

Association for Information Systems

AIS Electronic Library (AISeL)

AMCIS 2022 Proceedings

SIG ED - IS in Education, IS Curriculum,
Education and Teaching Cases

Aug 10th, 12:00 AM

In Search of the Optimal CRM Curriculum: A Skills Framework for the Salesforce Administrator Role

Seth J. Kinnett

DePaul University, skinnett@depaul.edu

Theresa A. Steinbach

DePaul University, tsteinba@depaul.edu

Follow this and additional works at: <https://aisel.aisnet.org/amcis2022>

Recommended Citation

Kinnett, Seth J. and Steinbach, Theresa A., "In Search of the Optimal CRM Curriculum: A Skills Framework for the Salesforce Administrator Role" (2022). *AMCIS 2022 Proceedings*. 10.
https://aisel.aisnet.org/amcis2022/sig_ed/sig_ed/10

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2022 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

In Search of the Optimal CRM Curriculum: A Skills Framework for the Salesforce Administrator Role

Completed Research

Seth J. Kinnett
DePaul University
skinnett@depaul.edu

Theresa A. Steinbach
DePaul University
tsteinba@depaul.edu

Abstract

Customer relationship management (CRM) systems, the enterprise systems used to digitize aspects of the sales, support, & marketing functions, are heavily adopted throughout industry, resulting in demand for skilled employees. Higher education is generally expected to respond to industry needs, and assessing these needs is a long-standing task in Information Systems (*IS*) pedagogy. A recent paper suggests that CRM curricula in higher education is often inadequate and proposes a skills framework for a *CRM Analyst*. We leverage this skills framework to perform a content analysis of 61 job listings for *Salesforce Administrator* roles. Our framework indicates that a CRM curriculum should generate student competence in the categories of data & middleware, soft skills, project management & business analysis skills, and to obtain a baseline *Salesforce Administrator* certification. These findings can assist instructors in developing CRM courses and programs and expand our existing understanding of CRM pedagogy.

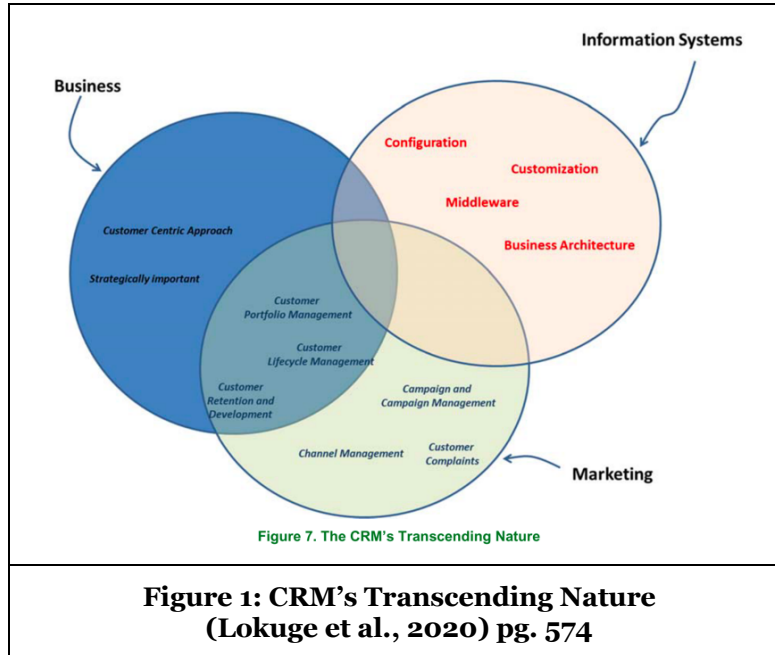
Keywords

Customer Relationship Management, CRM, Salesforce, IS curricula, Workforce development

Introduction

Understanding the needs of industry has long been a goal of *Information Systems (IS)* pedagogy researchers. A recent paper (Lokuge, Sedera, Kumar, Ariyachandra, & Ravi, 2020) suggests CRM curriculum for a *CRM Analyst* ought to span business acumen, marketing acumen, and information systems acumen (see Figure 1), but that CRM education is often deficient in one or more of these areas. The framework represents a seminal conceptualization and is thus a valuable foundation for additional CRM skills studies. To those ends, this research seeks to validate and extend the constructs in the Lokuge framework by examining the presence or absence of these dimensions in actual job postings within the CRM domain. We consider the Lokuge framework to be a useful generalization of potential domain constructs, but also that specialized instances of the framework for specific roles need to be generated in order to provide a more comprehensive picture of the phenomena in action.

CRM is a vast domain; participants in this domain span end-users in multiple organizational departments as well as the Information Technology (IT) personnel who architect, implement, and support these systems. With such a heterogeneous collection of actors engaging in the CRM work system, it is unlikely that all dimensions in the seminal framework would be equally applicable to all. For example, a *CRM Administrator* may require far greater depth in the *IS* dimension of Lokuge's framework but could still be effective despite deficiencies in the other two dimensions. In this paper, we examine the role of CRM system administrator, specifically administrators of the market-leading enterprise CRM platform, *Salesforce*.



Salesforce is a software as a service (SaaS) enterprise system vendor offering a suite of products to a variety of industry verticals. The company is sometimes referred to as *Salesforce.com*, its original name. Gartner, Inc., lists *Salesforce* consistently as a market leader for various aspects of CRM, including sales force automation (SFA) solutions (Travis, Hilbert, Zijadic, & Hansen, 2019), lead management (Hansen, Poulter, Elkin, & Ferguson, 2020), customer engagement centers (Manusama & LeBlanc, 2019), digital commerce (Lowndes, Daigler, Shen, Gillespie, & Dharmasthira, 2020), multi-channel marketing hubs (Elkin, Bloom, McGuire, Reid, & Enever, 2020) and configure-price-quote (CPQ) solutions (Lewis & Ford, 2020). *Salesforce* is one of the top eight vendors consistently featured in Gartner's CRM analyses (Thompson, 2019). A *Salesforce*-sponsored white paper reported that the *Salesforce* ecosystem would create 9 million new jobs by 2026 (Gantz & Webber, 2021). Analyzing, configuring, deploying, supporting, and administering *Salesforce* requires a number of roles with distinct responsibilities. In order to provide a simplified sample for this pilot study, we focused on the role of *Salesforce Administrator*, posing the following research questions.

RQ1. How do Salesforce Administrator job postings correspond thematically to the Lokuge framework (Figure 1)?

The remainder of our paper is structured as follows. First, we present a background and review of selected academic literature on CRM, CRM education, IS education, and papers similarly employing our research method, content analysis. Next, we present our content analysis methodology including data collection and preparation procedures as well as topic modeling process. We next present results in the form of counts and percentages of codes, including *descriptive* codes. Finally, we discuss our results, propose a framework for *Salesforce Administrator* skills, and present a research agenda.

Background

Customer Relationship Management (CRM)

Customer relationship management (CRM) is the process of managing customer relationships using information systems in order to generate repeat sales. CRM can be considered an application of relationship marketing (RM) (Peppers, Rogers, & Dorf, 1999; Ryals & Payne, 2001). Organizations undertake CRM initiatives for a variety of reasons, but a seminal framework for CRM benefits proposed such benefits can be conceptualized at the strategic, tactical, or operational levels, and these benefits may include improved customer data, process and service management, improved productivity, improved market segmentation,

key account management, channel management, and customer satisfaction, among others (Shanks, Jagielska, & Jayaganesh, 2009). CRM has evolved as a domain and has been characterized as a progression of paradigms from CRM 1.0: focused on automation and reporting, to CRM 2.0: a customer-centric collaborative platform, to CRM 3.0: social-semantic artificial intelligence tool, to CRM 4.0: a stage not yet been actualized wherein CRM incorporates comprehensive AI and the full suite of Web 4.0 technologies, such as *Blockchain* (Kinnett & Steinbach, 2021b).

Much of the corpus on CRM literature derived from the direct marketing literature, with the advent of the relational database representing a disruptive innovation. The simplicity and flexibility of relational databases allowed organizations to advance their existing direct marketing initiatives, utilizing relational databases as repositories for contact demographic information augmented with any number of additional attributes to aid organizations in segmentation and understanding customer buying propensity. These activities enabled organizations to practice the emergent concept of *relationship marketing*, which entails personalizing marketing efforts and seeing customers as individuals (Petrisson, Blattberg, & Wang, 1997). The term *database marketing* thus entails the use of databases to practice relationship marketing. The goal of database marketing is “the discovery of inhomogeneous information of the customer’s personal and demographic background as well as the products the customer already uses” (Lopes, Costa, & Ebecken, 1970) pg. 340.

CRM Education

CRM education has received modest treatment in the academic literature. A 2020 literature review examining, primarily, five prominent sales education journals, found that “the use or discussion of sales technology in the classroom continues to be an understudied area with only seven articles (5.9%) in the past 15 years” (Cummins, Nielson, Peltier, & Deeter-Schmelz, 2020) p. 204. Jelinek (2018) introduced conceptual material and quiz questions surrounding SFA technology in a Marketing course (Jelinek, 2018). Ke (2018), examined the use of the flipped classroom pedagogical paradigm in a course on CRM (Ke, 2018). A 2016 paper presented a proposed technical architecture to facilitate the teaching of the Microsoft Dynamics AX ERP & CRM platforms and noted that Microsoft is keen to continue enabling the teaching of the Dynamics AX platform in higher education (Wimmer & Hall, 2016). A 2014 study argued for the importance of teaching CRM technology in sales courses and presented guidance on selecting and utilizing a CRM system for classroom experiential learning, ultimately opting to procure Microsoft Dynamics CRM Online (Smucker, 2014). A 2010 study on the teaching of SFA technology in the classroom compared teaching technology utilizing realistic sales scenarios compared to task-based SFA technology learning, revealing student preference for learning the technology in the context of realistic sales scenarios (Mallin, Jones, & Cordell, 2010). A 2019 paper proposed the use of the e-learning platform, *Trailhead*, as a useful tool to educate marketing students on CRM technology (Harrison & Ajjan, 2019), and a 2021 case study on the use of *Trailhead* to teach a course on CRM implementation found that students considered the platform useful, easy to use, and effective at increasing their motivation to learn (Kinnett & Steinbach, 2021a). A 2017 paper emphasizes that organizations’ continued investment in CRM technology and CRM’s wide remit results in higher wages for CRM employees. As such, students pursuing CRM knowledge benefit from learning CRM’s cutting edge features along with analytical skills (Schlee & Karns, 2017).

Skills Mapping in the Information Systems Domain

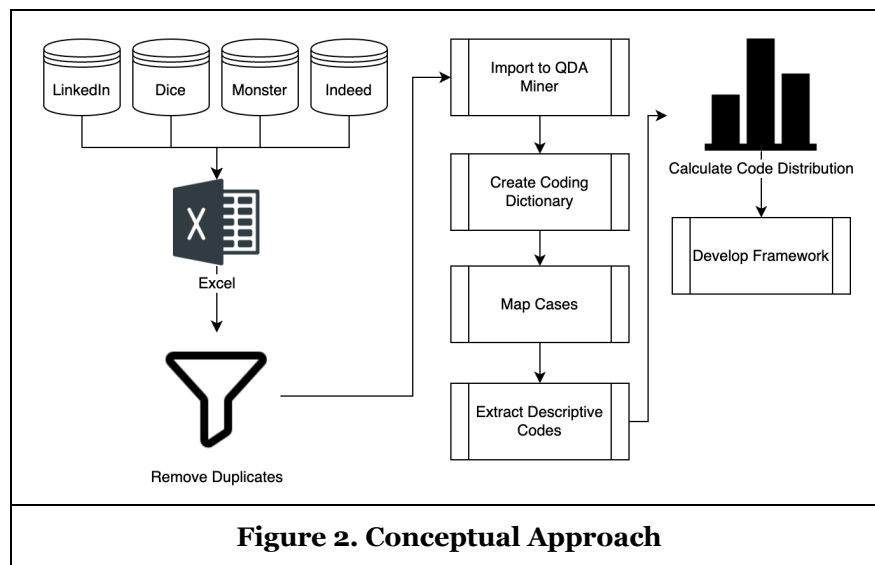
Many studies have examined competencies, skills, and skills gaps within the IS and MIS domains. Dillon & Kruck (2005) used a survey to evaluate employer needs from accounting information systems graduates (Dillon & Kruck, 2005). Aasheim, Williams, & Butler (2009) also used surveys, comparing views on the relative importance of IT skills of employers across multiple industries, including education, engineering, insurance, manufacturing, and others (Aasheim, Williams, & Butler, 2009). A 2006 study explored employer expectations from university graduates of Enterprise Resource Planning (ERP) programs (Boyle & Strong, 2006). ERP has been compared to CRM, and many similarities exist, though these systems remain markedly distinct despite their collective maturation. More recently, Cummings & Janicki (2020) surveyed IT/IS professionals with the aim of understanding the technologies currently in use or projected to be used in organizations, along with the IT knowledge, and skills that would be required by IT graduates and the demand for graduates across various IT/IS categories (Cummings & Janicki, 2020).

Content Analysis

Content analysis is a method used regularly in the extant literature surrounding curriculum alignment and skills mapping. A 2014 paper likens content analysis to grounded theory methodology, underscoring the nature of content analysis to provide explanations via extracted themes and codes (Burns, Gao, Sherman, & Klein, 2014). Content analysis is a textual analysis or text mining method, which has been used extensively by IS and Marketing educators as a means to identify themes in industry job requirements in order to inform the development of curricula. Elhajjar (2021) performed a content analysis on digital marketing job descriptions from LinkedIn and other recruiting sites throughout the UK, Lebanon, France, and the United States (Elhajjar, 2021). Gellweiler (2020) similarly used content analysis of job postings to clarify the role of the IT architect (Gellweiler, 2020). Schlee & Harich (2010) used content analysis on marketing job postings extracted from Monster.com (Schlee & Harich, 2010). Lee & Han (2008) used content analysis to explore skills requirements for entry-level IT programmers and analysts (Lee & Han, 2008).

Method

In order to inform the development of interview questions, research model, and hypotheses for our phase 2 grounded theory study, we performed a content analysis of job postings for *Salesforce Administrator* positions. Leveraging the conceptual approach outlined in a content analysis by (Föll, Hauser, & Thiesse, 2018), we characterize our own conceptual approach in similar categories: data collection, data preparation, topic modeling, and analysis. In this paper, the first three steps are included as part of our Method, while the analysis begins in the Discussion section.



Data Collection & Preparation

Based on guidance provided by a Salesforce talent recruiter, we searched LinkedIn, Monster, Dice, and Indeed job sites in May 2021, using the search term “Salesforce Administrator”. We limited our search to the Chicago, Illinois area. We included any job listing that included the initial search term, regardless of other qualifiers (e.g., “junior”, “senior”). After capturing the skills and qualifications details from the resulting postings in a spreadsheet, the data was de-duplicated. Next, we loaded the raw data, along with these into the textual analysis software, *QDA Miner*, which allowed us to construct coding dictionaries and assign excerpts from the job postings to each code. After our deduplication and data quality analysis, we arrived with a sample of 61 distinct job postings, which we refer to as *cases*, in alignment with QDA miner terminology, hereafter. We now explain the details surrounding the creation of coding dictionaries and the topic modeling process.

Topic Modeling

The Lokuge framework consists of three dimensions with multiple topics in each dimension, as follows:

- Business
 - Customer Centric Strategy
 - Strategic Importance
- Marketing
 - Customer Portfolio Management
 - Customer Lifecycle Management
 - Customer Retention & Development
 - Campaign and Campaign Management
 - Channel Management
 - Customer Complaints
- Information Systems
 - Configuration
 - Customization
 - Middleware
 - Business Architecture.

We replicated this taxonomy within *QDA Miner*, thereby creating a lexical dictionary, or coding dictionary. We utilized QDA Miner to map phrases from within our job advertisement data set into one of the 12 topics in the dictionary. We opted not to map phrases to the high-level dimensions (i.e., business, marketing, or information systems acumen), but rather only map phrases that could fit into specific topics from the framework. We next performed descriptive coding; that is: extracting codes from the cases themselves rather than applying an external model or schema on the text. The following descriptive codes were developed in order to capture themes not otherwise accounted for by the prior coding dictionary. The codes were Certification, Business Analysis, Platform Specific Knowledge, Project Management Skills, Soft Skills, Database Skills, Formal Education/Degree. We explain the impetus for and definition of each of these codes during our analysis. Upon completion of the coding exercises, we utilized QDA Miner’s coding frequency functions to generate a spreadsheet containing our high-level coding categories (i.e., business, marketing, information systems, and additional descriptive codes), the number of times each code has been applied, the number of cases in which each code appears, the percentage of cases containing each code, the total number of words associated with each code, and the percentage of words associated to each code as a fraction of the total number of words in the data set.

Results

We now present the distribution of topics across our sample of 61 cases. Table 1 delineates the count of times each code from the framework was applied – often times multiple instances of a code appear within a single case – along with the raw count of cases where each code was applied at least once, a percentage calculation (i.e., the proportion of cases out of the total 61) of cases where each code was used. These metrics allow us to gain a sense of the breadth and depth of topic presence within and across job advertisements, collectively allowing us to evaluate the popularity of each dimension of the Lokuge framework. Table 1 also contains data surrounding both the number of words associated to each code, and what percentage of words out of the total count of words across all cases. These data allow us to understand something of the *density* or *coverage* of each code.

Categories & Codes	Count of Code	Number of Cases	% of Cases	Words Per Code	% Of Total Words
Business (total)	4	-	-	53	.5%
Customer Centric Strategy	1	1	2%	13	.1%
Strategic Importance	3	3	5%	40	.4

Information Systems (total)	156	-	-	2172	22.5%
Business Architecture	13	11	18%	240	2.5%
Configuration	79	45	74%	1101	11.4%
Customization	26	23	38%	359	3.7%
Middleware	38	27	44%	472	4.9%
Marketing (total)	8	-	-	96	1.1%
Campaign management	2	2	3%	35	.4%
Channel management	1	1	2%	8	.1%
Customer Complaints	1	1	2%	8	.1%
Customer Lifecycle Management	2	2	3%	29	.3%
Customer Portfolio Management	1	1	2%	8	.1%
Customer Retention-development	1	1	2%	8	.1%
Grand Total	168	-	-	2321	24.1%

Table 1: Counts of Code Application & Word Coverage

Interpreting the basic code counts involves a simple summation of the use of each code. Since multiple codes may appear in a single case, however, a summation of the count of cases where codes appeared does not provide a meaningful output, so we can, instead look at the maximum case coverage per category. Our interpretation of the percent of cases data works similarly. Thus, we can see that codes associated with the *Business* dimension were applied only four times. The *strategic importance* aspect appeared in 5% of cases, and the *customer centric strategy* aspect appeared in 2% of cases. Codes associated with the *Marketing* dimension were applied eight times in total, but no code appeared in more than 2 total cases, or 3% of the sample of 61. The codes associated to the Information Systems dimension were applied 156 times, and the most popular aspect of the IS dimension, *configuration*, appeared in 45 cases, or 74% of the total sample. The next most popular aspect in the IS dimension, *middleware*, appeared 38 times in 27 cases, representing 44% of the sample, followed by customization (26 appearances in 23 cases, or 38% of cases), and *business architecture*, at 13 appearances across 11 cases, or 18% of the sample. Clearly, the results skew to the IS dimension.

In order to gain a more comprehensive understanding of these results, and to understand the depth to which each of these topics are treated in the job advertisements, we examine the number of words assigned to each topic along with what proportion of the total number of words across all cases are encapsulating by that code. We note that 2172 words were encapsulated by *Information Systems* codes, compared to 96 words associated to the *Marketing* dimension, and 53 words coded to the *Business* dimension. Most words (1101) in the IS category were associated to the Configuration aspect, followed by Middleware (472 words), Customization (359), and Business Architecture (240 words). 40 out of the 53 total words coded to the *Business* dimension were coding as *strategic importance* compared to only 13 coded to *customer centric strategy*. Within the Marketing dimension, *campaign management* was the code encapsulating the most words (35 out of 96 total for *Marketing*), followed closely by *customer lifecycle management* (29 words), and the remaining *Marketing* aspects receiving virtually no treatment.

The proportion of words devoted to each of the main dimensions are consistent with the remaining data in Table 1, confirming a large skew toward elements in the IS dimension. At the same time, we see that only 22.5% of the words across all 61 cases in our sample are devoted to the IS dimension, and only 24.1% devoted to any of the constructs in our coding dictionary. This suggests the bulk of job advertisements for

this role are focused on describing skills and characteristics not accounted for by the dimensions and elements within our coding dictionary, derived from the Lokuge framework. This confirms the importance of performing descriptive coding to extract insights about where the job advertisements are truly focused.

Descriptive Codes

As discussed previously, we extracted seven distinct topics from our sample of cases: Business analysis skills, Salesforce certification, data skills, formal education/college degree, platform-specific skills, project management skills, and soft skills. Table 2 shows the comprehensive frequencies of code usage, case coverage, and word density. Recalling our ultimate goal of developing a curriculum for CRM, our code generation and application was guided by a desire to understand the most frequent themes emerging from our reading of the job postings. For example, of clear pedagogical interest is the number of codes applied to words surrounding the need for various Salesforce certifications (58 cases, 84% of the total) compared to the number of codes applied to the need for a degree or college education, a code applied in 25 cases (41% of total cases).

Job postings were high in references to so-called *soft skills*, a particular collection of skills shown to be of high importance in the optimal workforce within the emergent 4th industrial revolution (4IR); examples of soft skills include teamwork and communication skills (Almeida & Simoes, 2019). Our analysis supported this conjecture, with a code for soft skills applied 73 times, spanning 75% of cases, demonstrating a high proportion of job advertisements are outlining the need for non-technical skills even in a role otherwise dominated by technical considerations as evident by the high proportion of coding in the *IS* dimension. Data Skills, either pertaining to the general relational model or Salesforce-specific terms such as *SOQL* or *SOSL*, appeared in 43% of the cases. Knowledge of specific Salesforce products, such as *Sales Cloud*, *Service Cloud*, *Pardot*, *Communities*, and others, were coded as *platform specific*, noting instances when a sub-specialty of sorts is desired by employers in 31% of cases. Project management skills appeared in 30% of cases, and business analysis skills, such as requirements elicitation skills, appeared in 26% of cases.

Category & Codes	Count of Code	Number Of Cases	% Of Cases	Words Per Code	% Of Total Words
Descriptive (total)	270	-	-		37.1%
Business Analysis	23	16	26%	338	3.5%
Certification	58	51	84%	467	4.8%
Data Skills	36	26	43%	326	3.4%
Edu-Degree	25	25	41%	291	3.0%
Platform Specific	24	19	31%	251	2.6%
Project Mgmt.	24	18	30%	216	2.2%
Soft Skills	73	46	75%	1,704	17.6%

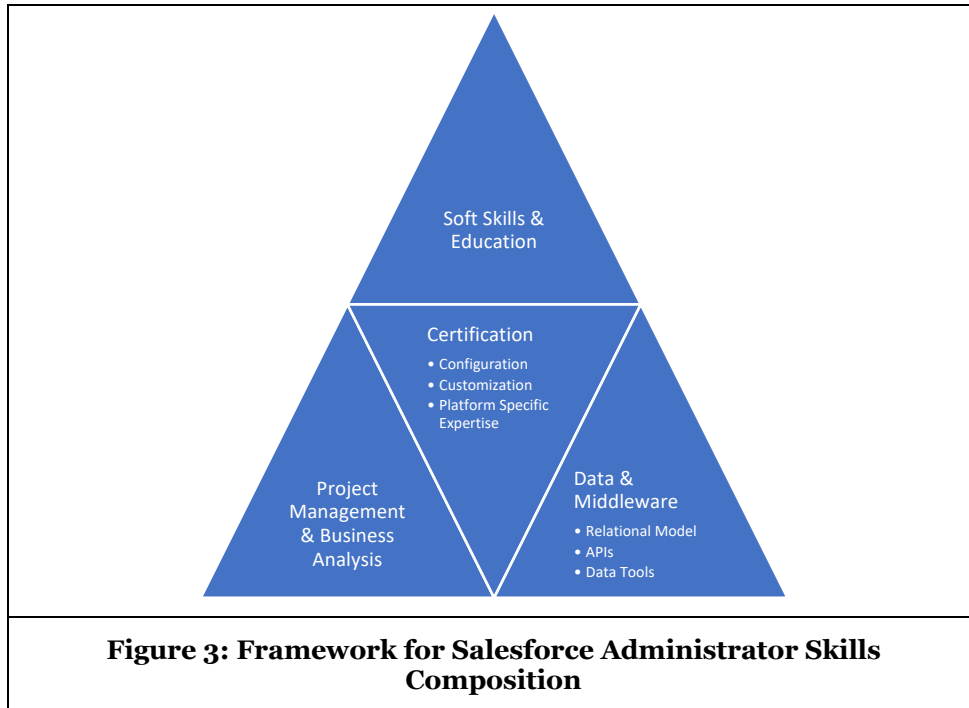
Table 2: Descriptive Code Application & Word Coverage

Discussion

We suggest that examining a code’s appearance as a % of total cases represents a useful first-order measure to prioritize codes across both the Lokuge framework and the descriptive codes. The top three codes from the Lokuge framework are Configuration (74%), Middleware (44%), and Customization (38%), after which the next code is significantly less applied. The top three codes from the descriptive coding exercise are Certification (84%), Soft Skills (75%), Data Skills (43%), and College Degree (41%). We suggest that a combination of these six topics provides the appropriate inputs for our resultant framework, which seeks to capture the most prevalent themes extracted during the content analysis. First, however, we return to

our initial research question *RQ: Do job postings reveal the same thematic elements as the Lokuge framework?* The Lokuge framework suggested the prototypical CRM Analyst would require a combination of general business, marketing, and information systems skills.

While all dimensions appeared in at least one case, there was virtually no presence of the strategic dimension within the job advertisements we examined. We can conclude that job postings largely focus on the Information Systems dimension of the reconstituted Lokuge framework, suggesting the Salesforce Administrator position is considered operational. The descriptive coding revealed a strong desire for so-called soft skills in the role, and that certification is valued heavily, receiving greater coverage in the job postings than a college degree. Less than half of the cases listed the need for a university degree. It is clear that whatever auxiliary benefits the university can provide aside from specific CRM skills, curriculum ought to incorporate training in a real CRM system, such as Salesforce, and should prepare students to take an entry-level certification exam (e.g., *Salesforce Certified Administrator*). The university can facilitate the development of student soft skills through collaborative projects and writing assignments, as well as through the incorporation of liberal arts courses into the broader CRM curriculum. Visualizing these results can be done via a simple framework (see Figure 3) outlining the key topics observed across our content analysis. The framework seeks to demonstrate the interrelated nature of the constructs and reflect that the gestalt command of these constructs creates the optimal Salesforce Administrator, based on our content analysis.



This framework is, essentially, a specialized instance of the framework developed by Lokuge, et. al., (2020). Their framework, constituted from a discussion among academics, described the ideal skills composition of a *CRM Analyst*, and we have shown the elements from their framework present in a *Salesforce Administrator* in the form of our own framework, informed by the analysis of 61 job advertisements. This new framework reveals the Salesforce Administrator role does indeed require a high number of skills associated with the Information Systems domain from the Lokuge framework, though job advertisements did not explore any of the other components of Lokuge’s framework (i.e., business and marketing skills) in much detail. Instead, job advertisements spent much of their total word composition upon the dimensions we captured using descriptive coding, such as soft skills, data skills, certification, and platform-specific knowledge.

Conclusions & Research Agenda

Content analysis is often followed by interviews or surveys in order to confirm validity of findings and expand upon understanding (Harper, 2012). The results of our content analysis thereby inform hypotheses formation for our semi-structured interviews. We need to understand what is being omitted by the content analysis, either due to deficiencies in raw data or in methodology. Semi-structured interviews will also allow us the opportunity to validate our categorization method by presenting sample words/phrases to interviewees and determining how accurate the categories are and what was omitted. Our immediate goal for the next phase of this research is to pursue validation of our new framework, as well as seek to identify instances where aspects of the Lokuge framework may be important for the *Salesforce Administrator* role but did for some reason not demonstrate robust appearance in the job postings. Understanding whether those constructs are assumed to be of high importance but are not easily or readily conceptualized or prioritized during the composition of job advertisements, or whether these elements are simply not as important to the Salesforce Administrator role represent some of our goals for the semi-structured interviews. These interviews will also include an exploratory component as we attempt to understand important skills that may have been omitted from the job advertisements. The interviews will also provide an opportunity to understand relationships between the various skills constructs, which may lead to the development of a model to inform curriculum development. Ultimately, the mixed methods approach of content analysis and semi-structured interviews will allow a robust understanding of industry needs for Salesforce Administrators. This understanding will be of pedagogical importance in the development of CRM curricula. To inform CRM curricula further, additional studies on specific roles both within and outside of the Salesforce ecosystem will be necessary, and these studies form the foundation of our ongoing research agenda.

REFERENCES

- Aasheim, C. L., Williams, S., & Butler, E. S. (2009). Knowledge and skill requirements for IT graduates. *Journal of Computer Information Systems, 49*(3), 48–53.
- Almeida, F., & Simoes, J. (2019). The role of serious games, gamification and industry 4.0 tools in the education 4.0 paradigm. *Contemporary Educational Technology, 10*(2), 120–136.
- Boyle, T., & Strong, S. E. (2006). Skill Requirements of ERP Graduates. *Journal of Information Systems Education, 17*(4), 403–413.
- Burns, T., Gao, Y., Sherman, C., & Klein, S. (2014). Do the Knowledge and Skills Required By Employers of Recent Graduates of Undergraduate Information Systems Programs Match the Current ACM/AIS Information Systems Curriculum Guidelines? *Information Systems Education Journal (ISEDJ), 12*(5), 6.
- Cummings, J., & Janicki, T. N. (2020). What skills do students need? A multi-year study of IT/IS knowledge and skills in demand by employers. *Journal of Information Systems Education, 31*(3), 208–217.
- Cummins, S., Nielson, B., Peltier, J. W., & Deeter-Schmelz, D. (2020). A Critical Review of the Literature for Sales Educators 2.0. *Journal of Marketing Education, 42*(3), 198–216.
- Dillon, T. W., & Kruck, S. E. (2005). Identifying Employer Needs from Accounting Information Systems Programs. *Journal of Information Systems Education, 19*(4), 403–411.
- Elhajjar, S. (2021). Digital marketing jobs: What are recruiters looking for? *Journal of Education for Business, May*, 1–8.
- Elkin, N., Bloom, B., McGuire, M., Reid, C., & Enever, J. (2020). Magic quadrant for multichannel marketing hubs, *GOO394355*(May).
- Föll, P., Hauser, M., & Thiesse, F. (2018). Identifying the skills expected of IS graduates by industry: A text mining approach. *International Conference on Information Systems 2018, ICIS 2018*, (December).
- Gantz, J. F., & Webber, A. (2021). THE SALESFORCE ECONOMIC IMPACT: 9 Million New Jobs by 2026, \$1.6 Trillion of New Revenues for Customers. *IDC White Paper*, (September), 1–21.
- Gellweiler, C. (2020). Types of IT architects: A content analysis on tasks and skills. *Journal of Theoretical and Applied Electronic Commerce Research, 15*(2), 15–37.
- Hansen, I., Poulter, J., Elkin, N., & Ferguson, C. (2020). *Magic Quadrant for CRM Lead Management*.
- Harper, R. (2012). The collection and analysis of job advertisements: A review of research methodology. *Library and Information Research, 36*(112), 29–54.
- Harrison, D. E., & Ajjan, H. (2019). Customer relationship management technology: bridging the gap

- between marketing education and practice. *Journal of Marketing Analytics*, 7(4), 205–219.
- Jelinek, R. (2018). Integrating Sfa Technology Into the Sales Curriculum: Helping Students Understand What, Why, and When. *Marketing Education Review*, 28(2), 80–88.
- Ke, J. (2018). Research on the Flipped Classroom Mode: Take the Customer Relationship Management Course for Example. *Advances in Computer Science Research*, 83, 373–375.
- Kinnett, S. J., & Steinbach, T. A. (2021a). A Case Study in the Use of Salesforce Trailhead to Teach a Course in CRM Implementation. In *Proceedings of the Information Systems Education Conference (ISECON)* (pp. 87–102).
- Kinnett, S. J., & Steinbach, T. A. (2021b). Is CRM Ready for Industry 4.0? A Historical Technological Framework. In *AMCIS 2021 Proceedings*.
- Lee, C., & Han, H. (2008). Analysis of skills requirements for entry-level programmer/analysts in Fortune 500 corporations. *Journal of Information Systems Education*, 19(1), 17–27.
- Lewis, M., & Ford, D. (2020). *Magic Quadrant for Configure, Price and Quote Application Suites*. Gartner Research Notes.
- Lokuge, S., Sedera, D., Kumar, S., Ariyachandra, T., & Ravi, V. (2020). The next wave of CRM innovation: Implications for research, teaching, and practice. *Communications of the Association for Information Systems*, 46, 560–583.
- Lopes, M. C. S., Costa, M. C. A. A., & Ebecken, N. F. F. (1970). A comparison of methods for customer classification. *WIT Transactions on Information and Communication Technologies*, 22.
- Lowndes, M., Daigler, J., Shen, S., Gillespie, P., & Dharmasthira, Y. (2020). *Magic Quadrant for Digital Commerce*. Gartner (Vol. G00450834).
- Mallin, M. L., Jones, D. E., & Cordell, J. L. (2010). The impact of learning context on intent to use marketing and sales technology: A comparison of scenario-based and task-based approaches. *Journal of Marketing Education*, 32(2), 214–223.
- Manusama, B., & LeBlanc, N. (2019). *Magic Quadrant for the CRM Customer Engagement Center*, (June 2020), 1–27.
- Peppers, D., Rogers, M., & Dorf, B. (1999). *The one to one fieldbook: The complete toolkit for implementing a 1 to 1 marketing program*. Broadway Business.
- Peterson, L. A., Blattberg, R. C., & Wang, P. (1997). Database marketing: Past, present, and future. *Journal of Direct Marketing*, 11(4), 109–125.
- Ryals, L., & Payne, A. (2001). Customer relationship management in financial services: towards information-enabled relationship marketing. *Journal of Strategic Marketing*, 9(1), 3–27.
- Schlee, R. P., & Harich, K. R. (2010). Knowledge and skill requirements for marketing jobs in the 21st century. *Journal of Marketing Education*, 32(3), 341–352.
- Schlee, R. P., & Karns, G. L. (2017). Job Requirements for Marketing Graduates: Are There Differences in the Knowledge, Skills, and Personal Attributes Needed for Different Salary Levels? *Journal of Marketing Education*, 39(2), 69–81.
- Shanks, G., Jagielska, I., & Jayaganesh, M. (2009). A framework for understanding customer relationship management systems benefits. *Communications of the Association for Information Systems*, 25(1), 263–288.
- Smucker, M. (2014). The Implementation of Customer Relationship Management Technology in an Undergraduate Sales Class, 2(3), 1–13.
- Thompson, E. (2019). *The Elusive CRM Magic Quadrant*. Gartner, Inc.
- Travis, T., Hilbert, M., Zijadic, A., & Hansen, I. (2019). *Magic quadrant for sales force automation*. Gartner Research Notes.
- Wimmer, H., & Hall, K. (2016). A Technical Infrastructure to Integrate Dynamics AX ERP and CRM into University Curriculum. *Information Systems Education Journal*, 16(6), 47–54.