancing impact of communications in the UK, and recent extensive socioeconomic work for FTSE 100 firms that are not public domain including Microsoft, Warner Brothers, Amadeus, GB Group, and others.
Dr Grous' work is often utilised for Policy and Government input, and he engages at this level to facilitate.

Dr Grous also brings considerable experience in telecommunications having held strategy roles in mobile strategy and satellite communications with Telstra (Australia/UK) including engagement over two years with Inmarsat in the UK as Telstra's representative on the Working Group related to the initial development of Inmarsat's mobile satellite service.

He was also MD of Lockheed Martin's Infocom Division for EMEA and CEE/CIS including participating in satellite communication launches and joint ventures for fixed, mobile and broadband in the region, defining the market potential for services across ground and air. Dr Grous maintains transport economics and communication technology as an active area of research and teaching.

Introduction

Consumers are now connected for almost every waking hour in their everyday lives, as a result of increased engagement with search, social media, e-commerce and streaming. This behaviour provides a compelling business case that airlines can utilise to invest in the connected aircraft, monetising the migration of these consumer activities from the ground to the air and engendering loyalty in the process. The establishment of Millennials in particular as the dominant global consumer segment requires an evolution of the traditionally structured airline loyalty programmes that are, in the main, yet to adapt to the demands and behaviour of younger demographics.

Sky High Economics: Chapter One — Quantifying the commercial opportunities of passenger connectivity for the global airline industry estimated that broadband in the sky will be a $130 billion opportunity by 2035, including $30 billion in digitally enabled ancillary revenue for airlines and a further $100 billion for the wider digital supply ecosystem. The connected aircraft can deliver an additional key benefit for airlines: loyalty. Changing passenger behaviour demands that many miles and card-based loyalty schemes are modernised for younger audiences, with an equally significant opportunity emerging: the provision of tailored inflight services, content, offers and rewards enabled by cabin connectivity that ‘delight’ the consumer. The connected aircraft allows passengers to seamlessly migrate their established digital habits on the ground into the air. With almost 100% saturation of smartphones and a high penetration of secondary devices such as tablets and laptops, the connected cabin can fulfil consumer demand to be ‘always on’. This will drive continued change over the next decade in how travel is researched, booked, and undertaken, with passenger expectation ‘sky high’ on managing their lives, travel and leisure in the air as they would on the ground.

However, airlines are yet to fully embrace the digital landscape: a step-change is required if they are to fully adapt to modern consumer demands and behaviour patterns. This requires the use of data, analytics and an integrated supply chain that can be leveraged by onboard connectivity to tailor experiences to the individual and create a desire to return in the future. **Sky High Economics: Chapter Three — Capitalising on changing passenger behaviour in a connected world** highlights opportunities for airlines to enhance customer loyalty through onboard connectivity. The alignment of changing consumer expectations and behaviour with a personalised and connected cabin experience can deliver considerable rewards and result in a ‘win-win-win’ for consumers, airlines and suppliers.

1. Changing Consumer Behaviours and Expectations

1.1 'Making the Connection': Consumers Have Evolved

"One of the biggest changes that's going to happen is personalization in flight... Think of a plane full of people with certain categories of profile: we can deliver content that's specific to them, right to their seats."

E. Sundaram, EVP & CIO, JetBlue[1]

Airlines are at a cross-road: changing consumer behaviour on the ground is shifting inflight expectations.[2] Digitalisation, mobility, workforce changes and the evolving nature of 'leisure' are challenging the traditional notion of how airlines interact with their passengers before, during and after a flight, and creating new opportunities to engender loyalty. Widespread digital behaviour across the major consumer segments is reducing the need for increased segmentation.[3] The four groups covered in this research are Generation Z (1997-2012), Generation Y ('Millennials', 1981-1996), Generation X (1965-1980), and Baby Boomers (1946-1964).[4] The 'always connected' consumer is now prevalent across all these segments, and is no longer solely the domain of younger generations such as Generation Z or Millennials.[5] Across all segments, one-fifth of all adults now only use their smartphones for broadband connectivity, with this rising to almost one-third for Generation Z and Millennials.[6] As mobile networks continue to expand in less developed regions, similar digital usage and adoption trends are now being observed between countries, including almost 100% smartphone penetration rates amongst Generation Z and Millennials, followed by 85% for Generation X, and 67% of Baby Boomers.[7]

Consumer demand for onboard connectivity is being driven by the desire to 'always be connected' and the embedded nature of digital technology in everyday life.[8] Social media is the major catalyst for increasing amounts of time spent online. In 2019, around 3.2 billion social media users exist globally, which equals 40% of the world's population.[9] Facebook accounts for 2.3 billion active monthly users, followed by Instagram with 1 billion active monthly users, and Snapchat with 300 million active monthly users.[10] In some markets, local platforms dominate including WeChat in China with 1 billion daily active users,[11] and Russian platforms such as Vk with almost 50 million monthly users and one of the most engaged user groups in the world (two and a quarter hours a day, exceeding US consumers).[12] Other platforms such as Sina Wibo in China are Twitter equivalents, with 446 million active monthly users, while instant messaging app Tencent QQ has 803 million monthly active users.[13] YouTube is the global online video leader with almost 2 billion active monthly users,[14] but markets such as China reflect dominant local alternatives including Youk Toudu Inc with 150 million active daily users. In Russia, Vk dominates video sharing; some local sites including Rutube provide competition, although these do not account for a large share of the market.

Over 40% of all consumers say that their screen time 'has increased significantly' over the past five years: on average, they spend seven hours per day connected, with 51% of this time spent watching video, 28% listening to music, and 21% playing games.[15] These trends are most evident in Generation Z, the first digitally native generation, and Millennials, the largest consumer segment: these groups use social media prolifically[16] and are comfortable with single-device use for multi-tasking.[17] Millennials are the most frequent users of social media across major platforms: 85% use YouTube, followed by Instagram (72%), Snapchat (69%), Facebook (51%), Twitter (32%), Tumblr (9%) and Reddit (7%).[18] In China, around 211 million Millennials comprise 15% of the population — five times the number found in the US.[19] This group spends twice as much time as their American counterparts watching online videos, with YouKu, Sohu TV, Tencent Video, Le.com, and IQIYI representing the top five video sites visited respectively.[20] Globally, this group posts a significant volume of content and has a high willingness to engage with brands.[21] Millennials stream video and music as an embedded aspect of their daily routine,[22] and are 'always online' primarily through their smartphone.[23] The trend to be 'always on' is, however, transcending generations: more than 80% of Baby Boomers go online daily, reflecting a 100% growth since 2010.[24] Social media use has grown by 1000% for this group since 2006[25] , reaching over an hour a day in 2018, with around a quarter following a brand on social media and almost two-thirds following someone known to them.[26] These trends are harmonising across geographies as 'always on' becomes the defacto status, agnostic of location.

Consumer groups are also approaching travel in new ways. Two-thirds of Millennials are destination-indecisive, with almost 80% open to destination inspiration,[27] presenting an opportunity for targeted content to be delivered to influence travel behaviour. Millennials prefer discounted travel to receiving miles or rewards when they fly, are four times less likely than non-Millennials to be loyal to one or more airline and are less likely to collect frequent flyer miles than older travellers.[28] Millennials are four times more likely than older passengers to pay for Wi-Fi, 60% more likely to watch inflight entertainment[29] and use connectivity to manage onward travel.[30] Both younger generations and those retiring are engaging in more spontaneous travel and considering additional influencing factors in airline selection beyond price and times, including Wi-Fi and other relevant services.[31] These behavioural attributes can transcend ticket price for some consumers with the use of Wi-Fi enabling in-cabin services that enhance passenger experience.[32]

Although consumer behaviour has evolved, the majority of airline loyalty programmes have yet to keep up with this pace of change: airlines continue in the main to use a 'points-for-miles' structured approach as the basis for rewards. Many airlines are evolving their traditional programmes to cater to changing consumer segments while experimenting with digital options, indicating that both can be utilised to personalise the travel experience. Alongside the enhancement of existing loyalty programmes to meet the expectations of younger generations, the alignment of in-cabin connected services with consumer expectations is critical in re-establishing loyalty within the dominant consumer groups.[33] Understanding consumers' onboard expectations is an essential precursor to the development of connectivity services that both generate revenue and drive passenger loyalty. Airlines that meet changing consumer expectations, with the development of innovative connected services, can accelerate the 'unlocking' of the $30bn in broadband enabled ancillary revenue identified and quantified in **Sky High Economics: Chapter One** for airlines, and $100bn for the broader supplier ecosystem in four areas: broadband access, targeted advertising, e-commerce and premium content.[34] In addition, the utilisation of onboard Wi-Fi by airlines can personalise the passenger experience and 'delight' consumers by making their connected world accessible in the cabin. Industry engagement indicates that the use of inflight connectivity will have a positive impact on passenger behaviour: "The majority of passengers will be delighted by this and will express their happiness on social networks from 35,000 feet up."[35]

1.2 Passenger Demographics Are Changing

In 2018, airlines carried 4.3 billion passengers globally.[36] IATA forecasts that by 2050, annual global passenger numbers will be 16 billion,[37] more than double the 7.2 billion forecast in 2035[38] and 40% higher than the 5.2 billion passengers forecast by 2028.[39] Chart 1 depicts the changes in the demographic composition of airline passengers by 2050. By 2028, one-quarter of the world's population will be comprised of Generation Z and 'Next Gen', born after 2010 with these cohorts accounting for around half the population. Millennials, Generation X and Baby Boomers will account for the remaining half. By 2050, Next Gen will account for around 40% of the population, with Generation Z, Millennials, Generation X and Baby Boomers accounting for 22%, 15%, 13% and 9% of the population respectively. Using IATA forecasts, Chart 2 depicts estimates for passenger forecasts by cohort globally and by region. Table 1 depicts the estimates for these cohorts but this table and Charts 1 and 2 do not include around 7%, 5% and 2% of the oldest segments in 2018, 2028 and 2050 respectively. Estimates on the number of ageing and older passengers by 2050 do not exist, with analysis occurring to define these figures and industry recognition that along with ageing Generation X and Baby Boomers this is a growing segment. Airlines are increasingly addressing this trend with APEX also focusing on older passengers: "The biggest challenge for all customer service-led industries is that they have never had to serve such a high number of older consumers and for extended periods of time."[40]

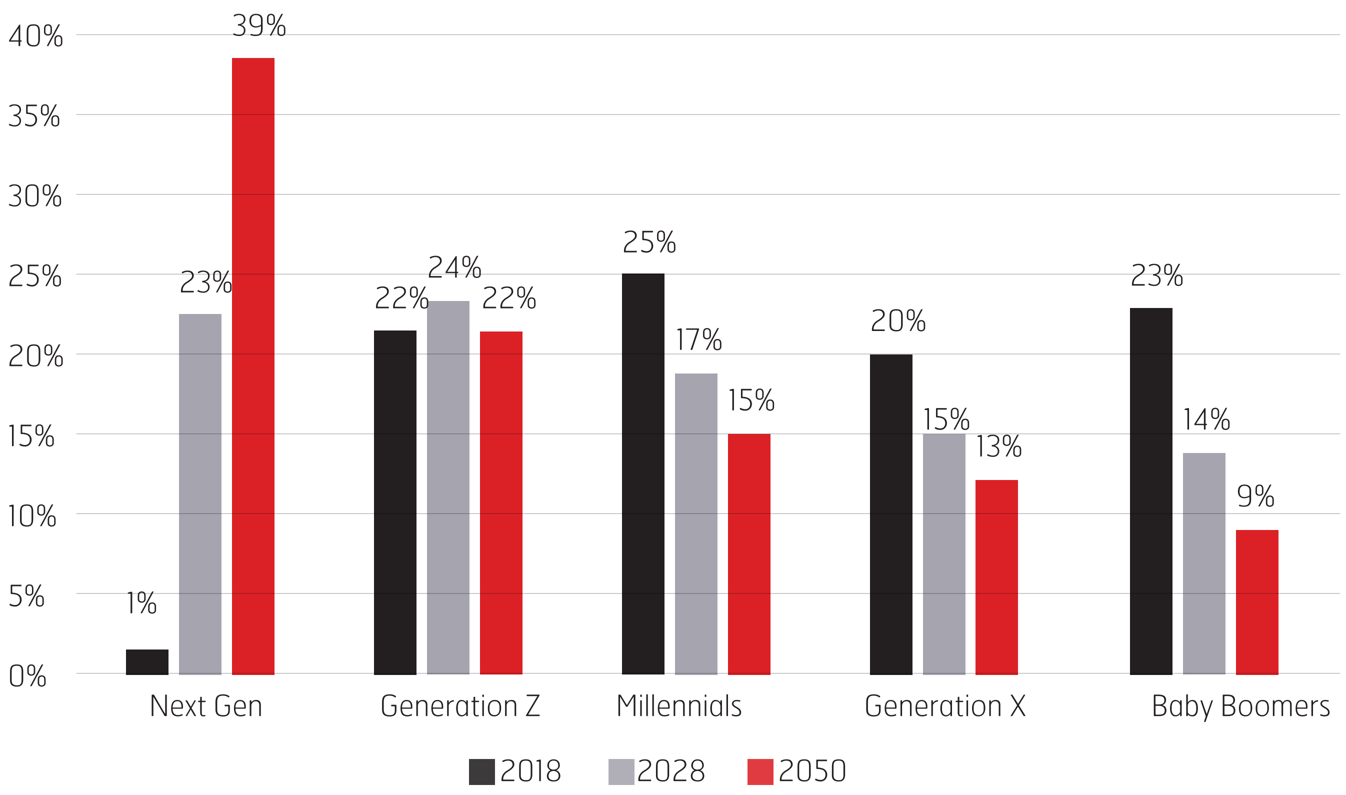
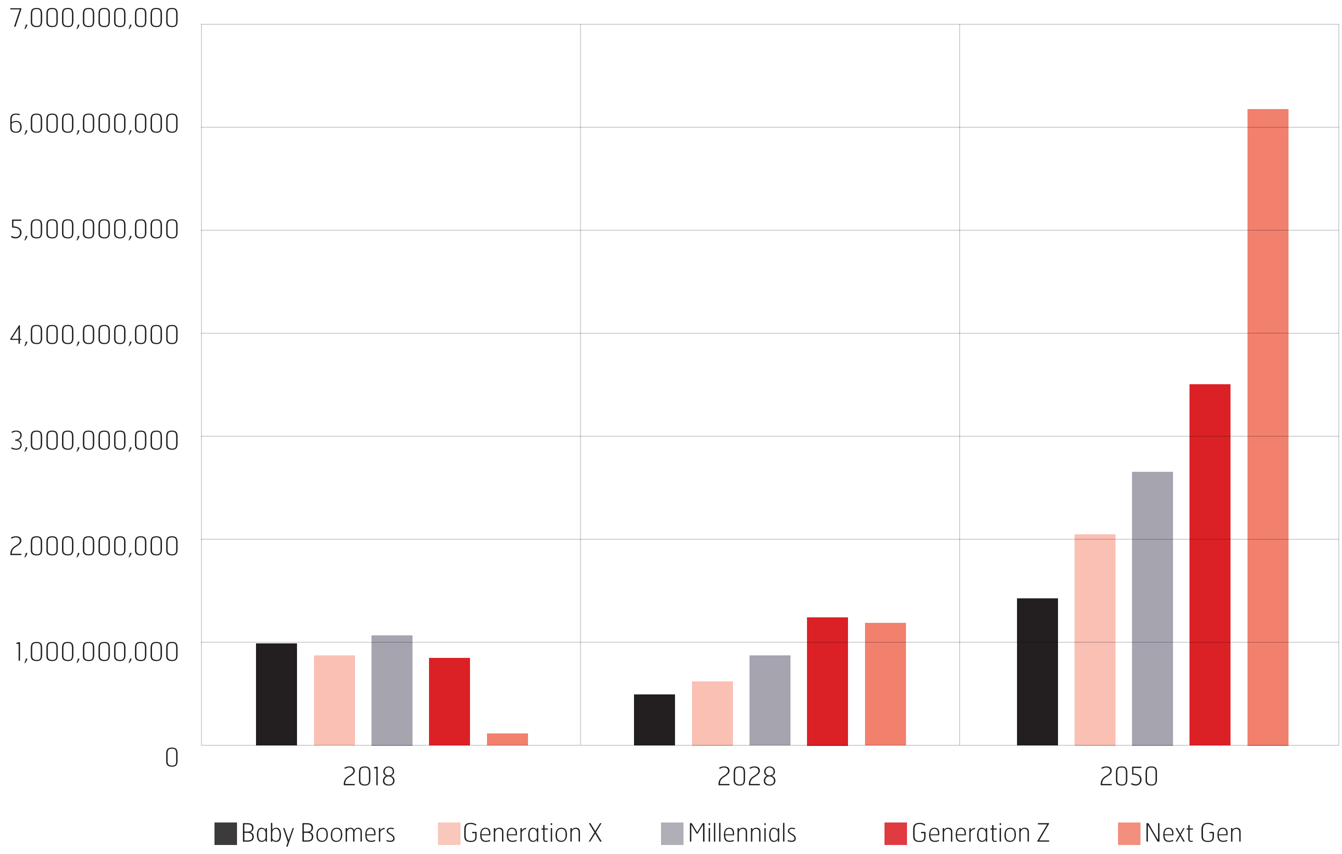


CHART 1: GENERATION TYPES GLOBALLY (%): 2018, 2028 AND 2050

SOURCE: KNOMEA AND LSE RESEARCH [41, 42]



Global Passenger Forecasts by Cohorts			
	2018	2028	2050
Next Gen	43,000,000	1,196,000,000	6,163,598,421
Generation Z	946,000,000	1,248,000,000	3,520,000,000
Millennials	1,075,000,000	884,000,000	2,400,000,000
Generation X	860,000,000	780,000,000	2,080,000,000
Baby Boomers	989,000,000	728,000,000	1,440,000,000
Total	**4,300,000,000**	**5,200,000,000**	**16,000,000,000**

CHART 2 AND TABLE 1: FORECAST PASSENGERS ANNUALLY BY GENERATION TYPES GLOBALLY: 2018, 2028 AND 2050*

SOURCE: IATA; KNOMEA AND LSE RESEARCH[43]

*The total includes older generations after Baby Boomers, but these are not segmented in the table as they represent a small percentage of the total ranging from 7% in 2018 to 2% by 2050.

REGION	2018	2028	2050
ASIA PACIFIC	**1,571,198,910**	**1,900,054,496**	**5,846,321,526**
Next Gen	15,711,989	456,013,079	2,252,148,633
Generation Z	424,223,706	456,013,079	1,286,190,736
Millennials	345,663,760	323,009,264	876,948,229
Generation X	314,239,782	385,008,174	760,021,798
Baby Boomers	345,663,760	266,007,629	526,168,937
AFRICA	**130,054,496**	**157,275,204**	**483,923,706**
Next Gen	1,300,545	37,746,049	186,419,462
Generation Z	35,114,714	37,746,049	106,463,215
Millennials	28,611,989	26,736,785	72,588,556
Generation X	26,010,899	23,591,281	62,910,082
Baby Boomers	28,611,989	22,018,529	43,553,134
MIDDLE EAST	**199,182,561**	**240,871,935**	**741,144,414**
Next Gen	1,991,826	57,809,264	285,507,284
Generation Z	53,779,292	57,809,264	163,051,771
Millennials	43,820,163	40,948,229	111,171,662
Generation X	39,836,512	36,130,790	96,348,774
Baby Boomers	43,820,163	33,722,071	66,702,997
EUROPE	**1,089,645,777**	**1,317,7111,172**	**4,054,495,913**
Next Gen	10,896,458	316,250,681	1,561,892,788
Generation Z	294,204,360	316,250,681	891,989,101
Millennials	239,722,071	224,010,899	608,174,387
Generation X	217,929,155	197,656,676	527,084,469
Baby Boomers	239,722,071	184,479,564	364,904,632
NORTH AMERICA	**943,188,011**	**1,140,599,455**	**3,509,536,785**
Next Gen	9,431,880	273,743,869	1,351,960,962
Generation Z	254,660,763	273,743,869	772,098,093
Millenials	207,501,362	193,901,907	526,430,518
Generation X	188,637,602	171,089,918	456,239,782
Baby Boomers	207,501,362	159,683,924	315,858,311
LATIN AMERICA	**366,730,245**	**443,487,738**	**1,364,577,657**
Next Gen	3,667,302	106,437,057	525,669,293
Generation Z	99,017,166	106,437,057	300,207,084
Millennials	80,680,654	75,932,916	204,686,649
Generation X	73,346,049	66,523,161	177,395,095
Baby Boomers	80,680,654	62,088,283	122,811,989
TOTAL	**4,300,000,000**	**5,200,000,000**	**16,000,000,000**

TABLE 2: FORECAST PASSENGERS ANNUALLY REGIONALLY BY GENERATION TYPES 2018, 2028 AND 2050*

SOURCE: IATA; KNOMEA AND LSE RESEARCH[46]

Millennials currently represent the largest passenger group, with more than 1 billion travelling globally each year. Within a decade, Generation Z and Next Gen will each represent around 1.2 billion forecast passengers. The data reflect the changing proportion of cohort by year, with a similar proportion accounted for by each in 2028 with the exception of Next Gen, and this altering over time by 2050. The reduction in 2028 and increase in 2050 reflects the tripling of the global passenger base and the changing proportions of cohorts as a proportion of this. By 2050, the highest to lowest passenger segments will be Next Gen, Generation Z, Millennials, Generation X and Baby Boomers respectively. It is recognised that many Baby Boomers and some Generation X will be considerably older by that time, but research indicates that an ageing travelling population is growing and that by 2040, global passenger growth will contain an ageing population.[44] For the next decade to 2028, Millennials will remain the largest group but this will evolve including by geography with the majority of Generation Z cohorts living in China and India.[45] Table 2 depicts the forecast passenger growth across these segments by region, utilising IATA forecasts. It is recognised that some groups within these segments may travel more, but this is likely to be balanced by more frequent leisure travel from younger cohorts. Younger generations including Millennials and Generation Z, represent opportunities for airlines. In contrast to older groups, they display behaviour that is conducive to a digitally-enabled engagement approach both before and during travel.

Airlines that embrace travel preferences and trends by these younger groups, and in due course, 'Next Gen' travellers, can enhance their revenue and margins through recurring travel from a more loyal base:[47]

- Generation Z is a 'deal-driven', often impulse-buying digitally native group which embraces a 'you only live once' ethos resulting in a cohort pre-disposed to travel.
- This cohort takes just under three trips per annum, second to Millennials, but is also active in influencing family-travel decisions, reflecting a dependence on parental funds.
- Significantly for airlines, the majority of this cohort is destination-indecisive and will defer travel decisions to the last minute, creating an opportunity to influence their decision through direct digital engagement, social media and personalised offers based on previous travel history.
- Millennials perceive travel as a 'necessity', taking 44% more holidays than Baby Boomers and the highest of any cohort, with travel also taken as a means of developing life and work skills.
- Regional variations indicate that Chinese Millennials spend twice as much as American and European Millennials on shopping (18% of travel expenditure), and 50% more on attractions, but 35% less on hotels. Globally, Chinese Millennials accounted for one-third of all tax free shopping in 2017, up 17% on the year before.
- Millennials expect personalisation from their travel brands. They are 14% more likely to select offers that are more personalised for onward/destination spending, and almost one-third now seek greater personalisation before they are persuaded to travel.

These travel patterns indicate that airlines must embrace an 'always-on' younger consumer who often books travel at the last minute and increasingly, selects onward travel, accommodation, attractions and activities while travelling.

1.3 Changing Consumer Behaviour from the Ground to the Cabin

"For us at easyJet, it's critical that any feature we introduce is both user-focused and commercially driven... we took a user-first approach: going to where the customer is and leveraging the behaviours they are already exhibiting to create a more seamless customer journey."

D. Young, Head of Digital Experience, easyJet[48]

Technology continues to become intertwined into everyday lives,[49] with smartphone usage affecting content consumption, including how people create and share their experiences.[50] All demographic groups have increased their content consumption over the past decade and increasingly expect the aircraft cabin to extend this digital experience seamlessly from the ground to the air.[51] Although traditional approaches to passenger engagement are determined by 'fare-type', which drives loyalty programmes that are also predicated on a more structured mile-accrual basis, the need to remain connected in the cabin is now emerging as one of the more important requirements across demographic segments.

The digital expectations of Millennials, Generation Z and younger Generation X are relatively consistent across geographies and encompass a number of key attributes:

1. Interpersonal connection: Individuals use connectivity, social media and instant messaging to remain connected with family and friends;
2. Convenience: This is a key driver of connectivity with individuals seeking to control what they access and when, including music, products, services, social engagement; and
3. Self-expression: Individuals often feel empowered when they can express themselves online.[52]

Connectivity is now perceived as being integral to work, leisure, and day-to-day life, as younger consumers display a willingness to trade-off other factors to ensure they have high-quality connectivity when travelling.[53] Around half of these consumers believe that the internet is now fundamental to their social lives and for daily tasks including purchases, paying bills, and others, while 45% believe it is very important to their ability to work remotely or from home.[54]

This demand for inflight connectivity is underpinned by smartphone penetration, faster 4G/5G+ mobile networks, and 'super-fast' fibre,[55] with 60% of social media facilitated by a mobile device.[56] The trend has been consistent across geographic regions: online time is increasing, driven by social media, the proliferation of apps for content and search.[57]

Device ownership for smartphones has almost reached saturation globally across all consumer segments, with lower regional variations now occurring:

- 97% of Millennials own a smartphone with around one-third also owning a tablet and three-quarters owning a laptop or PC.[58] A shift has been occurring in this cohort and Generation Z for single-device use, complementing or substituting one device with others.[59]
- 97% of Generation Z own a smartphone and display a preference for a single multi-use device with a larger screen[60] and 42% own a tablet.[61] A laptop is still owned by around 75% of this group.[62]
- 95% of Generation X primarily use smartphones.[63] Tablet ownership has shown a decline, dropping by 10% from 2017 to around 30% in 2018.[64]
- 85% of Baby Boomers own a smartphone.[65] The preference for this cohort and the older segment amongst Generation X is for larger screens for smartphones, driven by 'ease-of-use'.

Consumer demand for seamless inflight connectivity represents a significant opportunity for airlines to enhance loyalty by providing high-speed, reliable onboard Wi-Fi.[66] Beyond social media, consumers use connectivity for streaming content, obtaining real-time information (including travel information), checking emails and shopping, amongst others.[67] When travelling, although the consumer segment might vary, all groups have the same requirement: access to cabin connectivity that extends their ground experience into 'always being on' at 35,000 feet.[68] The availability of connectivity will increasingly become an influencing factor in airline selection beyond fare and time, and affect loyalty. It is likely that over time, as airlines continue to offer Wi-Fi and evolve their product offering to reflect consumer expectations to a greater degree, a narrowing will occur between behaviour on the ground and in the air.

1.4 New Generations, Expectations and Implications for Airlines

"These people [Millennials] collect experiences, and travel is a huge part of that."

T. Mapes, Chief Marketing Officer, Delta Airlines[69]

Airlines are increasingly recognising the differences in behaviour between cohorts and developing offerings designed to target particular behavioural attributes.[70] One of the most significant groups being targeted is Millennials: this cohort represents 40% of the global adult population in 2015, with two-thirds located in Asia, and holding a net worth globally of around $24 trillion.[71] Changes to how loyalty is being addressed by airlines and other sectors is being driven by the need to be 'always on' and a desire for personalised experiences.[72] Around 60% of passengers perceive inflight connectivity to be a necessity,[73] with this figure approaching 75% for younger passengers such as Millennials.[74] The need to be connected is an expectation for digitally savvy consumers, with important implications for the airline industry. The most successful airlines will align their connectivity-enabled cabin offerings with consumer demand to generate additional revenue while building loyalty. The current younger cohorts of Millennials and Generation Z are spurring significant social and workplace changes that airlines must embrace with these segments representing the dominant travel group for the foreseeable future. Significantly, these groups are willing to spend funds to obtain the 'right travel experience' and take the most trips per annum of any segments: over 33% of Millennials spend on average $5,000 per annum on holidays with Generation Z marginally behind this, with 25% of this budget allocated to flights.[75] In addition, Millennials will take 35 days for travel followed by 29 days for Generation Z, with both cohorts now exceeding 26 days taken by Generation X.[76]

Millennials and Generation Z want inflight connectivity and are willing to migrate between airlines and other providers who can provide it: "Technology is extremely important to Millennials because it's so engrained in their behaviour. They've grown up in a time when they can be connected anywhere, anytime. So, not surprisingly, they are disappointed when they can't check into their flight via an app or shop Amazon from 10,000 feet in the air."[77] A successful connected-airline strategy has to place the individual at the centre of the user experience.[78]

Onboard connectivity provides a springboard from which airlines can 'delight' Millennials and younger generations: [79, 80, 81]

- Millennials have more friends than other cohorts and communicate with them more frequently using instant messaging, text messaging and smartphones;
- Millennials desire instant gratification and expect convenience, efficiency and speed;
- They often make unplanned purchases [including price, promotions or attractive product appearance] both online and in-store;
- Millennials desire 'one click' for products, services and delivery including through apps;
- Personalisation has become normalised for this cohort;
- Millennials in particular are 'impatient shoppers' and expect a much greater array of product and service selectivity along with nomadic connectivity '24x7';[82]
- Fifty five per cent of Millennials like social media pages related to trips they are planning while 52% of Facebook users indicate that friends' photos and posts inspired their travel, and 50% of travel companies have a widget or booking engine on their Facebook page;[83]

Industry engagement indicates a shift by some airlines to target Millennials and younger generations through both an enhancement of traditional schemes and the development of additional digital components. This is resulting in a number of actionable insights encompassing: greater use of data to personalise offers; increasing the opportunity for bring your own device (BYOD); developing content advertising and sponsorship relevant to target markets and others.[84] Examples of airlines adopting early-stage connected aircraft insights include Level[85] and JetBlue with the latter's CIO highlighting: *"Our partnership with Amazon has been very successful. We started with content streaming and extended it into shopping. I think it's a great opportunity…it's not so much about charging but about finding a way to fund Wi-Fi, keeping it as part of the passenger experience."* [86] JetBlue reflects the benefit that Wi-Fi can have on passenger satisfaction: on the airline's TripAdvisor page, Wi-Fi is the fourth top phrase consumers highlight in reviews.[87] The prevalence of onboard connectivity as a factor influencing customer satisfaction reflects the potential to drive positive inflight experience. Delta Airlines has targeted Millennials with its 'under 35s Emerging High Value Customers' (eHVCs), forecasting that this cohort will account for over half of its revenues by 2020.[88] The airline's Chief Marketing Officer has highlighted that a connected-cabin is key to its longer-term Millennial loyalty strategy: *"Whether they fly or not, it starts getting us data, and the value of that data — as they become a general member, or perhaps fly their first flight, as they respond to up-sell offers, co-branded credit card offers, the Sky Club lounge and things like that — allows us to start knowing more and more about them."* [89] The airline identified that Millennials and younger consumers are 60% more likely to purchase premium products, in addition to placing a high priority on onboard broadband, which results in the airline acquiring customers from airlines that don't have reliable Wi-Fi.[90]

This reflects a less structured loyalty approach that focuses on onboard experience. The airline is exploring the digital ancillary-driven benefits that **Sky High Economics: Chapter One** defined and estimated, including offering e-commerce with partner Amazon.[91] The notion of personalised experience utilising inflight connectivity is embedded in the airline's marketing approach: *"Others in the industry have referred to this as a commodity business. We reject that notion. If customers like you — if you are preferred — you are more likely to get a greater piece of their business."* [92] A similar approach has also been adopted by International Airlines Group's (IAG) Low Cost Carrier (LCC) Level, with inflight connectivity positioned at the core of a marketing strategy in recognition that younger generations are 'always on'. The airline's management has sought to build rapport with Millennials who are perceived as being driven by experiences and will share these on social media, driving greater brand recognition and in turn enhancing customer loyalty and boosting revenue.[93] This approach is mirrored by other LCCs that have adopted a subsidised Wi-Fi access business model to drive loyalty such as JetBlue that has also partnered with Amazon: *"The tech-savvy Millennial is used to ubiquitous and free connectivity on the ground, so why should the airplane be any different?"*[94]

Airline managers that have adopted Wi-Fi and are engaged in active loyalty programme reviews highlight that consumers are less inclined to be retained by air miles and branded credit cards, and that loyalty programmes should be evolved to attract younger consumers. Recognition is occurring amongst a small but growing group of connected airlines of the benefits that personalised offers can bring, including:

1. Passenger onboard log-in can trigger specific offers for Wi-Fi connectivity;
2. Tailored e-commerce can be offered from partners (moving beyond duty-free catalogues to a new world of products and services); and
3. Destination offers can be delivered including last-minute hotel, car hire and tourist attraction entry, amongst others.

Engagement with leading FSC and LCC airlines indicates that around one-third recognise personalisation as a key competitive tenet in customer engagement. Although the use of passenger data has not evolved to a high degree of sophistication at this time, over half of airline managers engaged with in **Sky High Economics: Chapter One** and for this chapter indicate that the use of data analytics and AI is likely to increase to optimise tailored offers onboard in addition to pre-flight. A number of major long haul carriers have grown their digital departments considerably, including to develop both premium content and e-commerce suppliers as part of a holistic loyalty strategy.

2.

Generating Onboard Behaviour Change

2.1 Wi-Fi: A Competitive Advantage

"As consumers become accustomed to customisation in other parts of their lives – banking, retail, dining – they are going to expect travel companies to be at that standard and be at that standard very soon."

H. Harteveldt, Atmosphere Research Group[95]

Successful organisations harness consumer behaviour to drive innovation and gain competitive advantage.[96] Reliable onboard connectivity is a game-changer for airlines, providing the opportunity to innovate service offerings and deliver personalisation. This in turn will create brand differentiation and loyalty through the ability to forge a direct and emotional connection with passengers. The first stage of this is occurring through 'land grab' as airlines offering Wi-Fi connectivity gain both experience and market share in some cases, as observed in the case of Delta Airlines. In Europe, Norwegian has led the onboard connectivity offering: *"This is a product that no other airline in Europe is currently offering, which gives us a huge competitive advantage. Our passengers will soon be able to see in the booking process whether the aircraft has Wi-Fi."*[97] The airline's strategic aim is to increase sales by providing the availability of Wi-Fi status for flights when customers book.

Passengers are increasingly considering onboard connectivity when making travel decisions, with research indicating that 67% of passengers would be more likely to rebook with an airline if high-quality Wi-Fi was on offer.[98] Airlines are beginning to recognise the monetisation and loyalty-enhancing opportunities that this offers. Lufthansa is currently the market-leader in this field: *"From a passenger's view, reliable and fast inflight connectivity will soon reach the must-have level on all flights, including short-haul ones."*[99] Currently 11 airlines offer 'free' Wi-Fi with varying degrees of services ranging from email access to web browsing, often with restrictions and limitations, and as part of a 'freemium' model.[100] Airline engagement highlights that loyalty managers are seeking to develop onboard connectivity beyond its role as a source of ancillary revenue or a freemium differentiator.

The evolution of broadband in the skies is mirroring developments in other sectors, such as hotels. In this sector, free Wi-Fi has become the predominant model on offer, with around half of business travellers and one-quarter of leisure travellers citing free Wi-Fi as the most important amenity influencing their choice of accommodation.[101] The airline sector is at a far earlier stage of adopting connectivity, with free Wi-Fi not yet prevalent. **Sky High Economics – Chapter One** highlights that a freemium model may evolve in the longer term with this currently being trialled by many airlines.

Wi-Fi is both acting as a differentiator and a mode of experimentation for loyalty, including the withdrawal in some cases of 'traditional' duty-free and the assessment of alternative modes of revenue and customer engagement. An example is Finnair, with the airline implementing a Wi-Fi-enabled service to meet consumers' e-commerce expectations: *"We shall not increase the number of trolleys going back and forth in a corridor. That's what you don't want. The IFE technology and the Wi-Fi platforms enable you to do your shopping when you want, at your discretion."*[102] This strategy is likely to be particularly appealing to younger cohorts who use multiple modes to purchase products and services with an 'all-in' digital mindset.[103] This creates high expectations on how service providers including airlines should engage with them in providing products and services.[104] This ethos has diffused beyond Millennials and Generation Z to Generation X and many Baby Boomers, with many exhibiting similar expectations.[105]

2.2 Service Innovation Will Drive Onboard Connected Behaviour

Onboard connectivity provides an opportunity for airlines to engage with passengers beyond the provision of bandwidth, to create a personalised passenger experience. This includes receiving tailored offers digitally, with almost 80% of US consumers and 70% of UK consumers willing to receive these from brands.[106] Millennials are most likely to appreciate personalisation,[107] and airlines can utilise onboard connectivity to capitalise on this behavioural trend: *"As consumer expectations grow, it won't be too long before a defining characteristic of leading brands will be in the level and quality of personalised experiences that they are able to provide. In the future, it will be critical for brands to identify and target shoppers with content, offers, and messages they want to see, and will be receptive to, with insights gained from analysing the data they are able to collect"*.[108]

IATA research and airline engagement highlights consumer expectations for personalisation that can be addressed through onboard connectivity: [109, 110]

- 82% of passengers want to receive flight status when in the cabin;
- Almost 40% of travellers want to search for onward connecting flight information such as gate numbers;
- 37% would like to plan their onward journey including accommodation and transportation;
- 33% would like to fill in landing information digitally such as immigration forms;
- Over 50% of all passengers would use onboard connectivity for e-commerce including airport collection, ship-to-home and destination shopping.

This research highlights that demand for these and other broadband-enabled onboard services will continue to influence service innovation and engender loyalty that transcends price and travel-time as primary airline selection factors.

Sky High Economics – Chapter One indicates that the development of e-commerce and content capability in the cabin can stimulate loyalty while generating ancillary revenue. Airline engagement highlights that changes are occurring to the 'traditional' loyalty and duty-free models: "[Companies] must join forces to create a travel retail ecosystem through which they can share data about passengers' schedules, purchasing behaviour, and other related insights, and use that information to offer passengers a compelling shopping experience at every step of their journey."[111] By allowing passengers to use connectivity for onboard e-commerce and duty free purchasing, airlines can remove some existing 'traditional' duty-free trolleys. This can reduce weight on the aircraft while creating space for additional seats that can generate additional revenue. In addition, cabin crew will then be able to focus on elements that will drive customer satisfaction.

Offering e-commerce and tailored content to Millennials onboard offers particularly high revenue potential, as this group comprises around half of business trip spending and accounts for the most leisure and impulse trips made.[112] Further opportunities exist with Baby Boomers and Generation X, who will spend more time travelling in retirement[113] and are broadly aligning with Millennial preferences in seeking personalised offers.[114] Suppliers in the $130 billion potential ecosystem of digitally enabled ancillary revenue identified in **Sky High Economics: Chapter One** that do not engage with these groups as early as possible may miss out on the opportunity.[115] The behavioural traits of younger generations can be addressed by airlines through onboard connectivity that delivers multiple benefits for passengers including e-commerce; premium content; destination shopping; streaming; and other information services that enhance their travel experience in real-time.[116] These inflight experiences are likely to become increasingly important in defining customer loyalty in addition to flight prices and travel times.

The streaming of live broadcasts represents a further opportunity for airlines to enable passengers' ground-behaviour to migrate onboard through cabin connectivity. Airlines that offer popular live broadcasts during specific events can potentially capture market share. This can include sporting events such as the World Cup: during the 2018 World Cup, the England vs Tunisia game generated 360 million live streaming minutes, versus 660 million total live streaming minutes for the week in the UK.[117]

The delivery of streamed sporting events in the cabin both enables loyalty and can generate digitally-enabled ancillary revenue with market segments expected to mirror terrestrial activities:[118]

- Record sports streaming: Over 6.5 billion sports minutes were reportedly streamed by NBC in the US in 2018 covering 30,000 events, with an average of 580 events per week. This included Super Bowl LII, which was the most live streamed Super Bowl to date, and the most streamed single game ever among all sports: 0.633 billion minutes were live streamed across 6.1 million unique devices, up 185% and 112% respectively from 2017.
- Premium pricing: Sports fans are willing to pay more to live stream sports events than they do for cable or satellite, including women who are willing to pay 50% more for streamed events.
- Esport growth: Over 190 million hours of esports were streamed in the US alone in 2018.

Around half of consumers are streaming more video than they did a year ago[119] with this varying by geography: the UAE and Saudi Arabia lead with 91% and 89% of consumers indicating they use this service respectively, followed by the UK (77%); South Africa (76%); Canada (73%); and the US (65%), and almost two-thirds in APAC.[120] Around 53% of consumers stream video several times per day, with 17% streaming video once a day.[121]

Although regional variations exist, a number of general observations are relevant when consumers migrate to a connected cabin that can be utilised by airlines to generate digitally enabled ancillary revenue:[122, 123]

- The most popular content type globally is: television series (45%); sport (31%); tutorials (30%); gaming (29%); video by family and friends (28%); news (27%); celebrity or influencer (24%); concerts (23%); talk shows (22%).
- The most popular devices for streaming are: smartphones (44%); tablets (41%); laptops (34%); games consoles (28%); PCs (26%); and dedicated terminals (26%).
- Where advertising is utilised, almost two-thirds of consumers responded after seeing an advert, with almost the same proportion globally engaging with an advert shown during live streaming video.
- On a regional basis, 45% of EU consumers stream television series followed by sport (31%); UAE and Saudi Arabian consumers stream videos of family and friends (35%) followed by news (29%); Chinese consumers stream talk shows (51%), followed by gaming (46); in Latin America, 51% stream talk shows, followed by tutorials (42%).
- North America and Asia Pacific lead in paid streaming with 35% and 32% of consumers respectively paying for online streaming content.[124] This reduces to 20% in the Middle East, Africa and Latin America, and 15% in Europe.[125]
- The payment for video on demand varies by consumer segment: 31% of Millennials and Generation Z pay for streaming services versus 24% and 15% Generation X and Baby Boomers respectively.[126]

Device use and content habits observed on the ground are likely to be replicated in the cabin when connectivity and on-demand content are offered. Many consumers indicate a willingness to pay for content with a preference to use their own-devices.[127] The 'business case' for consumption of content, information, e-commerce and services continues to be proven on the ground, and the availability of high speed, reliable broadband in the cabin can replicate this in the sky, enhancing passenger experience and loyalty in the process.

2.3 Connecting with Customers: Making the Passenger Journey 'Personal'

"I don't think the concept of personalisation is a message saying 'Welcome on-board'. It's about how you address specific needs…We're looking at profiling people's moods on a real-time basis using social media input. For example, we could understand from customers' social media profiles whether they're happy, or maybe going to a wedding, or a graduation."

E. Sundaram, EVP & CIO, JetBlue[128]

Onboard Wi-Fi can provide airlines with a bridge to engage with an increasingly transactional traveller, who feels less loyalty to one brand over another.[129] Loyalty managers indicate that changing behavioural factors, particularly amongst Millennials, make targeting desires more difficult: flying is often an impulse decision that disintermediates the passenger from the airline. Onboard connectivity can act as an enabler to leverage customer analytics.[130] The use of cloud-based solutions with analytics often provided by vendors such as Amazon Web Services (AWS) can use customer data before a flight to develop targeted inflight promotions. Research indicates that passengers will remember, purchase and return to airlines that exceed their expectations through personalised opportunities.[131]

The use of onboard connectivity can generate passenger data that facilitates a tailored experience for current and future journeys with the airline:

1. Utilising descriptive analytics from previous engagement and existing data to commence the personalisation process;
2. Utilising diagnostic analytics to assess when events occurred;
3. Utilising predictive analytics to define what could occur; and
4. Utilising prescriptive analytics to narrow and define how behaviour can be influenced.[132]

The use of data can enhance loyalty through providing airlines with passenger insights: *"Speed of insight and speed of action are becoming core differentiators. The tools are now readily available to any airline… the important part about actionable insights is that you don't have to take them on all at once—even using a small set of insights can help boost conversion, revenue, and loyalty."*[133] Airline managers acknowledge that GDPR is affecting how traveller information is utilised, especially where this is shared between partners in the digital ecosystem. This is seen as a structural factor that is being accommodated by all engaged participants. The use of data will be further maximised when shared by partners that seek to maximise the monetisation of passenger loyalty while personalising their experience.

The airline industry is at the early stages of such collaboration, but engagement is occurring between carriers and leading brands including Amazon to develop both onboard connectivity and additional services. IATA highlights the role that data can play in enhancing passenger experience and loyalty: *"The customer experience: Big data and analytics can help create a comprehensive view of the customer, dramatically improving customer interaction at every touch point across the end-to-end journey experience."*[134] The organisation cites that 97% of airlines surveyed for the Airline IT Business Trends Survey *"recognise they need to do a better job sharing their data in-house and have plans to do so."*[135] Airline technology organisation Sabre estimates that data-enabled personalisation can drive a 22% increase in incremental ancillary revenue,[136] with airlines such as United Airlines identifying a 15% increase in 'traditional' passenger ancillary revenue when passenger data are utilised.[137, 138] As highlighted by Sabre: *"Personalisation is no longer just a pleasant surprise for customers, it has become an expectation. The digital age has resulted in a fundamental shift towards personalised connectivity and consumers are demanding more. It's time travel business owners establish a personal connection with their customers, or they risk losing out."*[139]

While the use of onboard Wi-Fi is at an early stage of adoption as a loyalty facilitator and revenue generator, it is increasingly being identified as a conduit to 'delighting' the customer on-board. Airlines can utilise customer data to tailor experiences based on previous engagement:[140] proactive airlines are adopting onboard Wi-Fi to engage with target consumer segments, harness influencer trends and promote their brand. Philippine Airlines (PAL) has adopted an integrated Wi-Fi-enabled cabin engagement strategy with 'on the ground trends' identified by the airline to deliver in the sky. This includes pushing time-sensitive or refreshed content to aircraft during the flight, such as live sports, news updates and real-time route-sensitive news clips. The airline is harnessing trends for personalised onboard content through Wi-Fi: *"This is a great example of how airlines can personalise promotional campaigns and, ultimately, give passengers what they want."*[141] SITA has recognised that today's passengers are keen to continue their behaviour inflight as if they were *"relaxing at home or working in the office"*.[142] The organisation's research identifies that almost half of global passengers would utilise some of their time inflight to plan their trip and buy destination services. The majority of passengers would also like to utilise live flight information and stay in touch via email/instant messaging, in addition to engaging in some form of e-commerce.[143] The proactive use of data by airlines can tailor experiences in a connected cabin to monetise the inflight experience while concurrently building loyalty.

2.4 Connecting the Passenger Journey from End to End

"We'll help to direct you through an airport to your gate after you've checked in. When you're on the plane, in-flight entertainment will come up. If there's a route that you fly a lot and you have to connect through somewhere or always fly in the morning, then we would put those kinds of flights right to the top of our suggestions to you. We're also starting to think about whether you're on a business trip versus with your family and making different offers based on that…"

L. Jojo, CDO, United Airlines[144]

Sky High Economics – Chapter One defined and quantified the monetisation opportunities available to airlines offering onboard connectivity to passengers. Global research by SITA since that time indicates that passengers who are connected in the cabin are more satisfied throughout their wider journey, including with bag collection (8.6% more satisfied), onboard activities (8.1% more satisfied), bag tagging and self-bag drop (0.7% greater satisfaction for both).[145]

An integrated digital ecosystem at the airport is most successful when a passenger has agreed to share their location with the airline (usually through an app). This shows the merging of customer data with geo-location: as the passenger leaves home, messages could be broadcast for traffic en route, or for specific offers or information. When the passenger passes through the various stages of the journey at the airport, the engagement focus migrates to dwell-time and boarding, with varying degrees of connected engagement occurring. This can encompass widgets that track and update on time-to-gate within the airport; deals available within the airport; lounge location and access; delay and gate-change notifications, with all of these 'pushed' to a traveller's smartphone app/on-screen or a wearable device. When on-board, the passenger can utilise the same device to order food, duty free, or request assistance where the airline has integrated its app to offer seamless onboard functionality. Upon landing, the passenger can be notified where their luggage will be delivered, and of any issues such as lost luggage. The final stages of the passenger's trip can entail push-notifications regarding the final destination including tour location details; traffic; deals available for car-hire and hotels where this was not booked onboard via destination purchasing, with additional tailored offers made for other flights and holidays utilising appropriate algorithms to offer suggestions. Connectivity is the overarching consistent element of the passenger's journey, concurrent to the use of personal data to facilitate a personal tailored experience.

2.4.1 Research and Booking

"[In-destination] activities are a very large opportunity in and of itself, but it also helps us create more touchpoints with our consumer. The key is to make those touch-points not just about an upsell, but make them based on the context and make them delightful."

D. Khosrowshahi, CEO, Expedia[146]

The research and booking stage represents one of the most significant phases in traveller engagement and monetisation, offering significant potential to engender repeat behaviour. Around 60% of travellers use apps to search for flights,[147] and this has become the preferred search and booking mode, particularly for leisure or where corporate travel is not booked for the employee.[148]

The search and booking process for air travel encompasses three options:

1. Online searching via a search engine and travel intermediaries website with this option including both search engine results and other intermediary websites;
2. General travel apps such as Expedia, Booking.com, Kayak, and others; and
3. Brand-specific apps from an airline or a hotel such as easyjet.com, Hilton.com

General travel apps are a step removed from the end-organisation, and manage all aspects from search functionality, the user interface (UI); terms and conditions; payment; confirmation, and the end-to-end process. Travellers engage with the booking organisation through its app or via call centres where they exist. Google, Amazon, Apple, Facebook and other organisations that engage with millions/billions of customers have emerged as gatekeepers and disruptors in the travel search and booking process. Continued improvements in virtual assistants, messaging and virtual reality will provide the traveller with an 'inspirational experience', in contrast to traditional proactive searching.[149] This represents a 'threat' to the direct engagement between a consumer and an airline due to the personalised results that can ensue.

Increasingly, leisure travellers are searching and booking air travel on their smartphone, with around 31% choosing to do so, in addition to 53% of business travellers.[150] **Sky High Economics – Chapter One** identified digitally-enabled ancillary revenue of $53 billion across all participants including airlines and partners by 2035 for 'destination shopping' that encompasses 'in-destination' spending encompassing additional flights, hotels, car hire, tourist attractions, and other categories.[151] The trend for mobile bookings is accelerating, and is recognised as a major revenue opportunity.[152]

Trends contributing to this growth include:

1. The proportion of travellers booking hotels through their smartphone is growing by a multiple of 2.4 per annum;[153] and
2. Travellers are making onward destination bookings on their mobile device when en route.

EasyJet is leveraging behavioural changes in consumers by adapting its app to incorporate an emerging trend: visual searching. The airline developed its 'Look&Book' functionality, utilising data from Instagram, based upon the emergence of two clear trends: 43% of 19 to 28-year-olds use mobile devices to book holidays, and 28% of people get their travel inspiration from Facebook and Instagram.[154] EasyJet utilised AI and machine learning to enable the Look&Book feature search for a flight by uploading an Instagram screenshot to the EasyJet app. The app subsequently detects the location of the post and performs a geo-lookup to find the destination and its nearest airports, and suggest flights to book.[155] In the two months since its launch in October 2018, Look&Book matched around 10,000 photos to destinations on the EasyJet app with a 5.3% conversion rate.[156] The use of visual search reflects the changing nature of search, with 62% of Millennials and Generation Z seeking a visual capability above all other forms of search.[157]

2.4.2 Pre-Airport Arrival

Pre-airport arrival provides an optimal window for airlines and partners to 'delight' the passenger and monetise additional opportunities. The primary modes currently being utilised are narrow and overwhelmingly comprised of email communication.

The major themes are informative however, comprising:

1. 'Prepare for your flight', with background on areas that the passenger could require knowledge of;
2. Engagement that can enhance the experience such as downloading content before a flight.

The remaining opportunities to secure some offers such as discounts available for duty free or car rental, but these are generally limited. Passengers indicate that the following would be of interest:[158]

1. Receiving offers available on-board (70%);
2. Upgrade offers (80%) including last minute offers with point values and purchase cost options included with ideal engagement personalising the offer;
3. Destination offers (75%) that could be conditional including hotels, transfer flights, attractions and others;
4. Close-to-flight information (95%) for flight status and destination details including key data on weather and any informative data.

Following the booking process, the most widely requested journey information by passengers via their mobile device includes: information on flight status (82%); baggage updates (49%); waiting time at security and immigration (46%).[159] IATA passenger data highlight that 77% of passengers prefer to receive information on baggage and other travel essentials via their mobile device through SMS or a smartphone app, with a 10% increase observed between 2016-2018 in the number of passengers choosing to receive travel information via a smartphone app.[160] These represent key activities for passenger engagement on their journey through the airport. The use of real-time personal data and location-specific data (e.g. airport updates) can be provided throughout the entire journey to enhance the passenger experience.

This information can be segmented into two types of activities:

(i) Revenue generating opportunities including at the research, booking, onboard and dwell time stages; and
(ii) Non-revenue opportunities in other stages.[161]

Both are integral to stimulating behaviour that results in satisfaction, monetisation and a returning customer.[162]

2.4.3 Check-In to Boarding

Check-in represents the activity with the highest satisfaction scores by passengers utilising technology for their journey.[163] Fifty-five per cent of passengers choose to check-in online or through a mobile app.[164] Following initial engagement by the airline preceding check-in, passengers look to the airline's app or website to enable straightforward check-in. Once this occurs, often only 24 hours before flight departure, proactive, personalised messaging could be delivered to the passenger as outlined earlier in this report, to provide both engagement opportunities and directional activities including destintion offers. The check-in process can initiate subsequent push messaging to the traveller's device that can offer time-saving suggestions or tips and information relevant to the flight. If a consumer is faced with similar airline options, passengers will often use a further tier of differentiation to choose an appropriate airline including 'ease of engagement' and 'usability'.[165]

After self-check-in, bag-related activities are highlighted by travellers as a high priority for digital engagement and a strong 'pull' for those contemplating installing an airline's app: research indicates that if an airline or airport application has a bag-tracking feature, a traveller will install it.[166] The connected passenger can seamlessly move through the airport, guided by push notifications and directions to self-tag bags and also drop these in designated areas before proceeding to passport control. The adoption of an automated bag function reduces stress for passengers, minimises misidentification risks and helps reduce departure delays, especially where biometric data or apps are utilised with more secure identification.[167] The use of common standards facilitating these efficiencies, such as IATA's Timatic Solutions, provides airlines with the ability to integrate the screening program database with most check-in and booking systems. When passengers scan their documents for the flight, the airport system combines their personal and itinerary data and cross-checks relevant regulations and recommendations for passport information, visas, customs regulations, airport taxes, and other factors required for passport control.[168] The connected passenger initiates engagement with the airline and airport at multiple stages during the travel process: this facilitates efficiency and a better customer experience.[169] In the near future, onboard aircraft facilities could permit passengers to undertake biometric tasks in flight where this hasn't occurred before departure, and transmit data before landing to enable streamlined airport flow upon disembarking. This can replace processes that occur after landing in immigration, easing congestion and enhancing satisfaction.

2.4.4. Dwell Time

"The most difficult thing in this business has been historically to contact customers before they get to the airport and when they are sitting down in the corridors."

J Diaz, CEO, Dufry Switzerland.[170]

Dwell time represents a journey stage where the use of technology for entertainment or productivity activity can significantly enhance the travel experience and monetise travellers. On average, passengers spend 137 minutes per flight in dwell time, with 65 minutes of that time queuing or waiting.[171] On an annual basis across all flights taken globally this equates to 38 million hours and represents connected-traveller opportunities across efficient processing, satisfaction improvement and monetisation. Passengers consume a mix of free and paid services during dwell time. The most consumed item during this time is Wi-Fi: around 7% of passengers will spend up to $25 on connectivity during this period, with 1% prepared to spend over $100. This equates to $10 billion globally annually.[172] Around 43% of passengers undertake shopping during this time, resulting in $22 billion spending annually on a global basis.[173] This connected-traveller approach seeks to utilise the often limited time available for shopping by travellers, through engagement before travel commences, and continuing this throughout the airport journey. A connected-traveller can receive triggered alerts, messaging and offers that can provide guidance to particular stores based on their profile and data.

2.4.5. Inflight Experience

Inflight engagement represents one of the most significant stages that airlines can utilise to 'delight' and personalise real-time experiences for their travellers. Before a flight, engagement usually occurs in multiple spaced messages that are primarily reminders for advanced check-in or passenger information. The inflight experience can utilise onboard Wi-Fi to engender loyalty through directional engagement. Customer data both from existing members and new travellers can be utilised to create personalised offers that monetise the traveller while concurrently ensuring they feel rewarded through unique offers and information. The inflight experience becomes the 'bridge' between pre and post flight engagement that enables the airline to accelerate some purchase decisions including e-commerce, destination accommodation and onward travel. Engagement with airline managers indicates that some airlines are experimenting with offers to individual passengers based on their profile and destination to deliver inflight messages to their devices that promote onward hotel accommodation, car rentals, attractions, and in some cases, e-commerce to be delivered to their destination. Over 80% of all airline managers engaged with have highlighted that the inflight stage of the passenger journey will become the most significant area for personalisation and monetisation.

Personal devices will continue to gain acceptance as the primary onboard engagement mode: 90% of respondents highlight that the use of a single-device is the optimal means of accessing information, making purchases, and posting content when onboard, with cabin Wi-Fi perceived to be 'essential' in enabling this.[174] Smartphones are the primary device of choice, and can be utilised to make onboard onward bookings in a connected cabin.[175] This reflects the seamless transfer of behaviour from the ground to the air, with a growth of 240% per annum occurring in the use of smartphones for purchases. Around 70% of consumers researched and concluded bookings on their smartphones in 2018, with almost 50% now regularly undertaking this, compared to 32% in 2013.[176] Booking.com reports that 75% of same-day bookings occur on a customer's mobile. [177] In addition, around half of Google Hotel Ad referrals now originate from smartphones, and 85% of non-branded hotel searches related to the terms 'today' and 'tonight'.[178, 179] As a result, Google streamlined its process to enable 'two-tap' bookings, and has increased mobile bookings to 50% of total bookings in 2017, following 160% growth in 2013.[180]

Indian consumers display the highest propensity to search and book their trip on their smartphone (87%) followed by Brazilian consumers (67%), Japanese consumers (59%) and South Korean consumers (53%), followed by a close grouping of US, UK, Australian and French consumers (average of 45%), and German consumers (27%).[181] The proportion of travellers now using their smartphones en route to research activities, attractions, and plan their onward destination has almost doubled from 41% in 2015 to 70% in 2018.[182] Airlines that offer onboard connectivity can enable consumers to continue these activities in the air creating loyalty, but they can also engage in the delivery chain themselves to monetise these opportunities.[183]

2.4.6. Post-Landing

Almost 60% of passengers check in a bag globally, equating to 4.3 billion bags handled around the world each year.[184] Real-time baggage tracking is perceived to be 'essential' by 56% of passengers with this figure expected to grow.[185] Options for digital luggage tracking include radio frequency identification systems (RFID) and emerging options such as 'smart luggage' that contains an embedded electronic tag that permits a passenger to check it in at home with an app and have their luggage immediately appear in their booking.[186] Almost 80% of airport managers and 70% of airline managers are assessing the further use of digital ID options.[187] The connected passenger is at the centre of this journey, with real-time movement through the airport facilitating other activities and notifications in the 'post-landing engagement' phase. Passengers could receive relevant and personalised push notifications with airport information, destination guidance, traffic, last-minute transport offers, and specific baggage information such as carousel location. Airports are integrating IATA's Resolution 753, with passengers registering their biometric data on their mobile device before arriving at the airport during check-in.[188] Etihad is implementing a 'curb-to-boarding' solution including utilising AI, with passengers' bags assigned to their reservation, removing the need for tagged luggage with notifications received at landing, where this capability is available at the landing airport.[189] A similar approach is being trialled at Athens International Airport by Aegean Airlines: facial recognition and biometric data are being utilised to identify passengers at key stages in the journey, without the need to show their passport or boarding card.[190] Biometric data can be utilised in conjunction with flights and other personal data to track and communicate with the passenger throughout the airport journey. Delta became the first airline to launch a wholly biometric terminal in Atlanta at the end of 2018.[191] The implementation of these initiatives brings additional benefits to loyalty, with Delta Airlines' management team highlighting: *"We're removing the need for a customer checking a bag to present their passport up to four times per departure – which means we're giving customers the option of moving through the airport with one less thing to worry about, while empowering our employees with more time for meaningful interactions with customers."*[192] These examples reflect the growing trend of incorporating enhanced passenger data with flight data to provide a more personal and efficient experience.

2.4.7 Post-Travel Engagement

The period following a trip represents the booking window for the next journey. Interviews indicate that on average, one-third of people are considering their travel in the two months after the return of a leisure trip.[193] The US displays the highest number of travellers who book flights 1-6 months ahead of their departure dates following the return from a trip (64%), followed by Germany (60%), with the Canada, the UK, Brazil, France and Australia grouped between 48-55%, in contrast to India and Indonesia where this is 37% and 20% respectively.[194] The proportion of Millennials booking flights one week to one month before departure varied between 22-30%.[195] Many Millennials and younger travellers book trips in the shorter period leading up to departure.[196] The ubiquity of smartphones and an 'always-on' culture facilitates this and provides the delivery modes for airlines to engage with consumers. Offers based on preferences and travel history require the mining and use of data to accomplish this objective and are important tools when developing personalisation in the current and growing digitally enabled milieu.[197]


HDR
SLO-MO
VIDEO
PHOTO
PORTRAIT

3.

The Evolving Nature of Loyalty

3.1 The Drivers of Loyalty Amongst Younger Generations

The relationship between customer loyalty and purchasing behaviour continues to weaken: 'old' rules appear to apply less.[198] Only one-third of consumers state that what makes them loyal to a brand today is the same as it was three years ago,[199] and this is of particular importance to younger cohorts.[200] Rewards alone don't create a 'favourite brand'. Millennials value loyalty the lowest of any generation to date and expect loyalty in contrast to providing it: if these cohorts don't feel appreciated, they readily switch preferences between brands.[201] In contrast, Generation X displays strong brand loyalty with around 70% likely to stay with a brand they like.[202]

Successful brands engender loyalty when a reward is integrated within an engaged relationship and comprises a set of experiences, 'surprises' and appreciation that 'delight' consumers by making them feel that they are genuinely valued.[203] As such, the most beneficial applications are those that allow airlines to mitigate communication barriers and establish direct dialogue with customers.[204]

A number of airlines are adopting a more holistic view of loyalty with engagement with both FSCs (full service carriers) and LCCs (low-cost carriers) reflecting a number of trends:

1. Customers are seeking appreciation beyond entitlement;
2. Personalisation is important; and
3. Lower-cost economics are offering new modes of loyalty including through connectivity.[205]

For younger consumers, successful loyalty strategies encompass understanding behaviour and tailoring language and experiences to values.[206] For airlines to succeed in fostering loyalty amongst younger consumers, they need to understand their likes and dislikes, and what types of promotions and rewards they may use.[207] In a digital milieu, airlines should seek to provide highly satisfying experiences that will encourage younger consumers to recommend an airline to others.[208] Onboard connectivity can facilitate loyalty both in the current formative market, as airlines race to offer Wi-Fi, and in the subsequent stage as they optimise passenger engagement when the market matures.

To align with changing behaviour and purchase preferences, many airlines are removing onboard duty-free including Qantas, KLM, Delta Airlines, American Airlines, and United Airlines and replacing these with e-commerce and onboard connected services.[209] These initiatives can maximise retention when combined with technology and consumer data that enhances purchase behaviour through tailored recommendations.[210]

These shifting behavioural changes indicate that 'standard' frequent flyer programmes that utilise miles flown to engender loyalty have not evolved. The prevalence of low-cost carriers (LCCs) combined with shifts in consumer behaviour from 'always connected' travellers require a paradigm shift by airlines on the notion of 'loyalty'.

3.2 The Impact of Enhanced Loyalty for Airlines

"When an airline's loyalty program fails to attract new customers and keep current customers engaged, the airline does not collect relevant and actionable customer data, misses opportunities for more effective and relevant merchandising, and foregoes opportunities to build new revenue streams."

ICF, 2019[211]

Airlines face continued pressure on margins and fluctuations in fuel prices that impact their profitability.[212] Traditional ancillary revenue has become an important component of the sector's revenue as the LCC business model has spilled over into many FSCs: passengers now pay for many components of their journey such as seat selection, food and beverages, baggage and priority boarding. **Sky High Economics — Chapter One** forecast that digitally-driven ancillary revenue can grow to contribute an average of $4 per passenger per annum by 2035, equating to $30 billion for airlines and a further $100 billion for the wider supplier ecosystem globally.[213] McKinsey and Co estimate that loyalty programmes can generate 20% of a company's profits, with customer satisfaction increasingly recognised as a key enabler of loyalty.[214] One of the key modes enabling the development of personalised loyalty-inducing behaviour is onboard connectivity, aligned with data analytics. Firms engaged in the air transport sector highlight the strategic role that data can play in maximising customer engagement: *"The proliferation of channels, the data generated in each channel is multiplying by the minute. This huge pile of data is a gold mine that contains very crucial information on passenger profiles, choices and preferences that can be leveraged by airlines to develop product offerings, strike away product/service offerings that do not appeal to customers, monitor challenges faced by customers and provide customised solutions, predict customer needs and preferences by the analysis of historical data and effectively cross- and/or up-sell additional products or services."* [215]

Industry observers highlight that many airlines are continuing to struggle to attract younger 'loyal' customers, presenting an opportunity to enhance existing loyalty programmes in line with changing customer demands: *"The changes in earning and redeeming structures are not being accompanied by other customer-centric changes/additions, adding to the sense of alienation among the majority of travellers and the desire to search for other reward programs."* [216] The use of existing loyalty programmes leverages the value and established traveller base created to date for many airlines. This can be further enhanced to attract both new members in addition to stimulating more frequent travel from existing members.

A segment with high potential is Millennials: this group is more likely to be in the half of travellers who don't belong to an airline's frequent flyer scheme and displays greater resistance to traditional loyalty programmes for a number of factors:

1. Millennials seek experiences over possessions;

2. This group is the most likely to go into debt to travel but will often select lower fares or experiences that maximise their budget, with some airline types utilised not offering frequent flyer schemes (LCCs).[217]

Utilising IATA traffic forecasts for 2018 and 2028, the potential market size that is ‘up for grabs’ from enhanced engagement activities that include onboard connectivity to personalise and tailor passengers’ experience to ‘delight’ them, are estimated in Table 3. The potential market size for the Air Transport Sector was estimated utilising average data from major frequent flyer schemes and secondary sources including the proportion of passengers who are members of schemes; the proportion of active members who generate the majority of revenue through frequent flights; the average ticket and ancillary spend.[218, 219, 220] Industry engagement and secondary data were utilised to define the proportion of active engaged frequent flyers (13%) and less engaged, brand-agnostic passengers (87%) with these applied to the market to define the addressable market for each of these key segments.[221] Table 3 forecasts that this results in a base of engaged frequent flyers of 559 million and 676 million in 2018, 2028 respectively, and estimates of non-engaged passengers of 3.4 billion and 4.5 billion respectively. Research indicates that the smaller (13%) proportion of engaged frequent flyers can generate around half of an airline’s revenue, resulting in a contribution from this group that is almost 7 times greater than a non-engaged passenger. Based on an estimated market size of $561 billion and $749 billion in 2018 and 2028 respectively, unengaged passengers result in an estimated addressable market that is $280 billion and $374 billion respectively, with potential profit contribution of $19 billion and $25 billion respectively. The 2018 estimate reflects the opportunity cost for this segment. These estimates represent the market available for the non-engaged passengers who could be ‘swayed’ to travel more with an airline. They will most likely remain lower-frequency travellers but the attraction of a large number of these less engaged passengers can increase revenue and profit for an airline.[222]

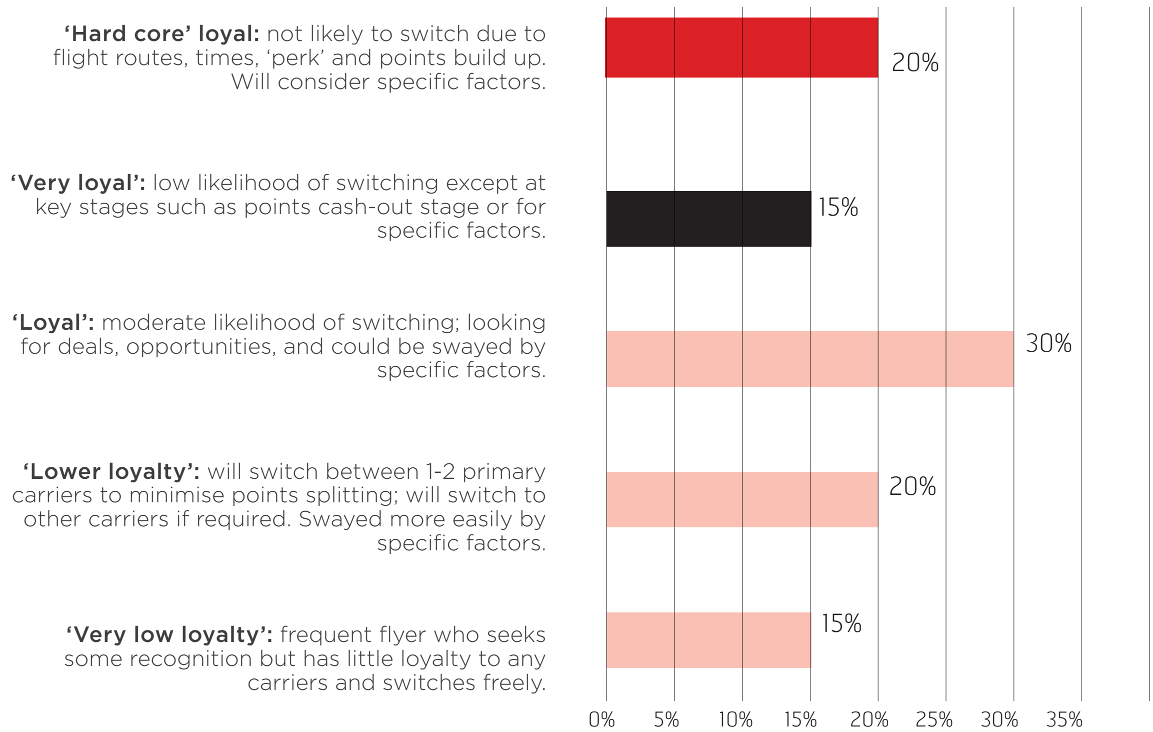


CHART 3: THE SEGMENTATION OF ENGAGED MEMBERS SWITCHING BETWEEN AIRLINES[225]

Research indicates that 12% of passengers have switched airlines to obtain reliable, faster Wi-Fi and are likely to do so.[223] This can apply to both engaged and unengaged flyers, although research and engagement with loyalty managers and travel procurement managers in global enterprises indicates that unengaged travellers could display a lower initial switching figure for Wi-Fi initially as market evolves before cabin connectivity becomes ubiquitous. Greater awareness of Wi-Fi and its availability and access options, including free, freemium, paid, restricted etc., are likely to facilitate faster adoption. The 12% can be further segmented across five types of loyal flyers in the case of more engaged members ranging from 'hard core' loyal travellers to those displaying low loyalty. Strategic switching-points exist for these travellers including when they 'cash in' their miles.[224] Chart 3 depicts the segmentation of engaged members who will switch to access faster, reliable broadband in the cabin. The red, yellow and green status of each reflects the potential difficulty level in switching each segment with the description denoting the factors underpinning this.

The availability of high-quality, consistent Wi-Fi is the third highest ranked factor facilitating a switch between loyalty programmes by passengers. It ranks third in the importance behind punctuality and greater leg room, and ahead of free meals and live TV.[228] Table 3 depicts the potential ramp-up between engaged and unengaged travellers utilising primary data: engaged flyers are likely to continue a more rapid adoption reaching an estimated 12% switch by 2022.[229] The unengaged group is more heterogeneous with more diverse influencing factors and preferences.[230] This is reflected by an estimated lower proportion of flyers initially switching between carriers due to Wi-Fi, with this increasing over time.

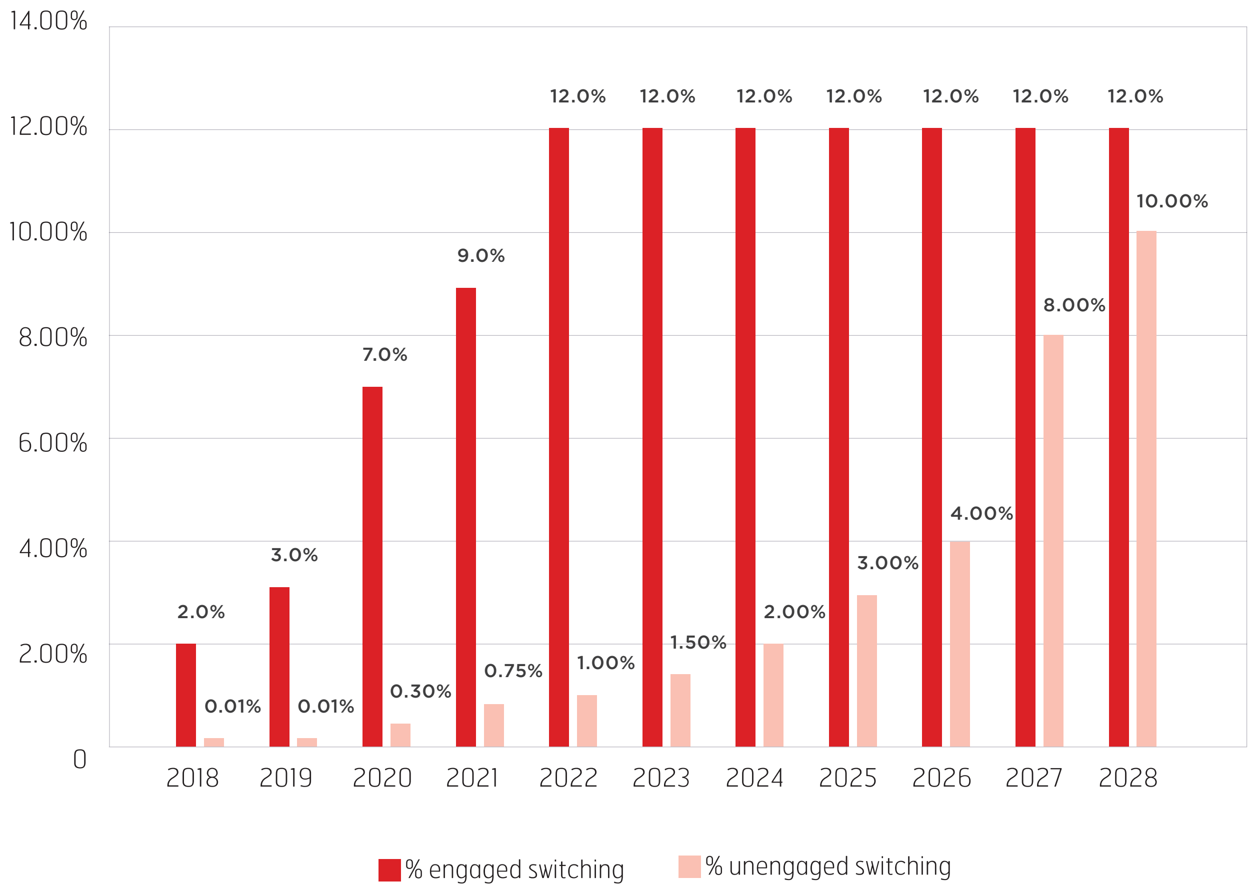


CHART 4: SWITCHING OF LOYALTY BY FLYERS BASED ON THE AVAILABILITY OF GLOBAL, CONSISTENT WI-FI.

YEAR	TOTAL ENGAGED	ENGAGED SWITCHING	TOTAL UNENGAGED	UNENGAGED SWITCHING	TOTAL
2018	559,000,000	11,180,000	3,741,000,000	374,100	**11,554,100**
2019	570,700,000	17,121,000	3,819,300,000	381,930	**17,502,930**
2020	582,400,000	40,768,000	3,897,600,000	11,692,800	**52,460,800**
2021	594,100,000	53,469,000	3,975,900,000	29,819,250	**83,288,250**
2022	605,800,000	72,696,000	4,054,200,000	40,542,000	**113,238,000**
2023	617,500,000	74,100,000	4,132,500,000	61,987,500	**136,087,500**
2024	629,200,000	75,504,000	4,210,800,000	84,216,000	**159,720,000**
2025	640,900,000	76,908,000	4,289,100,000	128,673,000	**205,581,000**
2026	652,600,000	78,312,000	4,367,400,000	174,696,000	**253,008,000**
2027	664,300,000	79,716,000	4,445,700,000	355,656,000	**435,372,000**
2028	676,000,000	81,120,000	4,524,000,000	452,400,000	**533,520,000**

TABLE 3: SWITCHING OF LOYALTY BY FLYERS BASED ON THE AVAILABILITY OF GLOBAL, CONSISTENT WI-FI

By 2028, a potential 533 million flyers could switch between carriers due to the pursuit of global, consistent Wi-Fi, and generate $82 billion in additional revenue comprised of engaged flyer revenue ($44 billion) and unengaged flyer revenue ($37 billion). The addressable market of less engaged passengers who could switch carriers based on Wi-Fi is 448 million and 542 million in 2018 and 2028 respectively as outlined in Table 4 utilising a 12% switching rate.[229] An average net margin for the Air Transport Sector of 4.7% has been utilised[230] This could be higher if airlines obtain higher ancillary product and service margins that connectivity can enable. These are currently at the early stage of introduction by airlines and their partners.[231]

These estimates provide an indication of the impact that enhancing loyalty can have on airlines, with Millennials representing a key target segment taking more trips than any other cohort: 4.2 leisure trips and 4.7 business trips annually.[232] This trend can result in annual passenger forecasts that exceed current IATA forecasts, particularly if Generation Z begins to reflect similar travel preferences as Millennials. The impact to airlines of a proactive tailored loyalty approach that utilises on-board connectivity within a wider digital engagement model can be significant and exceed the estimates provided. Capitalising on this opportunity requires a shift in the loyalty approach of the sector to a retail/e-tail mind-set and the perception of travellers as ‘customers’, as identified in **Sky High Economics — Chapter One.**

	2018	2028
Passengers globally	4,300,000,000	5,200,000,000
Commercial passenger airline revenue	$ 561,000,000,000	$ 749,396,200,988
Net margin	4.7%	4.7%
Net profit	$ 26,367,000,000	$ 35,221,621,446
Total fights	38,100,000	46,074,419
Actively engaged members	13%	13%
Less engaged flyers	87%	87%
Number of active engaged	559,000,000	676,000,000
Number of less engaged flyers	3,741,000,000	4,524,000,000
REVENUE AND PROFIT ESTIMATE: ENGAGED VS UNENGAGED PAX		
Revenue from active engaged	50%	50%
Revenue from less engaged flyers	50%	50%
Revenue from active engaged	$ 280,500,000,000	$ 374,698,100,494
Revenue from less engaged flyers	$ 280,500,000,000	$ 374,698,100,494
Net profit active engaged	$ 13,183,500,000	$ 17,610,810,723
Net profit less engaged flyers	$ 13,183,500,000	$ 17,610,810,723
Revenue active engaged PAX	$ 502	$ 554
Revenue less engaged PAX	$ 75	$ 83
Ratio of engaged to less engaged flyers for revenue	6.7	6.7
profit active engaged PAX	$ 23.6	$ 26.1
Profit less engaged PAX	$ 3.5	$ 3.9
Ratio of engaged to less engaged flyers for profit	6.7	6.7
Addressable market up for grabs: unengaged fliers	**$ 280,500,000,000**	**$ 374,698,100,494**
% less engaged flyers switching airlines due to Wi-Fi	12%	12%
less engaged flyers switching airlines due to Wi-Fi	448,920,000	542,880,000
Potential market for less engaged flyers switching to Wi-Fi	448,920,000	542,880,000
Revenue of Wi-Fi enabled switch if PAX remain less engaged	$ 33,660,000,000	$ 44,963,772,059
Profit of Wi-Fi enabled switch if PAX remain less engaged	$ 1,582,020,000	$ 2,113,297,287

TABLE 4: POTENTIAL MARKET SIZE OF LESS ENGAGED, BRAND-AGNOSTIC PASSENGERS FROM WI-FI SWITCHING

3.3 A Shift in Industry Focus

"The idea of pre-emptive retail [is gaining traction] and Amazon is already planning for this. Anticipatory shopping using data and analytics could send something to you before you've ordered it – if they crack it you could get your product before you knew you needed it."

V. Buchanan, Futures Analyst, Future Laboratories [233]

The future of retail is likely to be shaped by 'the connected shopper' and anticipatory shopping.[234] Millennials are taking an increasing role in this change, and are more discerning about their travel, choosing to opt for travel experiences.[235] Industry engagement with airline loyalty and other managers indicates that airlines continue to offer 'traditional' loyalty services such as miles-for-travel, increasing the number offered based on the fare type. In addition, the evolution of loyalty credit cards remains a key focus, with this marginally amended to include lifestyle services and those targeting consumer purchasing behaviour. Airlines are in the infancy of shifting their focus to services that consumers are willing to pay for in a connected cabin that are not miles or credit-card based. This requires a degree of investment and innovation in enablers such as Wi-Fi that is counter to a culture of cost-cutting to maintain margins. Without this investment, medium-to-longer-term gains will continue to be challenging and opportunities fewer. As Wi-Fi continues to become ubiquitous on aircrafts, consumers will discern between the quality of connectivity when assessing broadband cabin access: this is likely to create a heterogeneous connectivity landscape that encompasses Wi-Fi as a revenue-generating asset. Engagement with managers in FSCs and LCCs indicates that some are experimenting with connectivity-enabled onboard services that provide a 'holistic' net present value (NPV).

This encompasses revenue and profit accruing directly from defined loyalty services in addition to the potential upturn in passengers from repeat flights and the revenue and profit contributed by these:

- **Wi-Fi Access:** A wide array of prices and access offerings exist at present for onboard connectivity. This will evolve as the industry matures and penetration of Wi-Fi continues. Some airlines are utilising this as a 'loyalty' tool with a first-mover advantage, while others are factoring this as a revenue generator at the early stages of the market. The integration of connectivity with loyalty activities is mixed and evolving but offers passengers a readily identifiable loyalty-enhancing option. Primary research with airline managers indicates that some are considering the provision of 'free Wi-Fi' within a tiered loyalty option encompassing complimentary access and enhanced data allowance based on repeat flights.
- **E-Commerce:**
  Use of e-commerce by airlines at present can be segmented into four primary groups:

  1. those that have removed or are removing duty-free and experimenting with e-commerce on-board;
  2. those that are implementing both in parallel;
  3. those who are continuing to utilise only the traditional duty free cart; and
  4. those who are not utilising either.
- **Destination Offers:** Some routes are being utilised to test destination offers to passengers based on data held on the passenger or on the route itself. This includes offers for popular items such as hotels, car rental, tourist attractions and transfers that form a core part of a travel journey.
- **Premium Content:** A number of industry-leading partners such as Amazon have collaborated with airlines to sponsor onboard Wi-Fi. This could lead to the further development of such partnerships to encompass content with revenue sharing arrangements or other customer acquisition revenue possible. A number of airlines are also considering offering onboard Wi-Fi enabled specific content, ranging from sporting events to additional popular television shows or movies.

A portfolio of innovative loyalty-generating options can be created through the use of the above. The key enabling factor cited by loyalty managers in airlines and highlighted by industry engagement is data analytics. Around 85% of airline managers indicated that the use of data to monetise passenger behaviour, including loyalty, will be the most significant trend observed in their customer retention programmes. The key components to maximise customer loyalty and stimulate ancillary revenue include customer attribute matching, integrated internal customer demographic data and passenger transaction data, and real-time marketing campaigns.[236]

3.4 'Rebuilding' Brand Loyalty in a Millennial Era

"Now, the ever-connected traveller carries a personal interaction opportunity, at all times, in the form of a smartphone. Today, 97 percent of travellers carry a mobile device when they travel, with 81 percent of those devices being smartphones. With this fourth touch-point becoming fully proliferated in the marketplace, there has never been a greater opportunity to aggregate data across the interaction phases to see the full view of the customer."

D. Birdsong, Sabre[237]

Traditional airline loyalty programmes have declined in popularity over the past decade to 2018, and as a proportion of revenue passenger miles.[238] A contributing factor has been the proliferation of LCCs, that has ushered in an era of low-cost travel without the use of a frequent-flyer scheme. Industry engagement indicates that airlines are adapting existing programmes to younger cohorts and changing behavioural patterns. Within the broader flying population, prevelance of Millennial passengers is a dilemma and an opportunity for airlines: although this is one of the least likely groups to join an airline rewards programme, 60% are willing to pay more for inflight amenities. Two-thirds of Millennial travellers rank Wi-Fi with streaming as the top amenity they will pay for, followed by in-seat charging (50%) and texting (31%).[239] An optimal use of onboard connectivity commences before the customer's journey and includes multiple phases. Channels need to be more coordinated to increase the almost 7% of passengers who rate their airline experience as 'poor' and the 13% who are indifferent.[240] A key tool for airlines to transform passenger experience is the mobile app, with industry surveys indicating: *"For airlines to differentiate their services in what is an incredibly crowded marketplace, airlines need to develop their services to become notable experiences that consumers want to take again and again."* [241] This trend has increased following the research undertaken for **Sky High Economics — Chapter One** in 2017 across regions, with Sri Lankan Airlines reflecting activities by leading Asian airlines: *"Today we are serving an informed, tech savvy, demanding customer. We understand the service expectation can be delivered by working smart. We recognise that technology can bring the speed and sophistication to serve today's customer."* [242] This is also reflected at major US airlines, with Delta Airlines indicating: *"Our mission is two-fold. We want to make technology a source of competitive advantage for Delta, not just be a support function, as well as be a partner of choice, not just be utilised out of necessity."* [243]

The majority of loyalty managers in airlines with Wi-Fi are shifting their focus to the monetisation of the service. Research indicates that across the journey, around half of travellers are willing to receive personalised communication providing transport options at the destination; 36% are willing to receive suggested destination activities; around the same figure are willing to receive accommodation suggestions; and 30% are willing to receive further suggestions based on their travel behaviour.[244] Airline loyalty managers are recognising this with engagement indicating that the advent of Millennials has shifted the traditional structured loyalty model to align with changing preferences: this cohort enjoys travelling, but seeks low-cost and is less likely to be influenced by frequent flyer schemes.[245]

The use of data is proving critical in targeting Millennials and non-scheme travellers while maximising the revenue potential from enrolled members. Qantas represents a tier of leading airlines experienced in loyalty scheme offerings that are migrating to a data-centric model: *"Data is at the core of the program and provides us with insights that demonstrate what our members want… not only are we using [digital technology] to offer members a more seamless travel experience through their mobile devices, but it's influencing the partnerships we're offering."* [246] Research by the Airline Passenger Experience Association (APEX) indicates that: *"Data is why airlines need to figure out how to keep loyalty members onboard and active. As consumers increasingly lead their lives with the help of their mobile devices, carriers will not only be able to create targeted travel messaging, but will be able to use that information, along with other technology, to create their own profitable marketplaces that members will actually want to use."* [247]

The use of data and connectivity enables airlines to take ownership of a greater portion of the travel journey to foster greater brand loyalty and migrate away from the maintenance of an 'ingredient brand' by:

- Providing 'exciting' engaging experiences in the air;
- Delivering personalised elements to the passenger before, during and after the flight;
- Providing the capability to win back customers or engender repeat travel by making their flight a more significant component of their wider journey.

Through a combined approach encompassing pre-flight engagement, the onboard personalisation of offers and services and post-flight follow-up, airlines can enhance loyalty. Data-centric airlines such as Qantas have been leading in their use of customer information.

Airline engagement indicates that in the absence of enhanced data use, some airlines are targeting customers based on routes, with Wi-Fi offering the capability to deliver a more homogenous product offering onboard with the intention to develop this to a more tailored service over time. To date, this has occurred offline but a connected aircraft can enhance this approach with real-time initiatives that adapt as passengers embark. This is enabled by dynamic personalised data that the cabin crew can access and utilise in real-time on-board to 'delight' a passenger in addition to route-based personalisation. This could entail empowering on-board crews to provide offers and upgrades to passengers amongst other areas of engagement that can 'surprise' them, based on the data available to crew.

4.

Actionable Insights

"Finnair has found destination marketing is critical to brand differentiation, including the onboard and digital retail experience...The airline has incorporated this destination asset into its Wi-Fi portal through partnerships with local Finnish designers and retailers. Finnair has added dedicated branded shops on the Wi-Fi portal. We are working to offer our passengers to shop for groceries via the system during the flight, then pick up the bags of food from the store which is open 24 hours a day at Helsinki airport. We are also working to offer everything from buying clothes, duty-free, and even a car if there would be a need. We see many opportunities that will come in the years ahead now."

J. Järvinen, COO, Finnair [248]

Airlines such as Finnair reflect the spectrum of actionable opportunities that are already being undertaken by a number of airlines to monetise passengers while concurrently developing greater loyalty.

These reflect macro consumer behaviours explored in Sky High Economics — Chapters One to Three:

- Around 90% of travellers seek relevant information when travelling.
- Three quarters of travellers believe that any travel offers should reflect their own preferences including previous travel history.
- 85% of travellers are willing to review emails that are personalised with a call-to-action that include their name.
- 70% of travellers will engage in e-commerce for both destination shopping and goods that can be shipped to the airport or destination.
- 80% of travellers would prioritise Wi-Fi onboard if only one service request could occur.

Airlines that design an inflight experience relevant to future generations' attitudes, while catering to those prevalent today, can expect to profit from enhanced loyalty as a result. The ubiquity of smartphones, an 'always on' culture and a desire for 'instant gratification' provide the delivery modes and culture for airlines to capitalise on, through a number of actionable insights and digital capabilities:

1. **Implement on-board, high quality, high speed Wi-Fi:** This is stage one of the 'connection journey' with passengers and the enabler of additional services and communication in the cabin. Passengers seek Wi-Fi above almost all other currently 'discretionary' services with its provision acting as a gateway for ancillary services and loyalty enhancement

2. **Adopt a retail mindset:** In order to monetise passenger opportunities and unlock the maximum value of personalised engagement, airlines must adopt a retail mindset. This will provide products and services that can better meet consumer expectations.

3. **Utilise data:** This is a critical success factor in the development of loyalty. Without the analysis of data based on passenger history or in the use of an 'average profile' for a route in the absence of this, the full benefits of personalisation cannot occur. This chapter has illustrated that it is essential to utilise customer data to present offers, communication (flight, destination, offers and others) that lead to action and 'delight' the customer.[249] Smartphones provide the delivery mode for airlines to engage travellers with offers based on preferences and travel history.

4. **Provide relevant e-commerce:** Consumers will not engage to purchase goods and services that are not relevant or desirable to them. Behaviour on the ground is not likely to alter when in the air: to stimulate e-commerce expenditure from passengers, airlines must develop appropriate catalogues of goods and services that appeal to passenger demographics, routes, time-of-year, destinations, passenger type (leisure versus business), and other criteria. This necessitates alignment with appropriate suppliers to offer attractive, relevant content and reliable expedient logistics for delivery and could include tie-ups with major brands.

5. **Invest in digital content:** Airlines currently offer significant digital content free to passengers including music, movies, and television shows, which incur significant licensing costs. A first stage rationalisation of entertainment occurred with the removal of some onboard equipment. This could be developed further with connectivity enabling real-time access to content based on plans that could provide a tiered pricing structure. On-demand can enable airlines to hold minimal content onboard and reduce licensing costs while utilising connectivity to deliver content directly to the passenger.

6. **Deliver premium content:** Some content such as live sporting events can be delivered in real-time through a connected aircraft with premium pricing. Airlines that become synonymous with the delivery of such content can potentially attract fans of that genre including sporting events, concerts, and others.

7. **Offer in-journey travel information:** The use of tailored travel information in real-time is a powerful means of personalising the passenger's journey as it is occurring. High demand exists for this service with a dashboard-style approach (possibly through the airline's app) providing information for the onward journey including terminal or connection details, arrival time updates, travel and weather data, baggage, and the ability to rebook if a delay occurs.

8. **Personalise destination suggestions and offers:** Passengers could be targeted with personalised offers based on recommendations to stimulate specific popular aspects of a journey including attraction tickets, transport passes, hotel and car hire deals, and others. Data can be utilised to tailor this to the passenger including travel-party size and composition (e.g. family sized car vs a coupe).

9. **Obtain sponsorship:** A large and increasingly accurate data set on passengers can be utilised to obtain sponsorship from third parties to further personalise passenger experience and contribute to costs and profit, or to fund a free Wi-Fi access model. Based on the nature of the third party, targeted campaigns could provide passengers with tailored offers unavailable elsewhere.

10. **Promote use of own devices:** As an increasing number of consumers utilise a single personal device, and airlines seek greater efficiencies from lower weight, a 'BYOD' strategy could prevail. Airlines must enhance the cabin to promote the use of own devices, such as by providing power charging onboard: currently, the lack of this is a barrier for many passengers using own devices inflight.

11. **Unlock the advertising opportunity:** Ownership of passenger data generated inflight provides airlines with an accurate and valuable asset that can be monetised while fostering loyalty. Through supplier partnerships, a reversal of opportunity can occur: data collected inflight can be utilised after landing for follow-up activities and personalised offers to further engender loyalty and generate revenue. This can include a mix of digital offers, goods, services, and airline offers.

12. **Streamline administrative processes:** Inflight connectivity could permit tailored immigration and other administrative service completion that may not be offered before a flight. Airlines could tailor this to the individual profile of a passenger e.g. checking nationality to assess which passengers will require an additional form/declaration. In the future, this could extend to services such as fingerprints or iris scanning and transmission before landing, based on passenger data. Frequent flyers could also be targeted with a pre-population of known information to expedite this and enforce greater loyalty.

13. **Connect the journey end-to-end:** End-to-end personalised communication with a consumer is key to engendering trust and loyalty through the journey. Although pre and post departure do not utilise inflight connectivity, they do so indirectly: data gathered during the flight can be used to tailor offers and services for any onward travel and additional last-minute offers. This can include services that enhance the journey and can be delivered both before departure and onboard, such as seat upgrade offers, meal packages and transfers. When a passenger boards the aircraft, a push notification could provide an alert of an available seat for an upgrade bid, or using social media data, provide an option for an alternative seat. The flight attendant can access passenger activity on a tablet for an 'actioned response'. A continuous flow of real-time data and passenger profile can enhance the journey by adding these and other elements.

These actionable insights represent a sample of available opportunities. The nexus of available opportunities will depend on an array of factors including data capability, aircraft equipment, analytics capability, supplier engagement, content relationships, and others.

Sky High Economics – Chapter One and engagement and research for this chapter highlight that the key attributes leading airlines in loyalty development and passenger monetisation espouse include:

- Investment in onboard high-speed, reliable connectivity as a first stage in this process.
- A focused long-term plan for connectivity-enabled activities that is for the majority comprised of 'baby-steps' with specific incremental objectives.
- Developing relationships with a small number of suppliers for digital and physical goods and services.
- Investing in IT and infrastructure to enable a connected aircraft to deliver optimised benefits.
- Relaying a vision in the airline of the importance of connectivity and related services and functionality for long-term profitability.
- A willingness to experiment: all the airlines successfully implementing connected-aircraft services displayed an ethos of experimentation, recognising that this is a relatively 'uncharted' area of activity, but a critical one.

These and other factors can stimulate loyalty enhancing schemes utilising a connected aircraft, whether for FSCs or LCCs and for short or long haul routes.

Summary

Research and industry engagement for all three chapters in Sky High Economics highlight the significant potential connectivity-enabled revenue and operational savings that could accrue to airlines and partners while concurrently enabling greater loyalty. The growth of Generation Z as the dominant cohort within the next decade, coupled with the retirement of older cohorts, will continue to lessen loyalty amongst passengers if no major change is realised.

The momentum for creating a new loyalty model has already been established: consumers are engaging more than ever with content and daily activities through their devices including purchasing goods, services, video, and access to streamed events, in addition to undertaking other fundamental tasks such as text, email and search.
The alignment between expectations and the delivery by airlines of tailored, desired activities, offers and services represents the bridge through which airlines can monetise consumer behaviour. This requires investment by airlines across a spectrum of areas, starting with onboard connectivity. The rewards, however, can be significant and contributed to by increased flights and passenger expenditure onboard and throughout their total journey. This requires close engagement and personalisation of the relationship between the airline and its customers.

Multiple changes are occurring in the Air Transport Sector to position the traveller at the centre of the journey. Behavioural changes, coupled with the evolving nature of many 'traditional' airline loyalty schemes, provide the impetus for airlines and partners to embrace this customer-centric view. Digitally savvy generations are changing the way that travel is viewed, planned and undertaken, with social media acting as a major disruptor. Within the next decade, a new equilibrium could be established that aligns the major participants in the travel journey with consumer expectations to capitalise on behavioural changes that show no sign of ebbing.

The ubiquity of digital devices coupled with behavioural changes can be harnessed by a connected-cabin within a digital ecosystem to create a win-win-win between consumers, the airlines, and other parties. 'Value' can subsequently be restored to the notion of 'loyalty' for all participants, enabling sky-high expectations to be matched by sky-high economics.

Disclaimer

This research represents forecasts and analysis undertaken through both primary and secondary investigation. The data are provided to illustrate potential market growth and are underpinned by assumptions and estimations. Any reliance on the information occurs at the risk and discretion of the user. No responsibility is taken for the use of information, with users encouraged to undertake their own analysis to validate any decisions

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