



Research on the Application of Digital and Intelligent Technologies in Teaching the Customer Relationship Management Course

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Abstract

With rapid advances in digital and intelligent technologies (DITs), marketing education is becoming increasingly digital and intelligent. As a core course, Customer Relationship Management (CRM) still faces outdated content, limited hands-on instruction, and narrow assessment methods. This paper investigates the application of DITs in CRM education, identifies key challenges, and proposes targeted solutions. Findings show that DITs help instructors update real-world cases, simulate CRM scenarios, and track student progress. Universities should enhance course resources, expand practical learning, and adopt process-based assessment to improve CRM teaching quality.

Keywords: DITs, CRM, course teaching, virtual simulation, teaching assessment

1. Introduction

Digital and Intelligent Technologies (DITs) integrate digital tools with AI, big data, knowledge graphs, and virtual simulation. Customer Relationship Management (CRM) is an application-oriented course covering customer identification, segmentation, acquisition, relationship maintenance, and value management—aiming to develop students' ability to analyze needs and solve CRM challenges ^[1]. It is widely used in marketing, industrial marketing (emphasizing customer lifecycle management), and financial services (focusing on profiling, risk preferences, and personalization). Its strong practical orientation makes it challenging for instructors to expose students to real-world customer data, business processes, and service scenarios.

Most CRM courses still rely on textbooks and static case studies—no longer adequate for cultivating digital and intelligent talent ^[2]. Teachers must therefore adopt digital instruction tools (DITs) to update content, simulate real-world customer management, and track student progress. This paper identifies challenges in teaching content, experiential instruction, and assessment—and proposes corresponding solutions.

2. Current Status and Issues

2.1. Outdated Teaching Content

As DITs gain traction in enterprise CRM, capabilities like customer profiling, intelligent service, and precision marketing have become mainstream—yet CRM curricula lag behind. First, teaching materials are outdated, failing to reflect current customer management models, real-world cases, and emerging technologies ^[1, 4]. Second, courses often rely on generic business cases and neglect industry-specific CRM practices—e.g., in industrial marketing, finance, and retail—limiting students' ability to transfer theory across contexts ^[1]. Third, instructors overemphasize traditional CRM theories while underweighting DITs like AI and big data, widening the gap between classroom instruction and industry practice ^[3, 5].

2.2. Insufficient Practical Teaching

CRM is a practice-oriented course requiring students to develop skills through real business scenarios. Yet practical teaching remains limited: most courses rely on lectures, slides, and static case discussions—offering little exposure to real customer

data or authentic business problem-solving [6]. Data confidentiality and scarce internship opportunities further hinder universities from providing sustained, realistic CRM environments. Even in case-based learning, students analyze fixed scenarios rather than engaging with dynamic customer interactions or complaint resolution [7, 8]. Consequently, students acquire theoretical knowledge but lack hands-on CRM skills.

2.3. Limited Teaching Assessment

With the development of DITs, teaching assessment is gradually shifting from result-based assessment to process-based assessment. However, most CRM courses still depend mainly on final examinations, papers, and project presentations, paying limited attention to students' abilities in data analysis, customer communication, and problem-solving [3]. Although many universities have adopted online teaching platforms, these platforms are mainly used for attendance and assignment submission rather than learning analysis and teaching improvement [9]. In addition, AI-based assessment may produce incomplete or insufficiently interpretable results because of limited data.

3. Recommendations

3.1. Develop Dynamic Course Resources

Teachers should use DITs to collect the latest enterprise cases, industry reports, and customer service materials and establish an up-to-date case database [1, 2]. Course content should be organized around key CRM competencies, including customer identification, customer segmentation, precision marketing, relationship maintenance, and customer churn prediction [10]. Teachers should also introduce cases from industrial marketing, finance, and retail to help students understand CRM practices in different industries.

3.2. Enrich Practical Teaching with DITs

Universities should use virtual simulation platforms and Generative AI to create realistic CRM learning environments. Students can take different roles, such as customer managers, customers, after-sales staff, and business managers, to complete tasks including customer acquisition, complaint handling, product recommendation, and relationship maintenance [6, 7, 8]. Teachers can also design dynamic cases, such as bank customer churn or industrial after-sales disputes, allowing AI to generate different responses based on students' decisions. In addition, universities should cooperate with enterprises to develop updated teaching cases and virtual training projects to improve teaching authenticity.

3.3. Improve Process-Based Teaching Assessment

CRM courses should adopt a process-based assessment system covering pre-class, in-class, and post-class learning. Teachers can use teaching platforms to track students' activities—including discussions, case analyses, and teamwork—and leverage AI to assess theoretical understanding, data analysis, and problem-solving [9]. Final grades should integrate theory, practice, teamwork, and project outcomes, incorporating teacher, peer, and industry evaluations—not just final exams [3, 10]. Post-course, teachers can collect anonymous student feedback on content, teaching methods, and DIT usage to guide improvements.

4. Conclusion

DITs provide new opportunities for CRM course teaching by helping teachers update teaching content, enrich practical learning, and better understand students' learning progress. This paper analyzes three major issues in CRM course teaching and proposes corresponding recommendations. In the future, universities should continue to improve teachers' digital teaching competence and promote the effective integration of DITs into CRM teaching, thereby strengthening students' practical CRM abilities.

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