Fundamentals of AI and IoT in Customer Engagement (Omnichannel Retail)

Unit Code: RAS/N0177

Version: 1.0

NSQF Level: 4.5

Description

This National Occupational Standard (NOS) outlines the competencies required for professionals in retail who aim to excel in omnichannel strategies for customer experience management, leveraging advanced technologies such as AI and IoT. Its objective is to equip 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.

Scope

The scope covers the following :

- Use AI/IOT to Manage Omni Channel Strategies

Elements and Performance Criteria

To be competent, the user/individual on the job must be able to:

PC1. Analyse customer data with AI to identify and target distinct consumer segments

PC2. Implement integrated marketing strategies that align messaging across all channels using IoT insights

PC3. Optimize customer journey mapping for seamless experiences using AI algorithms

PC4. Enhance customer engagement and retention through CRM systems and predictive analytics

PC5. Evaluate omnichannel strategy effectiveness using advanced analytics and machine learning

PC6. Train staff on omnichannel practices and emerging technologies for improved customer experience

PC7. Collaborate with teams to implement IoT-driven inventory solutions for omnichannel fulfilment

PC8. Drive engagement initiatives across platforms with AI-informed social media strategies

PC9. Adapt product offerings based on real-time sales data and customer feedback

PC10. Establish a proactive customer service framework using AI chatbots and IoT connectivity

PC11. Integrate AR/VR and AI solutions to enhance customer interactions and operational efficiency

PC12. Conduct market research with AI tools to identify consumer behaviour shifts and trends

PC13. Formulate partnerships with technology providers to enhance omnichannel capabilities

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Omnichannel retailing principles and their strategic implications for customer experience and brand loyalty, with a focus on future technologies

KU2. In-depth knowledge of various sales channels, including emerging platforms, and strategies for their effective integration through AI and IoT

KU3. Advanced understanding of customer data analytics methodologies, including machine learning, and their application in strategic decision-making

KU4. Comprehensive knowledge of digital marketing frameworks and technologies, including content marketing, SEO, and advanced social media strategies enhanced by AI insights

KU5. Expertise in CRM systems, including customization and utilization for enhancing customer relationships and personalization using AI analytics

KU6. Knowledge of IoT applications in inventory management and their role in supporting omnichannel operations and fulfillment strategies

KU7. Understanding of legal, ethical, and regulatory considerations in omnichannel marketing, data management, and emerging technologies

KU8. Expertise in developing and implementing best practices for customer service and experience management across all channels using AI-driven solutions

KU9. Familiarity with emerging technologies (e.g., AR/VR, AI, IoT) and their potential impact on the omnichannel retail landscape and customer experience

KU10. Mastery of qualitative and quantitative market research methodologies, including the use of AI tools to assess consumer preferences and behaviour shifts

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Advanced communication skills for articulating complex strategies and influencing diverse stakeholder groups, especially in technology-driven environments

GS2. Strong analytical and critical thinking skills to interpret data, including AI-driven insights, and inform strategic decisions effectively

GS3. Enhanced problem-solving abilities for addressing multifaceted challenges in the customer journey across channels, utilizing technology as a resource

GS4. Leadership and teamwork skills to drive cross-functional collaboration and align teams toward common objectives in a technology-enhanced retail environment

GS5. High adaptability and agility in responding to evolving market trends, consumer preferences, and technological advancements

GS6. Superior time management and organizational skills to juggle multiple strategic initiatives and projects

GS7. Customer-centric orientation to design and implement strategies that prioritize customer satisfaction and loyalty, leveraging AI for personalization

GS8. Creativity and innovation skills for conceptualizing and executing compelling marketing campaigns and customer engagement strategies utilizing emerging technologies

GS9. Proficiency in project management, including resource allocation, risk management, and performance tracking in technology-driven projects

GS10. Advanced digital literacy to leverage the latest tools and platforms for omnichannel marketing and sales optimization, including AI and IoT applications

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
	40	**60**	**-**	**-**
PC1. Analyse customer data with AI to identify and target distinct consumer segments	4	6	-	-
PC2. Implement integrated marketing strategies that align messaging across all channels using IoT insights	4	6	-	-
PC3. Optimize customer journey mapping for seamless experiences using AI algorithms	3.2	4.8	-	-
PC4. Enhance customer engagement and retention through CRM systems and predictive analytics	3.2	4.8	-	-
PC5. Evaluate omnichannel strategy effectiveness using advanced analytics and machine learning	3.2	4.8	-	-
PC6. Train staff on omnichannel practices and emerging technologies for improved customer experience	2.8	4.2	-	-
PC7. Collaborate with teams to implement IoT-driven inventory solutions for omnichannel fulfilment	3.2	4.8	-	-
PC8. Drive engagement initiatives across platforms with AI-informed social media strategies	3.2	4.8	-	-
PC9. Adapt product offerings based on real-time sales data and customer feedback	3.2	4.8	-	-
PC10. Establish a proactive customer service framework using AI chatbots and IoT connectivity	3.2	4.8	-	-
PC11. Integrate AR/VR and AI solutions to enhance customer interactions and operational efficiency	2.8	4.2	-	-
PC12. Conduct market research with AI tools to identify consumer behaviour shifts and trends	2	3	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. Formulate partnerships with technology providers to enhance omnichannel capabilities	2	3	-	-
NOS Total	**40**	**60**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	RAS/N0177
NOS Name	Fundamentals of AI and IoT in Customer Engagement (Omnichannel Retail)
Sector	Retail
Sub-Sector	
Occupation	Store Operations, Sales Operations
NSQF Level	4.5
Credits	4
Minimum Job Entry Age	14
Minimum Educational Qualification & Experience	Completed 1st year of UG (UG Certificate) (with basic digital literacy skills) OR Pursuing 1st year of UG and continuous education (with basic digital literacy skills) OR 12th grade Pass with 1.5 years of experience Relevant experience in retail operations with basic digital literacy skills. OR Previous relevant Qualification of NSQF Level (4) with 1.5 years of experience Relevant experience in Retail operations OR Previous relevant Qualification of NSQF Level (3.5) with 3 Years of experience Relevant experience in Retail operations
Version	1.0
Last Reviewed Date	08/05/2025
Next Review Date	08/05/2028
NSQC Clearance Date	08/05/2025
Reference code on NQR	NG-4.5-OR-04255-2025-V1-RASCI
NQR Version	1.0
CCN Category	1