



# Model Curriculum

**NOS Name: Fundamentals of AI and IoT in Customer Engagement (Omnichannel Retail)**

**NOS Code: RAS/N0177**

**NOS Version: 1.0**

**NSQF Level: 4.5**

**Model Curriculum Version: 1.0**

Retailers Association's Skill Council of India, 703-704 Sagar Tech Plaza - A, Andheri-Kurla Road, Sakinaka Junction, Sakinaka, Andheri (E) Mumbai-400072.

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## Training Parameters

<b>Sector</b>	Retail
<b>Sub-Sector</b>	Retail operations; E-Commerce
<b>Occupation</b>	Store operations; Sales operations
<b>Country</b>	India
<b>NSQF Level</b>	4.5
<b>Aligned to NCO/ISCO/ISIC Code</b>	NA
<b>Minimum Educational Qualification and Experience</b>	<ul style="list-style-type: none"> <li>Completed or pursuing 1st year of 3 year/ 4-year UG or equivalent with basic digital literacy skills.</li> <li>12th grade pass with 1.5 years of relevant experience in Retail operations with basic digital literacy skills.</li> <li>Previous relevant Qualification of NSQF Level 4 with 1.5-year relevant experience in Retail operations</li> <li>Previous relevant Qualification of NSQF Level 3.5 with 3 years relevant experience in Retail operations</li> </ul>
<b>Pre-Requisite License or Training</b>	NIL
<b>Minimum Job Entry Age</b>	-
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	08/05/2028
<b>NSQC Approval Date</b>	08/05/2025
<b>QP Version</b>	1.0
<b>Model Curriculum Creation Date</b>	19/10/2024
<b>Model Curriculum Valid Up to Date</b>	08/05/2028
<b>Model Curriculum Version</b>	1.0
<b>Minimum Duration of the Course</b>	120 hours

<b>Maximum Duration of the Course</b>	120 hours
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## Program Overview

This qualification equips retail managers and executives with the skills to design, implement, and evaluate integrated marketing strategies that enhance customer engagement and satisfaction across multiple channels. This NOS is intended for retail professionals looking to future-proof their operations and drive innovation in a rapidly evolving market.

### Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Design and implement omnichannel retail strategies integrating physical and digital platforms to enhance customer experience.
- Analyse customer data using AI, IoT, and data analytics tools to drive informed decision-making and optimize retail operations.
- Map, evaluate, and enhance customer journeys by leveraging AI and IoT for personalized omnichannel experiences.
- Integrate and apply advanced technologies, including AI and IoT, to improve inventory management, marketing, and customer engagement.
- Identify emerging trends and innovate retail solutions using technology for continuous improvement and competitive advantage.

## Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	OJT Duration (Mandatory)	Total Duration
<b>Module 1: Omni channel Retail Fundamentals and Trends</b>	<b>10:00</b>	<b>14:00</b>	-	<b>24:00</b>
<b>Module 2: Benefits of using AI tools for Customer Segmentation</b>	<b>10:00</b>	<b>14:00</b>	-	<b>24:00</b>
<b>Module 3: Integrated Marketing and Customer Engagement</b>	<b>08:00</b>	<b>12:00</b>	-	<b>20:00</b>
<b>Module 4: Customer Journey Mapping and Experience Optimization</b>	<b>08:00</b>	<b>12:00</b>	-	<b>20:00</b>
<b>Module 5: Uses of AI and ERP in sales performance evaluation</b>	<b>08:00</b>	<b>10:00</b>		<b>18:00</b>
<b>Module 6: Future Trends and Continuous Improvement in Omnichannel Retailing</b>	<b>06:00</b>	<b>08:00</b>	-	<b>14:00</b>
<b>Total Duration</b>	<b>50:00</b>	<b>70:00</b>	-	<b>120:00</b>

## Module Details

### Module 1: Omni channel Retail Fundamentals and Trends

#### Terminal Outcomes:

- Assess the significance of omnichannel retailing in enhancing customer loyalty.
- Propose improvements to an existing omnichannel strategy based on the best practices.
- Illustrate the impact of emerging technologies on omnichannel retailing.

<i>Duration: 10:00</i>	<i>Duration: 14:00</i>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Define omnichannel retailing and its key components.</li> <li>• Identify current trends impacting omnichannel strategies, such as AI and IoT.</li> <li>• Explain the benefits of a seamless customer experience across channels.</li> <li>• Discuss the challenges retailers face in implementing omnichannel strategies.</li> <li>• Analyze case studies of successful omnichannel retailers.</li> <li>• Evaluate the role of customer feedback in shaping omnichannel strategies.</li> <li>• Explore the competitive landscape of omnichannel retailing.</li> <li>• Assess the impact of consumer behavior shifts on retail strategies.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate the effectiveness of various retail channels in delivering seamless customer experience.</li> <li>• Conduct a SWOT analysis of an existing omnichannel strategy and submit a report.</li> <li>• Design a simple omnichannel strategy for a hypothetical retail business.</li> <li>• Prepare a presentation on the implications of emerging trends for omnichannel retail.</li> </ul>
<b>Classroom Aids</b>	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, and duster	
<b>Tools, Equipment and Other Requirements</b>	
<b>Data Analytics Software:</b> Microsoft Excel, Tableau, or Google Data Studio, 10 licenses (2 participants per license); <b>AI-Based Customer Segmentation Tools:</b> HubSpot, Salesforce 10 licenses (2 participants per license); <b>CRM Software:</b> Salesforce, Zoho CRM, HubSpot, 5 licenses (shared use); <b>Social Media Management Tools:</b> Buffer, Sprout Social 5 licenses (shared use); <b>Computers/Laptops:</b> Windows/Mac systems with internet connectivity(1 per participant); <b>Projector and Screen:</b> HD projector with 3000 lumens brightness-1 unit; <b>Survey Tools:</b> Google Forms, SurveyMonkey 5 licenses (shared use).	

## Module 2: Benefits of using AI tools for Customer Segmentation

### Terminal Outcomes:

- Formulate actionable insights from data analytics to enhance marketing outreach.
- Evaluate the effectiveness of customer segmentation strategies on sales performance.
- Demonstrate the ability to use data responsibly in marketing initiatives.

<i>Duration: 10:00</i>	<i>Duration: 14:00</i>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the importance of customer segmentation in omnichannel retailing.</li> <li>• Identify various data analytics techniques for customer insights.</li> <li>• Discuss the role of AI in enhancing customer segmentation.</li> <li>• Describe ethical considerations in data usage for marketing.</li> <li>• Analyse consumer behaviour patterns to inform marketing strategies.</li> <li>• Differentiate between qualitative and quantitative data in customer analysis.</li> <li>• Investigate tools and technologies used for data collection and analysis.</li> <li>• Assess the influence of socio-economic factors on consumer segmentation.</li> </ul>	<ul style="list-style-type: none"> <li>• Use AI-based tools to segment customers based on behavior and preferences.</li> <li>• Develop a targeted marketing campaign using segmented customer data.</li> <li>• Create a report on customer segmentation findings and recommendations.</li> <li>• Conduct a workshop to demonstrate effective data analysis techniques.</li> </ul>
<b>Classroom Aids</b>	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, and duster	
<b>Tools, Equipment and Other Requirements</b>	
<b>IoT-Based Inventory Management Tools:</b> Inventory management solutions integrated with IoT (e.g., SAP, Microsoft Dynamics), 5 licenses (shared use); <b>AI-Powered Chatbot Tools:</b> Tools like Dialogflow, IBM Watson, or Drift, 5 licenses (shared use); <b>AR/VR Devices:</b> AR/VR headsets (e.g., Oculus, HTC Vive) for customer experience simulations 5 units (shared use); <b>ERP Software:</b> SAP, Microsoft Dynamics, 5 licenses (shared use); <b>Cybersecurity Software:</b> Norton, McAfee, or similar for secure operations, 5 licenses (shared use); <b>Computers/Laptops/Windows/Mac systems with internet connectivity 20 units (1 per participant);</b> Wi-Fi Router/Internet Connection High-speed internet connection-1 setup	



## Module 3: Integrated Marketing and Customer Engagement

### Terminal Outcomes:

- Assess the impact of integrated marketing communications on customer engagement.
- Propose enhancements to marketing strategies based on consumer insights.
- Demonstrate knowledge of IoT applications in retail marketing.

<i>Duration: 08:00</i>	<i>Duration: 12:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Outline the components of an integrated marketing communication plan.</li> <li>• Discuss the significance of consistent messaging across channels.</li> <li>• Identify the role of IoT in improving customer engagement strategies.</li> <li>• Explain how personalized marketing affects customer loyalty.</li> <li>• Analyze case studies of effective integrated marketing campaigns.</li> <li>• Evaluate various customer engagement tools and their effectiveness.</li> <li>• Investigate the impact of social media on customer engagement.</li> <li>• Discuss the importance of customer relationship management (CRM) systems.</li> </ul>	<ul style="list-style-type: none"> <li>• Design an integrated marketing communication strategy for a product launch.</li> <li>• Show how to implement a customer engagement initiative using IoT insights.</li> <li>• Evaluate the success of a marketing campaign based on customer feedback.</li> <li>• Create a social media engagement plan that aligns with marketing goals.</li> </ul>
<b>Classroom Aids</b>	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards	
<b>Tools, Equipment and Other Requirements</b>	
<b>Market Research Tools:</b> Statista, Mintel, or other online research platforms, 5 licenses (shared use); <b>AI-Based Market Analysis Tools:</b> AI-powered market research tools (e.g., Crayon, Crayon Intelligence), 5 licenses (shared use); <b>Performance Dashboard Tools:</b> Klipfolio, Microsoft Power BI 5 licenses (shared use); <b>Computers/Laptops:</b> Windows/Mac systems with internet connectivity 20 units (1 per participant); <b>Presentation Software:</b> Microsoft PowerPoint or Google Slides; <b>Collaboration Tools:</b> Microsoft Teams, Slack, or Trello.	

## Module 4: Customer Journey Mapping and Experience Optimization

### Terminal Outcomes:

- Optimize customer journey maps to enhance overall customer satisfaction.
- Assess the effectiveness of personalization techniques in improving customer interactions.
- Illustrate how customer feedback can be utilized to refine the customer journey.

<i>Duration: 08:00</i>	<i>Duration: 12:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Describe the stages of customer journey mapping.</li> <li>• Identify critical touchpoints in the customer journey.</li> <li>• Discuss techniques for personalizing customer experiences.</li> <li>• Analyse the role of feedback in journey optimization.</li> <li>• Explain how technology influences customer journey experiences.</li> <li>• Assess the importance of post-purchase customer experience.</li> <li>• Explore best practices for journey mapping in omnichannel retailing.</li> <li>• Investigate the impact of customer service on the overall journey.</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a report after mapping customer journeys for different segments to identify areas for improvement.</li> <li>• Show how to implement personalization strategies at key touchpoints in the journey.</li> <li>• Use case studies and conduct customer feedback sessions to gather insights into their experience.</li> <li>• Design an interactive customer journey visualization tool.</li> </ul>
<b>Classroom Aids</b>	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards	
<b>Tools, Equipment and Other Requirements</b>	
<b>Journey Mapping Software:</b> Miro, Lucid chart 5 licenses (shared use); <b>Customer Feedback Tools:</b> Qualtrics, Typeform 5 licenses (shared use); <b>AI-Powered Personalization Tools:</b> Dynamic Yield, Salesforce Einstein, 5 licenses (shared use); <b>Computers/Laptops:</b> Windows/Mac systems with internet connectivity 20 units (1 per participant); <b>Whiteboard and Sticky Notes:</b> Standard whiteboard and sticky notes for journey mapping 1 unit; <b>Projector and Screen:</b> HD projector with 3000 lumens brightness 1 unit.	

## Module 5: Uses of AI and ERP in sales performance evaluation

### Terminal Outcomes:

- Assess the impact of technology integration on customer engagement and sales performance.
- Propose data-driven improvements for existing retail operations.
- Demonstrate the ability to analyze and interpret performance data effectively.

<i>Duration: 08:00</i>	<i>Duration: 10:00</i>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Identify key technologies used in omnichannel retailing, such as CRM and ERP systems.</li> <li>• Discuss the importance of data analytics in performance evaluation.</li> <li>• Explain how AI enhances operational efficiency in retail.</li> <li>• Analyse metrics for measuring the effectiveness of omnichannel strategies.</li> <li>• Describe challenges associated with technology adoption in retail.</li> <li>• Investigate the role of cybersecurity in protecting customer data.</li> <li>• Evaluate the influence of cloud technology on retail operations.</li> <li>• Explore emerging technologies that can be leveraged for competitive advantage.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to implement a CRM system to manage customer interactions effectively.</li> <li>• Use data provided in sample case studies and conduct a performance evaluation using data analytics tools.</li> <li>• Create a dashboard to visualize key performance indicators (KPIs) for omnichannel strategies.</li> <li>• Prepare a case study on successful technology integration in retail operation.</li> </ul>
<b>Classroom Aids</b>	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards	
<b>Tools, Equipment and Other Requirements</b>	
<b>Data Analytics and Visualization Software:</b> Microsoft Power BI, Tableau 5 licenses (shared use); <b>Performance Dashboard Tools:</b> Klipfolio, Microsoft Power BI 5 licenses (shared use); <b>IoT-Based Monitoring Systems:</b> IoT sensors and monitoring software (integrated with ERP systems) 5 units <b>ERP Software:</b> SAP, Microsoft Dynamics 5 licenses (shared use); <b>Computers/Laptops:</b> Windows/Mac systems with internet connectivity 20 units (1 per participant); <b>Projector and Screen:</b> HD projector for performance presentations 1 unit	

## Module 6: Future Trends and Continuous Improvement in Omnichannel Retailing

### Terminal Outcomes:

- Analyze market research findings to anticipate and adapt to future trends.
- Propose strategic initiatives that align with emerging technologies.
- Demonstrate the ability to lead change initiatives within a retail organization.

<i>Duration: 06:00</i>	<i>Duration: 08:00</i>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Identify emerging trends in consumer behavior and technology affecting retail.</li> <li>• Discuss strategies for fostering a culture of continuous improvement.</li> <li>• Explain the significance of adaptability in retail strategy.</li> <li>• Analyze the impact of socio-economic factors on retail trends.</li> <li>• Describe the future landscape of retail with respect to AI and IoT.</li> <li>• Investigate the role of sustainability in future retail strategies.</li> <li>• Evaluate the importance of employee training in adapting to new technologies.</li> <li>• Explore how global events influence retail trends and strategies.</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct market research to understand evolving consumer preferences and present a report.</li> <li>• Develop a continuous improvement plan for retail operation.</li> <li>• Present findings on future retail trends.</li> <li>• Design a training program to enhance employee skills related to emerging technologies.</li> </ul>
<b>Classroom Aids</b>	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards	
<b>Tools, Equipment and Other Requirements</b>	
<b>AI-Based Trend Analysis Tools:</b> Crayon Intelligence, Crayon 5 licenses (shared use); <b>Market Research Tools:</b> Statista, Mintel 5 licenses (shared use); <b>Collaboration and Project Management Tools:</b> Microsoft Teams, Slack, or Trello 5 licenses (shared use); <b>Computers/Laptops:</b> Windows/Mac systems with internet connectivity 20 units (1 per participant); <b>Interactive Display Devices:</b> Smartboards for interactive discussions and strategy planning 1 unit	

## Annexure

### Trainer Requirement

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
For Trainers						
Graduate/ Postgraduate	Retail/Technology	5	Omnichannel Retail management			

Trainer Certification	
Domain Certification	Platform Certification
Certified for Standalone NOS: "Fundamentals of AI and IoT in Customer Engagement (Omnichannel Retail)" RAS/N0177 v1.0 with minimum pass percentage:80%	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0". The minimum accepted score is 80%.

## Assessor Requirements

Assessors Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
For Assessors						
Graduate/ Postgraduate	Retail/Technology			5	Omnichannel management and assessment/ training roles.	

Assessor Certification	
Domain Certification	Platform Certification
Certified for Standalone NOS: "Fundamentals of AI and IoT in Customer Engagement (Omnichannel Retail)" RAS/N0177 v1.0 with minimum pass percentage:80%	Recommended that the Assessor is certified for the Job Role: "Assessor (VET and skills)", mapped to the Qualification Pack: "MEP/Q2701, v2.0". The minimum accepted score is 80%.

## Assessment Strategy

This section includes the processes involved in identifying, gathering and interpreting information to evaluate the learner on the required competencies of the program.

Assessment will be done by RASCI-affiliated assessment agencies. The assessors / proctors will be trained & certified by SSC through Training of Assessors / Proctors program. The emphasis will be on practical skills and knowledge based on the performance criteria. The assessment papers are developed by Subject Matter Experts (SME), as per the assessment criteria mentioned in the Qualification Pack. The assessment papers are also checked for the various outcome-based parameters such as quality, time taken, precision, tools & equipment requirement, etc. The assessment sets are then reviewed by SSC official for consistency.

### Testing Tools

- Carry out assessments under realistic work pressures that are found in the normal industry workplace.
- Ensure that the range of materials, equipment and tools that learners use are current and of the type routinely found in the normal industry workplace environments.

Assessment Type	Formative or Summative	Strategies
Theory	Summative	(Web proctoring/Paper pencil/Tab based): Written test will be Multiple Choice Questions (MCQ) based. In case of availability of internet connectivity, the test will be hosted on web (online). In case of absence of internet connectivity, the test will be administered in offline mode on a tablet or via paper pencil.
Practical	Summative	This test will be administered by the assessor. The assessment shall be based on Case Studies/ Scenario based tasks/ activities in a simulated environment. The learners' will be assessed and graded based on the pre-designed and AB approved rubrics by the assessor.

The assessment results are backed by evidences collected by assessors.

1. The assessor / proctor needs to collect a copy of the attendance for the training done under the scheme. The attendance sheets are signed and stamped by the in charge / Head of the Training Centre.
2. The assessor / proctor needs to verify the authenticity of the candidates by checking the photo ID card issued by the institute as well as any one Photo ID card issued by the Central/Government. The same needs to be mentioned in the attendance sheet. In case of suspicion, the assessor should authenticate and cross verify trainee's credentials in the enrolment form.

3. The assessor / proctor needs to punch the trainee's roll number on all the evidences.
4. The assessor / proctor can take a photograph of all the students along with the assessor standing in the middle and with the centre name/banner at the back as evidence.
5. The assessor also needs to carry his/her photo ID card.

The assessment agencies are instructed to hire assessors / proctors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments.



## References

### Glossary

Term	Description
<b>Declarative Knowledge</b>	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
<b>Key Learning Outcome</b>	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
<b>OJT (M)</b>	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
<b>OJT (R)</b>	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
<b>Procedural Knowledge</b>	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
<b>Terminal Outcome</b>	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

### Acronyms and Abbreviations

Term	Description
<b>QP</b>	Qualification Pack
<b>NSQF</b>	National Skills Qualification Framework
<b>NSQC</b>	National Skills Qualification Committee
<b>NOS</b>	National Occupational Standards