TOURISM (ATTRACTIONS) INDUSTRY DIGITAL PLAN

A guide for Small and Medium Enterprises (SMEs) to identify opportunities for digitalisation and adopt digital solutions to support their business needs.

SECTOR LEAD:
Singapore TOURISM BOARD

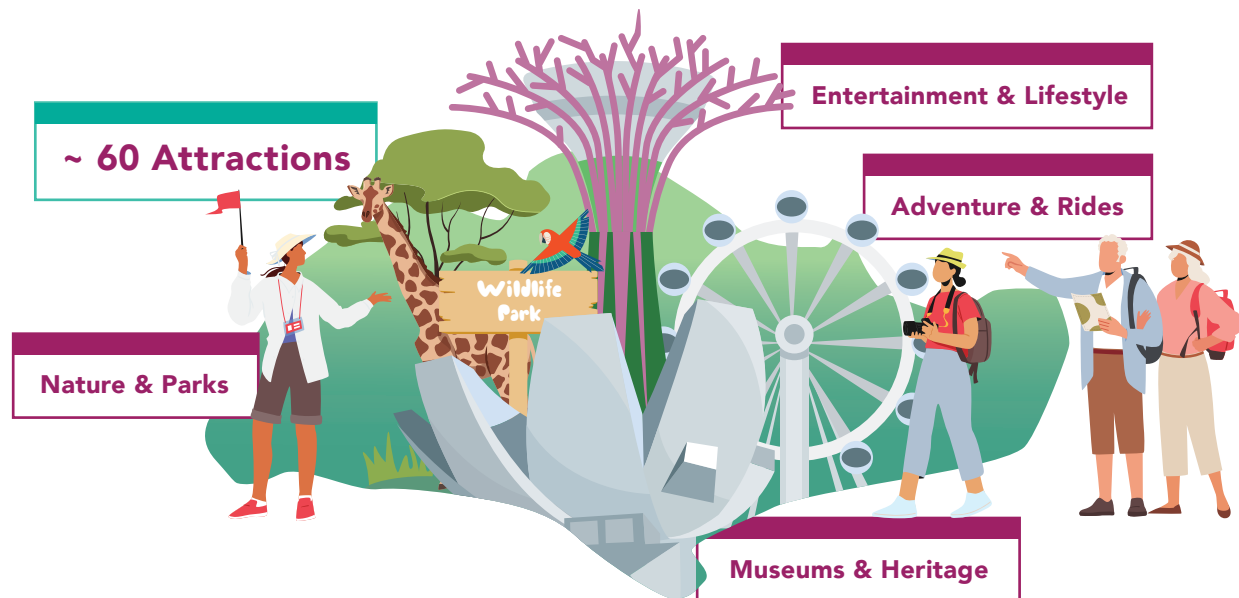SUPPORTED BY:
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SG:DIGITAL

CONTENTS

The attractions industry is a key pillar in the tourism sector driving economic growth, while also creating demand for other tourism-related industries such as accommodation, retail and dining.

~ 60 Attractions

Entertainment & Lifestyle

Adventure & Rides

Nature & Parks

Wildlife Park

Museums & Heritage

Trends Impacting the Attractions Industry

Strong Global Outlook for Tourism
As the world emerges from COVID-19, travel is rapidly resuming. In Singapore, a robust recovery is anticipated to persist in 2023, with visitor arrivals expected to reach 12-14 million (approximately two-thirds of the 2019 figure).

Manpower – A Key Challenge Impending Rebound
As the tourism sector picks up, the demand for manpower continues to grow, particularly after downsizing during the pandemic. The availability of manpower is expected to be a significant factor hindering post-COVID recovery.

Changing Traveller Needs Post-Pandemic
The tourism sector is facing new and evolving customer needs, and there are three key trends to keep an eye on:

Sustainable Travel

56% of respondents believe that sustainability now plays a more significant role in their travel decisions compared to a year ago.
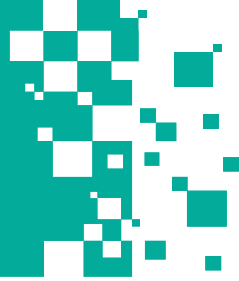
Inspirational Travel

43% of respondents plan to use Virtual Reality to experience a destination before making their travel choices.

Experiential Travel

70% of respondents expressed interest in cultural immersion and guided tours for their future trips. Singapore stands out with one of the highest international tourist expenditures on experiences.

Source: Singapore Tourism Board; KPMG Me, My Life, My Wallet 2022; Booking.com; American Express; Mastercard

In this IDP, three persona archetypes have been identified as critical for the Attractions sector.

Customer Service & Engagement

Chris Seow
Head of Customer Service, Xtreme Park

> *The customer comes first.*

Sales & Marketing

Sascha Maan
Sales & Marketing Manager, Amazin' Group

> *I need to close this sale yesterday.*

Sustainability
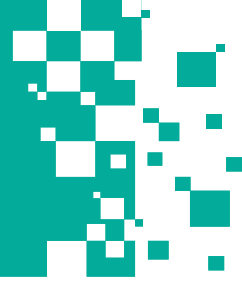
Ong Ann Soon
General Manager, Epic Entertainment

> *Technology should be there to help, not for the sake of it.*

Note: The names and companies mentioned in these personas are entirely fictitious and have no real-world counterparts.

02 | THE PERSONAS: CUSTOMER SERVICE & ENGAGEMENT

Chris Seow
Head of Customer Service, Xtreme Park

Chris is driven by a strong belief that everything he does is aimed at benefitting the customer.

He continually explores ways to transform the visitor experience at his attraction. Despite having a lean team, he strives to be agile and improve service delivery based on customer feedback.

Chris' Challenges		Chris' Needs
01 **Difficulty in consolidating guest feedback and enquiries**	*Currently, post-experience feedback is collected and manually put together in Excel.*	An easy-to-use solution for collecting, organising, and analysing guest feedback, queries and requests.
02 **Enhancing guest experience without increasing the workload on staff**	*We hope to take away the whole counter and just have 1 or 2 roaming ambassadors instead.*	The implementation of self-service options to enhance the visitor experience.
03 **Manually ensuring the accurate processing and pricing of tickets sold through third-party platforms**	*When guests purchase tickets from Online Travel Agents (OTA), my staff has to manually verify the tickets individually at the counter.*	A system that seamlessly integrates with third-party platforms to simplify ticket sales, purchases, and redemptions.
04 **Developing fresh and innovative experiences, especially as visitor expectations continue to evolve**	*I need to continuously innovate and think of new ways to improve my guests' in-park experiences, using technology.*	Exploring innovative ways to engage visitors and create unforgettable experiences.

02 | THE PERSONAS: SALES & MARKETING

Sascha Maan
Sales & Marketing
Manager,
Amazin' Group

To Sascha, time is money.

She is part of the team responsible for achieving ambitious monthly sales targets and delivering marketing results for all four of her parks. She regularly prepares and presents reports to her management.

| Sascha's Challenges		Sascha's Needs
01 **Lack of a single view of the customer due to fragmented data**	*Data is all over the place; there is no one centralised system to view data on the performance of our marketing efforts.*	A centralised platform to collect and analyse data.
02 **Manual consolidation and management of marketing content**	*Creation and publishing of marketing content (e.g., promotions, changing of operation timings) swiftly across different platforms is challenging.*	A system to efficiently manage and optimise digital marketing campaigns.
03 **Manual consolidation for reporting due to fragmented sales data**	*It is time consuming and challenging to collate and analyse data to gain in-depth insights about my customers across all parks to make recommendations on sales and marketing strategies to my management.*	A real-time marketing data platform for reporting and analysis.
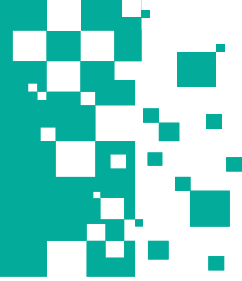
Ong Ann Soon
General Manager,
Epic Entertainment

Ann Soon's priorities are to drive the company's bottom line, including digitalisation.

He manages day-to-day operations at the attraction. Over the last 2 years, he has also been tasked by his board to explore sustainability initiatives for the company.

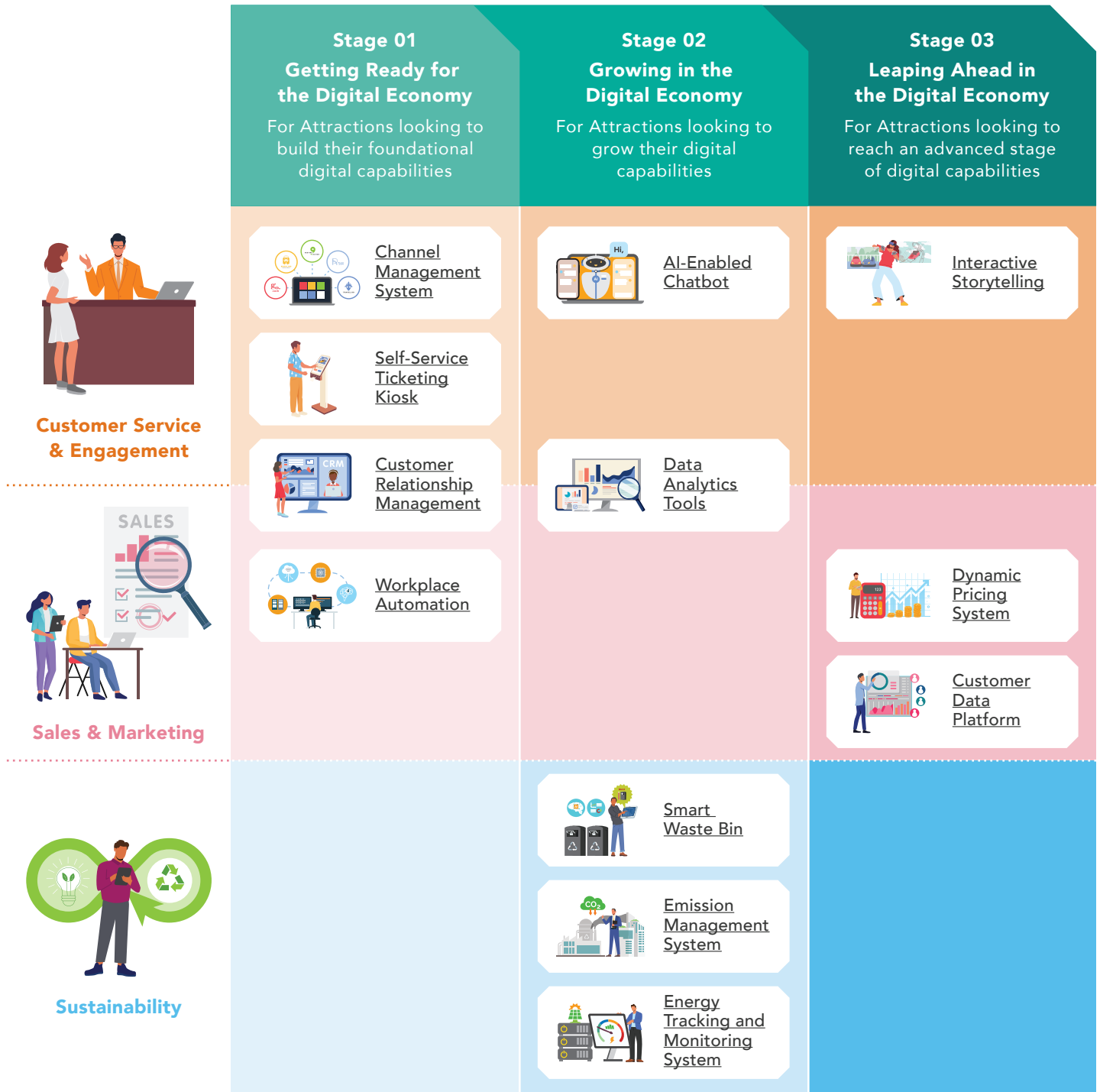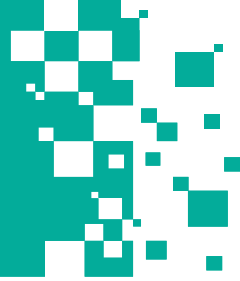| Ang Soon's Challenges		Ang Soon's Needs
01 **Manual tracking and monitoring of consumption data**	*It is a primitive and laborious process. My staff will go through the electricity bills and input information into Excel sheets manually.*	Automate data collection and consolidation onto a single platform.
02 **Manual tabulation of carbon emissions**	*We're already using energy efficient appliances and processes (e.g., LED lights, Green Refrigerant Chillers, Hybrid Fans), but we are spending a lot of time and effort to manually calculate the data.*	Automate accurate collection and calculation of carbon emissions.
03 **Manual waste management and reporting processes**	*Currently, there is no way, besides manually checking and recording, to understand and analyse the waste that gets thrown into our bin centres (i.e., food, plastics).*	Implement waste tracking and monitoring for effective waste reduction.

03 | DIGITAL SOLUTION ROADMAP

This digital solution roadmap outlines solutions for your company to adopt at each stage of growth. Where relevant, data analytics and artificial intelligence (AI) are incorporated into the solutions.

	Stage 01 **Getting Ready for the Digital Economy** For Attractions looking to build their foundational digital capabilities	Stage 02 **Growing in the Digital Economy** For Attractions looking to grow their digital capabilities	Stage 03 **Leaping Ahead in the Digital Economy** For Attractions looking to reach an advanced stage of digital capabilities
Customer Service & Engagement	Channel Management System	AI-Enabled Chatbot	Interactive Storytelling
	Self-Service Ticketing Kiosk		
	Customer Relationship Management	Data Analytics Tools	
Sales & Marketing	Workplace Automation		Dynamic Pricing System
			Customer Data Platform
Sustainability		Smart Waste Bin	
		Emission Management System	
		Energy Tracking and Monitoring System	

SMEs can also adopt generic solutions such as cybersecurity, accounting management, human resource management, and inventory management.

Newly incorporated businesses can also adopt foundational solutions under Start Digital, covering areas such as cybersecurity, sales generation, and business efficiency.

Note: This roadmap shall be updated over time as digitalisation of the industry progresses and new technologies are introduced for the industry.

GETTING READY FOR THE DIGITAL ECONOMY

For Attractions looking to build their foundational digital capabilities

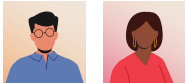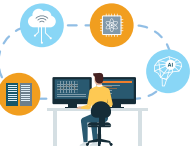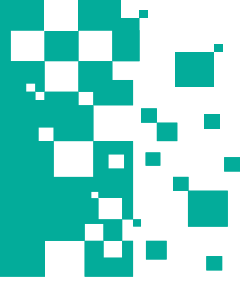| Digital Solution	Solution Description	Benefits
Channel Management System (CMS)	▪ Enables guests to purchase tickets from third-party sites (e.g., OTAs) with instant confirmation. ▪ Allows guests to bypass the additional steps to make reservations or redemptions, proceeding directly to the attraction ride area, streamlining the experiences for both guests and staff.	▪ Boosts revenue by expanding customer reach through new channels. ▪ Improves ticketing sales through insights gained from consolidated ticket booking reports. ▪ Provides a real-time view of ticket sales and inventory stock. ▪ Reduces manpower requirements for on-site ticket verification, allowing more time to focus on other customer service-related matters.
Self-Service Ticketing Kiosk	▪ Enables visitors to self-serve and purchase tickets using on-site kiosks, eliminating the need to queue at the ticketing counter. ▪ Can be integrated with ticketing and reservation systems. ▪ Offers multilingual translations to cater to non-English speaking guests.	▪ Enhances the customer experience by reducing wait times. ▪ Reduces reliance on manpower. ▪ Allows staff to be deployed to areas requiring personalised customer engagement. ▪ Provides greater control over crowd and queue management.

3.1 | SOLUTIONS GUIDE

GETTING READY FOR THE DIGITAL ECONOMY
For Attractions looking to build their foundational digital capabilities

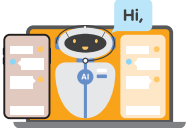| Digital Solution	Solution Description	Benefits
Customer Relationship Management	▪ Centralises customer data into a single system to provide critical insights. ▪ Records details of customers' past purchases, website interactions, engagements with marketing emails, feedback and queries, and monitors potential sales opportunities, such as birthday parties.	▪ Eliminates manual customer feedback processing. ▪ Improves efficiency in addressing customer concerns. ▪ Provides insights into customer purchase patterns, enabling employees to create relevant add-ons, upgrades, and complementary product bundles and packages.
Workplace Automation	▪ Automates multi-step, repetitive work processes using Robotic Process Automation (RPA) – a rule-based software to execute tasks at high speed and volume. Examples include sending mass emails, consolidating data, and cleaning data from various systems.	▪ Streamlines work processes and improves productivity by automating repetitive, mundane tasks. ▪ Reduces manual, time-consuming tasks, hence freeing up employees to concentrate on higher-value activities. ▪ Minimises the risk of human errors.

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GROWING IN THE DIGITAL ECONOMY
For Attractions looking to grow their digital capabilities

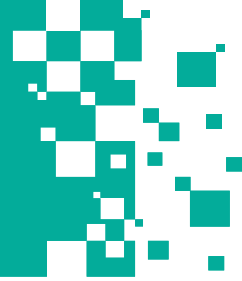| Digital Solution	Solution Description	Benefits
AI-Enabled Chatbot	• A virtual robot designed for online customer interactions, and capable of answering queries in different languages. The chatbot employs natural language processing semantics to predict the user's intent, enabling it to understand the context of questions. • Collects data from consumer interactions to identify new Frequently Asked Questions (FAQs). • Facilitates bookings and transactions.	• Decreases the need for live chat agents and allows for redeployment of manpower to other areas. • Increases customer satisfaction by reducing response times. • Offers opportunities for product upselling and cross-selling.
Data Analytics Tools	• Utilises data from various sources to offer data visualisation and consumer insights. • Ability to help monitor mentions, tags, and comments about the attraction across numerous review platforms.	• Allows the use of data to make decisions for customer service strategies and to plan manpower allocation. • Speeds up the identification of shortcomings, success factors, and the resolution of potential issues. • Enhances efficiency in tracking KPIs and other metrics.

STAGE 02

GROWING IN THE DIGITAL ECONOMY

For Attractions looking to grow their digital capabilities

Digital Solution	Solution Description	Benefits
Smart Waste Bins	▪ Smart waste bins have a larger capacity, and can compact trash into smaller sizes. ▪ Notification feature alerts staff when the bins reach full capacity. ▪ Capacity sensors and notification features provide raw data for insights and analysis.	▪ Decreases the need for frequent bin checks and clearances through alerts and route optimisation. ▪ Lowers the number of bins required in various areas of the attraction. ▪ Enhances visitor experience, health, and safety by preventing overflowing bins and deterring pests.
Emissions Management System (EMS)	▪ Automatically tracks and reports emissions (e.g., carbon, greenhouse gases) on a single platform. ▪ Facilitates benchmarking against key performance indicators and presents data in easy-to-understand visualisations, like line graphs. ▪ Incorporates scenario planning to develop plans to reduce emissions over time.	▪ Streamlines audit trails and reduces carbon footprint. ▪ Enhances the accuracy of emissions data calculations. ▪ Improves transparency in Environmental, Social, Governance (ESG) reporting. ▪ Attracts eco-conscious tourists and investors through transparent emissions reporting.
Energy Tracking and Monitoring System	▪ Tracks energy usage by type and consumption over time, facilitating the identification of wastage points to implement energy reduction measures. ▪ Employs AI models to optimise energy efficiency by utilising information on energy consumption and real-time data from Building Management Systems, occupancy, and indoor air quality sensors. ▪ Provides predictive maintenance, forecasting, and optimisation without human intervention.	▪ Optimises energy usage, resulting in cost savings. ▪ Improves the ease of monitoring energy consumption trends. ▪ Provides a centralised view of various metrics and indicators, thereby reducing the time required to compile data points.

LEAPING AHEAD IN THE DIGITAL ECONOMY
For Attractions looking to reach an advanced stage of digital capabilities

Digital Solution	Solution Description	Benefits
Interactive Storytelling	▪ Uses augmented reality (AR) technology to overlay digital information, including images, sounds, and text, onto the physical world, enhancing the user's perception of reality. ▪ Offers interactive tours to guide tourists throughout their journey.	▪ Boosts revenue by encouraging higher consumer spending on AR experiences. ▪ Elevates customer satisfaction by providing more immersive and engaging experiences. ▪ Content can be refreshed easily, and attractions will not be constrained by physical spaces to introduce new content and experiences.
Dynamic Pricing System (DPS)	▪ Provides suggestions for optimal prices by analysing historical market demand and trends, as well as competitor pricing.	▪ Maximises sales revenue through targeted pricing strategies. ▪ Reduces the manual effort required to set prices. ▪ Helps in planning manpower requirements based on sales projections of peak and non-peak periods.
Customer Data Platform (CDP)	▪ Collects, organises, and manages consumer data from various sources to create a unified and comprehensive consumer profile. ▪ Consolidates data from consumer interactions across multiple touchpoints into a single centralised consumer database.	▪ Identifies the key marketing channels that consumers are using. ▪ Provides a real-time, in-depth understanding of consumer profiles. ▪ Offers a holistic view of consumers by integrating data from different systems for future marketing initiatives. ▪ Enables efficient delivery of targeted and relevant marketing to real-time profiles.

3.2 INTEGRATED CUSTOMER EXPERIENCE

Digital solutions can be integrated to help attraction operators deliver better customer experience and improve their operational efficiencies.

Customer Relationship Management/ Customer Data Platform
(with Ticketing system)

Front of House

- **AI-enabled Chatbot**
- **Self-service Ticketing Kiosk**
- **Channel Management System**

Back of House

- **Dynamic Pricing System**
- **Data Analytics Tools**

Ticketing transaction information, customer feedback and preferences

Customer patterns, web traffic information

Examples of Insights

Visitor Behaviour
Analyses guests' preferences to improve the guest experience and increase visitorship.

Sales Trends
Identifies new ways to boost sales and revenue through in-depth analysis of marketing strategies and sales data, and optimises ticket prices using data on customer patterns and web traffic.

Operational Performance
Increases efficiency in tracking KPIs and metrics (e.g., guest experience score), and data insights help to quickly identify and rectify potential issues to improve customer service standards.

Social Media Tracking and Monitoring
Provides real-time insights into social media conversations to improve visibility and reach of social media content to the attraction's target audience.

04 | AI IN THE ATTRACTIONS INDUSTRY
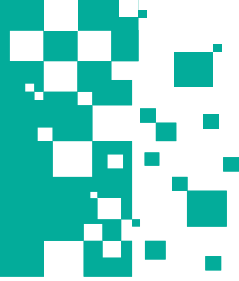
Artificial Intelligence (AI) is incorporated in many business solutions to enhance processes, streamline workflows and provide data-driven insights to improve decision making for attraction operators.

Examples of AI-enabled Solutions for Attraction Operators

Customer Relationship Management
AI can analyse customer data to provide personalised recommendations on experiences based on customer preferences and past behaviours. This can help attraction operators to better engage with their customers and increase customer satisfaction.

Workflow Automation
AI can help to automate the process of ticketing and reservations, including data entry, payment processing, and sending confirmation emails. This can reduce errors and improve efficiency.

Dynamic Pricing System
AI can analyse data on customer behaviours, weather, and other factors to optimise pricing for ticketing. This can help attraction operators maximise revenue while being able to better manage crowds during peak periods.

Generative AI is a new form of AI that can be used to create new content. It introduces new capabilities to many business solutions which may allow attraction operators to:

Solutions where Generative AI may be used

AI-enabled Chatbot

Enhance Customer Support
Chatbots, powered by generative AI, can handle inquiries, provide customised recommendations, and upsell products, improving customer service, staff productivity and yield.

Customer Relationship Management

Personalise Communication
Generative AI tailors marketing content to customer preferences, thereby increasing customer engagement with the content and building top-of-mind awareness.

Gain Feedback Analysis
Generative AI analyses customer feedback to identify common issues, and aids attractions in enhancing their offerings and services to meet customer needs effectively.
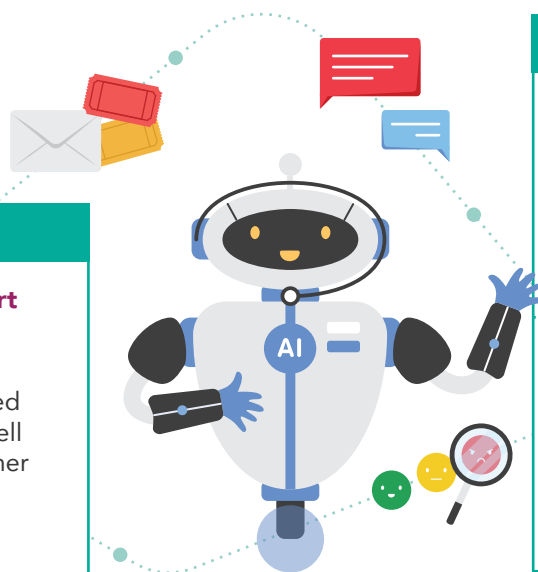
Some measures to consider:
Data Privacy: Ensure ethical and responsible data collection and secure storage with customer consent.
Bias Mitigation: Regularly monitor AI models to prevent biased outcomes.
Transparency: Explain AI system operations and data usage for customers' trust and understanding.

05 | CYBERSECURITY AND DATA PROTECTION ROADMAP

This roadmap serves as a guide to introduce cybersecurity and data protection for your company at each stage of growth. For more information, please refer to SG Cyber Safe Programme, Data Protection Essentials (DPE) and Data Protection Trustmark (DPTM).

	Stage 01 Getting Ready for the Digital Economy	Stage 02 Growing in the Digital Economy	Stage 03 Leaping Ahead in the Digital Economy
Cybersecurity As company increases its level of digitalisation	**Cyber hygiene** measures for protection against common attacks	**Risk assessment** to assess if cybersecurity measures commensurate with company risk profile	
	Cybersecurity Toolkits Cybersecurity solutions		Cybersecurity solutions
	CYBER ESSENTIALS Cyber Essentials cybersecurity certification		CYBER TRUST Cyber Trust cybersecurity certification
Data Protection As company increases its collection and use of personal data	**Basic data protection and security practices** to protect customers' personal data and recover quickly in the event of a data breach	**Accountable data protection practices** to demonstrate compliance with the PDPA	
	DATA PROTECTION ESSENTIALS Data Protection Essentials (DPE)		DATA PROTECTION ASSURED Data Protection Trustmark (DPTM)

06 | DIGITAL SKILLS TRAINING ROADMAP

This digital skills training roadmap serves as a guide to equip your company and workers with the necessary skills (including change management) to adopt digital solutions at each stage of growth. Training programmes are aligned to Skills Framework and emerging areas under SkillsFuture Series.

	Stage 01 Getting Ready for the Digital Economy	Stage 02 Growing in the Digital Economy	Stage 03 Leaping Ahead in the Digital Economy
Customer Service & Engagement	• Managing Change for Digital Transformations • Diploma in Tourism Management with Technology • Digital Technology and Consumer Behaviour • Transforming Your Tourism Business for the Digital Economy • Digital Fluency at the Workplace • Tourism Productivity	• Customer Relationship Management Chatbot • Implement Chatbot Strategy for Customer Experience • Survive the Robots! Preparing Hospitality and Tourism Professionals • Digitalising your Customer Experience • Data and Statistical Analytics	• Re-Imagining Tourism through the Lenses of Augmented Reality • Create Virtual Tours for Immersive Experience • Digital Storytelling • Immersive Narrative Design
Sales & Marketing	• Managing Change for Digital Transformations • Introduction to Customer Relationship Management • Data Literacy • Relationship Marketing & Digital Customer Relationship Management • Digital Customer Experience Management • Certificate in Tourism and Leisure: Digital Tourism Marketing and Media • APIs and RPA: Automation, Bots and Future • Applications Integration with RPA • Automation of Processes with RPA	• Digital Marketing in Tourism • Using Digital Marketing to Optimising Revenues and Acquiring Customers • Leveraging Data Analytics for Sales & Marketing • Google Analytics Mastery – The Data Driven Approach to Digital Marketing	• Dynamic Pricing and Revenue Management • Dynamic Business Planning and Modelling • Nurturing Customer Relationships On Digital Platforms • Integrated Digital Marketing Communications and Platforms
Sustainability	• Managing Change for Digital Transformations • Resilient Leadership and Business Sustainability Series Module 2: Risk & Change Management	• Smart Energy Management for Sustainability • Introduction to Energy Efficiency & Energy Audit • Introduction to Carbon Accounting: Carbon Emissions and Reporting for Corporations • RISE Climate & Sustainability (C&S) Upskilling for Senior Management • Digital Transformation through Design Thinking for Sustainability	

For assistance in company-led upskilling of existing employees in tech capabilities, including job redesign and redeployment, contact IMDA's Jobs Transformation Map (JTM) Training Partners.

Note: Course directory can be found at MySkillsFuture Course Directory.

07 GET STARTED WITH CHIEF TECHNOLOGY OFFICER-AS-A-SERVICE

CTO-as-a-Service is a one-stop self-help platform that allows your company to identify digitalisation needs, access market-proven solutions and engage digital consultants for customised advice.

INFOCOMM MEDIA DEVELOPMENT AUTHORITY | SMEs GO DIGITAL

Bring your business to the next level!

1 **Is your business digital-ready?**
Find out using the Industry Digital Plan (IDP) for your sector.

2 **How do you get started?**
Search for digital solutions, grants and resources based on your business needs.

3 **Where can you get advice?**
Get free digital consultancy and project management services.

Go digital today with CTO as-a-Service

SCAN ME

go.gov.sg/CTOaaS

CTO-as-a-Service

Take your digital health check to assess your digital readiness, explore digital solutions and request for digital advisory and project management services.

Start Digital

Foundational digital solutions for new companies to get a head start in going digital.

Industry Digital Plans (IDP)

Step by step guide on digital solutions and training required at each stage of your business growth.

Grow Digital

Leverage Business-to-Business (B2B) and Business-to-Consumer (B2C) e-commerce platforms to go international, without a physical presence overseas.

Pre-Approved Solutions

Proven off-the-shelf digital solutions pre-approved by IMDA to meet your business needs. Government grants, e.g. Productivity Solutions Grant (PSG), are available for the adoption of these solutions.

Advanced Digital Solutions

Advanced and integrated digital solutions to help you strengthen business continuity and build longer term resilience.

For SMEs

One-Stop Self-Help Platform
CTO-as-a-Service (CTOaaS)
https://services2.imda.gov.sg/CTOaaS/

Industry Resources
Attractions Technology Roadmap
https://www.stb.gov.sg/content/stb/en/industries/attractions.html

STB's Business Improvement Fund (BIF)
https://www.stb.gov.sg/content/stb/en/assistance-and-licensing/grants-overview/business-improvement-fund-bif.html

Cybersecurity and Data Protection
CSA SG Cyber Safe Programme
https://www.csa.gov.sg/sgcybersafe

Cyber Essentials
https://www.csa.gov.sg/cyber-essentials/

Cybersecurity Toolkits
https://www.csa.gov.sg/leaders-toolkit/

Cyber Trust
https://www.csa.gov.sg/cyber-trust/

Better Data Driven Business
https://www.imda.gov.sg/bddb

Data Protection Essentials
https://www.imda.gov.sg/DPE

Data Protection Trustmark
https://www.imda.gov.sg/DPTM

Digital Skills Training
Skills Demand for the Future Economy Report
https://www.skillsfuture.gov.sg/skillsreport

Skills Framework
https://www.skillsfuture.gov.sg/skills-framework/tourism

SkillsFuture for Digital Workplace (SFDW) 2.0
https://www.skillsfuture.gov.sg/initiatives/mid-career/digitalworkplace

MySkillsFuture Course Directory
https://www.myskillsfuture.gov.sg/content/portal/en/training-exchange/course-landing.html

Company-Led Upskilling
TechSkills Accelerator (TESA)
& JTM Training Partners
https://www.imda.gov.sg/how-we-can-help/techskills-accelerator-tesa/jtm-training-partners

Business Advisory & Digital Consultancy
CTO-as-a-Service
https://services2.imda.gov.sg/CTOaaS/Consultants

SME Centres managed by trade associations
- SME Centre@ASME
- SME Centre@SCCCI
- SME Centre@SICCI
- SME Centre@SMCCI
- SME Centre@SMF

https://www.enterprisesg.gov.sg/smecentre

This Industry Digital Plan is part of the SMEs Go Digital Programme.

For programme information and feedback: https://www.imda.gov.sg/SMEsGoDigital

#IMDigitalArchitect

The Infocomm Media Development Authority (IMDA) leads Singapore's digital transformation by developing a vibrant digital economy and an inclusive digital society. As Architects of Singapore's Digital Future, we foster growth in Infocomm Technology and Media sectors in concert with progressive regulations, harnessing frontier technologies, and developing local talent and digital infrastructure ecosystems to establish Singapore as a digital metropolis.

SINGAPORE TOURISM BOARD

The Singapore Tourism Board (STB) is the lead development agency for tourism, one of Singapore's key economic sectors. Together with industry partners and the community, we shape a dynamic Singapore tourism landscape. We bring the Passion Made Possible brand to life by differentiating Singapore as a vibrant destination that inspires people to share and deepen their passions.

imda.gov.sg
stb.gov.sg
visitsingapore.com

linkedin.com/company/imdasg
linkedin.com/company/singapore-tourism-board

facebook.com/IMDAsg
facebook.com/STBsingapore

twitter.com/IMDAsg

youtube.com/IMDAsg
youtube.com/SingaporeTourismBoard

instagram.com/IMDAsg
instagram.com/stb_sg

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

Singapore TOURISM BOARD