ACADEMIC PERCEPTIONS OF ELECTRONIC COMMERCE JOURNALS: RANKINGS AND REGIONAL DIFFERENCES

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ABSTRACT

Electronic commerce (e-commerce) has become a vital research area in the past few decades. Thousands of papers have been published in e-commerce journals and journals in related fields, such as information systems and marketing, influencing the direction and evolution of e-commerce research. The purpose of this paper is to examine how these journals are perceived by academic researchers in terms of their popularity and their contribution to the field of electronic commerce. An online survey was conducted to compare selected journals across four dimensions: popularity, relevance, academic contribution, and publication preference. The sample is comprised of a total of 162 responses from around the world. The journals are classified as either e-commerce or related fields based on their content, while e-commerce journals are further divided into comprehensive and niche journals based on their popularity. The findings indicate that scholars' perceptions of EC journals vary depending on region, age, and academic rank. Both the overall rankings and the regional rankings of these journals are reported.

Keywords: E-commerce journal; Journal rankings; Academic contribution; Publication Preference; Journal Popularity

1. Introduction

The exploration of electronic commerce (e-commerce or EC) extends the online market, as well as changes the way business is conducted, making e-commerce research one of the most attractive areas for business research. Spanning a period of three decades, research issues have evolved from the conceptual development of e-commerce to recent social media-oriented social commerce [e.g., Friedrich 2016; Lin et al. 2017; Wirtz & Göttel 2016]. The number of papers and journals has grown rapidly, but their quality and foci vary. Furthermore, since e-commerce is an emerging cross-disciplinary field, many journals in related fields, such as information systems (IS) and marketing, are also publishing e-commerce papers. A recent study indicates that the prolific authors of EC papers differ greatly between EC and IS journals [Hsu & Chiang 2017]. Hence, a question of interest to many scholars is how these EC journals are perceived by researchers in general, and how EC journals compare to top journals in related fields. Knowledge of the above issues can help researchers assess the value of different journals when they submit their research work, as well as enable administrators to accurately measure research performance.

With the above understanding, the objective of this study was to examine how these journals are perceived by the academic community, and provide an explanation why certain high-quality EC papers are not published in EC journals.

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An open survey was conducted online to collect data on four dimensions: popularity, relevance, academic contribution, and publication preference. We analyzed a total of 162 responses received from researchers around the world.

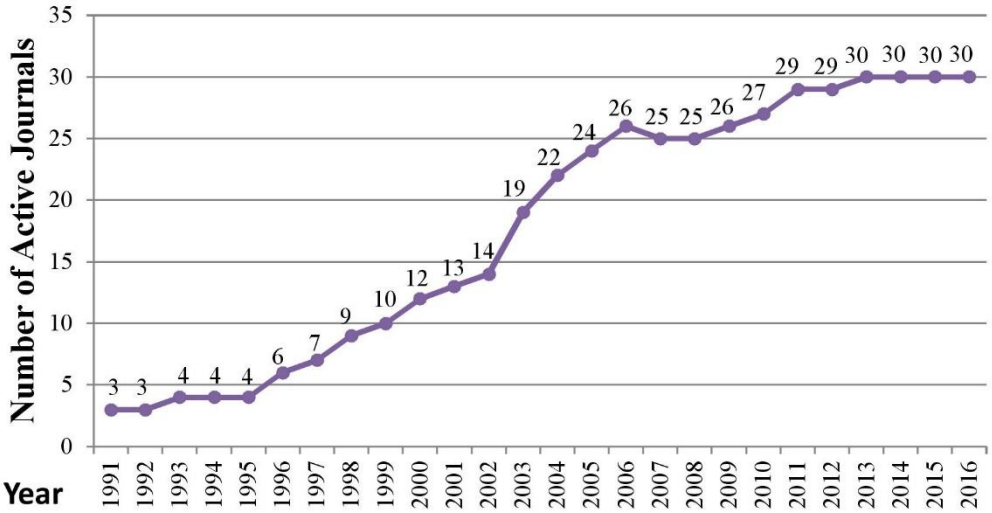
Previous EC journal rankings focused on evaluating the quality of EC-related journals, giving scholars who intended to study EC-related topics an idea for reviewing research literature [Wang & Chen 2010; Bharati & Tarasewich 2002; Mylonopoulos & Theoharakis 2001]. However, in these studies, top-ranked journals usually overlapped those that rank high in related fields, such as IS journals, confusing the perception of e-commerce journals. To bridge the above-mentioned gap, this study aims to investigate academic perceptions of EC journals and how they compare with top journals in related disciplines.

A ranking investigation customized for EC journals would allow scholars to rapidly peruse the profiles of these journals in order to determine a suitable target for paper submission. In addition, this knowledge would help researchers find well-written EC research papers and identify mainstream EC research issues, as well as ensure that the authors of papers published in top EC journals are recognized by their peers. To achieve the goal, this study targeted two research questions: (1) how EC journals and top journals in reference disciplines are perceived by EC scholars, and (2) whether scholars' perception vary in different regions?

2. Literature Review

2.1. Historical Development of E-Commerce Journals

As e-commerce has grown, the number of published academic papers in this area has dramatically increased [see e.g., Hsu & Chiang 2017]. The development of EC journals includes three main stages: initiation, expansion and maturity. The field of EC journals was born in 1991, kickstarted by the publication of three journals: Electronic Markets (EM), Internet Research, and the Journal of Organizational Computing and Electronic Commerce (JOCEC). In 1993, the Journal of Business-To-Business Marketing was founded, followed by the International Journal of Electronic Commerce (IJEC) and the Journal of Internet Banking & Commerce (JIBC) in 1996. Between 1991 and 2000, ten new e-commerce journals were established, but the main expansion stage occurred between the years 2001 to 2013, when a total of 27 new EC journals appeared. During that same period, however, the following 7 journals were either discontinued or merged: Quarterly Journal of Electronic Commerce (QJEC, inactive since 2002), Journal of Internet Marketing (JIM, inactive since 2003), WebNet Journal (inactive since 2001), e-Service Journal (inactive since 2012), Journal of Strategic E-Commerce (JSE, inactive since 2007), International Journal of Cases on Electronic Commerce (IJCEC, inactive since 2007), and International Journal of e-Business Management (inactive since 2011). The journal market reached maturity afterward, since 30 e-commerce journals remained active by the end of 2016. Figure 1 shows the trend of e-commerce journals.



Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Founded	3	0	1	0	0	2	1	2	1	2	2	2	6	3	2	2	1	0	1	1	3	1	1	0	0	0
Discontinued	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	2	0	0	0	1	1	0	0	0	0
Active	3	3	4	4	4	6	7	9	10	12	13	14	19	22	24	26	25	25	26	27	29	29	30	30	30	30

Figure 1: Growth of e-Commerce Journals (1991-2016)

2.2. E-Commerce Journal Rankings

Previous EC journal ranking research can be classified into two groups: EC-focused journals and related journals covering a broader range of topics. For example, Bharati & Tarasewich [2002] collected 62 IS journals from Mylonopoulos & Theoharakis [2001] as a predefined list of EC journals to survey the opinions of respondents from the ISWorld listserv. Popularity and quality were calculated according to the respondents' rating of Appropriateness. Twenty-five journals were considered to be at the top based on their scores for appropriateness, popularity and quality. Information systems journals such as MIS Quarterly (MISQ), Information Systems Research (ISR), and Communications of the ACM (CACM), and e-commerce journals such as the IJEC and Electronic Commerce Research (ECR) were ranked high.

In addition to survey-based evaluations, scholars have ranked journals based on citation analysis or content analysis. For example, Chang & Hung [2004] employed citation analysis to calculate the number of times each journal was cited, and ranked the journals accordingly, assuming that articles published in IJEC represent the trend of EC research because the papers cited by articles in IJEC were highly correlated to EC. Based on 5,579 references cited by IJEC papers, which were published from 1997 to 2002, 22 journals were highly cited by IJEC articles. The top five journals (and the proportion of citations) were CACM (3.35%), MISQ (2.90%), the IJEC (2.80%), Journal of Management Information Systems (JMIS) (2.12%), and Harvard Business Review (HBR) (2.04%).

Wang & Chen [2010] analyzed papers published in journals included in the Science Citation Index Extended (SCIE) and the Social Science Citation Index (SSCI) from 1999 to 2008. They used keywords, such as electronic commerce, e-commerce, electronic business, and e-business, to identify relevant journals, which resulted in 20 SSCI journals and 15 SCIE publications (including journals, conference proceedings and magazines).

More recently, researchers have employed bibliometric methodologies to explore EC research trends and future development directions [Tsai 2015; Lin et al. 2016; Hsu & Chiang 2017]. The bibliometric approach applies quantitative methods to analyze literature in order to understand the progress of a certain knowledge area, the author(s), publication(s), and usage. Tsai [2015] relied on the bibliometric method to analyze 5,429 papers that were published in SSCI journals from 1996 to 2015 and had "e-commerce" in their titles, identifying 25 journals as important EC knowledge sources. The top five most popular sources are Lecture Notes in Computer Science (400), Expert Systems with Applications (123), IJEC (123), Electronic Commerce Research and Applications (ECRA) (120), and Decision Support Systems (DSS) (114). In addition, Lin et al. [2016] applied this method, using the following search criterion: (Electronic Commerce*) AND (Information* OR Management information system* OR system* OR technology* OR management*). After collecting 853 papers published between 1991 and 2014 from 10 top IS and business administration journals, they identified 15 journals that cited the most EC papers. According to their results, the top five source journals are MISQ (607), Management Science (606), CACM (600), ISR (552), and IJEC (514). Hsu & Chiang [2017] compares top EC papers appeared in EC and IS journals and reported two groups of prolific authors.

From another perspective, a number of scholars view EC as a sub-area of IS, thus including EC journals in their ranking of IS journals. Rather than employing a pre-defined group of journals, Lowry et al. [2004] asked IS scholars to name the four best journals according to their own opinion. In addition, they invited respondents to name a supporting IS discipline and specify the top two journals in that discipline. Similarity-based cluster analysis recognized the following supporting disciplines as falling into the EC category: e-commerce, e-business, m-commerce, e-commerce strategies, and electronic markets. Six top EC-related journals were identified: the IJEC, MISQ, EM, JMIS, ISR, and Management Science. Table 1 summarizes the main findings of previous EC journal ranking studies.

2.3. Evaluation Criteria for Journal Ranking

Several criteria have been employed in journal evaluations. Citation analysis is relatively simple since it is based primarily on the number of times a paper was cited by other papers. However, the criteria become increasingly diverse when rankings are based on an opinion survey. Previously used criteria include appropriateness [Bharati & Tarasewich 2002], popularity [Lowry et al. 2004], quality [Bharati & Tarasewich 2002], ranking position [Lowry et al. 2004; Mylonopoulos & Theoharakis 2001], contribution [Mylonopoulos & Theoharakis 2001] or perceived value for research [Peffers & Ya 2003], and author affiliation index (AAI) [Ferratt et al. 2007]. These criteria are defined below:

- Appropriateness: the degree to which respondents believe that the journal is relevant to a particular research area.
- Popularity: the extent to which the journal is recognized by the respondents.
- Quality: the degree to which the respondents believe the journal holds a significant or influential position in EC research.
- Ranking position: the respondents' placement of a given journal relative to the other journals being considered.
- Contribution: the respondents' perception of the value a journal brings to a specific research area.
- Author Affiliation Index (AAI): the quality of the institutions with which the authors are affiliated. Diverse indices have their pros and cons, and several may be considered controversial. For example, AAI requires a determination of institutional quality before the journal ranking can be conducted, which may be unacceptable to some scholars.

Table 1: Previous Studies of EC Journal Ranking

Source	Description	Journal selection	Methodology
Bharati & Tarasewich [2002]	This study ranked 25 IS journals and focused solely on global IS researchers interested in e-commerce journals. It asked each respondent to rate the appropriateness of specific journals for publishing IS research.	Used a predetermined basket of 62 IS journals taken from Mylonopoulos & Theoharakis [2001] and a query to the ISWorld listserv.	Email survey: Appropriateness Targeted 3,189 ISWorld faculty members and received 249 responses (7.8% response rate).
Chang & Hung [2004]	This study ranked 22 IS journals and used the citation analysis approach to rank journals by total citations cited by IJEC papers.	Selected 22 top ranked cited journals whose cutoff ratio value exceeded 0.35%.	Citation analysis: 5,579 journal citations in all articles of IJEC from 1997~2002
Lowry et al. [2004]	The top 6 IS journals were identified in the largest journal ranking study covering global IS journals. The survey results also identified the top e-commerce journals. The survey primarily focused on top-tier journals, top journals for reference disciplines, most-read journals, and top practitioner journals.	Used free recall of the top 4 journals	Email survey: • Top journals for reference disciplines • Most-read journals • Top practitioner journals Targeted 8,741 faculty members from 414 IS departments world-wide, and received 2,559 responses (32% response rate).
Wang & Chen [2010]	This study ranked 21 EC journals and used a bibliometric meta-review of literature in SCIE and SSCI to examine development trends and field distributions of electronic commerce research and to rank journals focusing on electronic commerce.	Scanned SCIE and SSCI to identify papers that discussed electronic commerce, using keywords that included electronic commerce, e-commerce, electronic business, and e-business.	Content analysis: Analyzed 4,948 articles listed in SCIE index journals, and 2,875 articles listed in SSCI index journals.
Tsai [2015]	This study ranked 25 IS journals covering EC research to explore e-commerce (EC) research trends and forecasts.	Selected journals which had articles with the topic of ‘‘e-commerce’’ in the SSCI database.	Bibliometrics analysis: Analyzed 5,429 articles addressing EC in SSCI journals from 1996 to July 2015.
Lin et al. [2016]	This paper ranked 15 IS journals covering EC research to investigate the contributions of the Information Systems & MIS articles in the electronic commerce literature.	Selected the 46 most frequently cited journals.	Bibliometrics analysis: Analyzed 853 articles published in ten leading management/business journals from 1991 to 2014.

3. Research Methodology

Among various research methods, the questionnaire survey is the most popular for journal ranking since it reflects what scholars think at the time of responding to the questionnaire and the cost of data collection is lower than other methods, especially given the broad access of the Internet. Hence, we conducted an online survey to collect data from the ISWorld mailing list. Respondents were asked to evaluate a predefined list of 30 journals based on four chosen criteria, and this section describes the journal selection process, the ranking criteria, and the investigation process.

3.1. Journal Selection

Since previous EC journal rankings often mixed EC and non-EC journals, we included both, but divided them into two groups: EC journals and EC-relevant journals. EC journals are those where the majority of articles are EC papers, while EC-relevant journals cover EC research as a sub-area but primarily publish other papers. We discriminate EC journals from non-EC journals by the scope of research topics. In this study, pure EC journals focus on the latest findings in all facets of electronic commerce. On the other hand, EC-relevant journals concentrate on a specific discipline. These relevant journals were chosen from two disciplines: information system and marketing. The process for selecting these journals is described below.

3.1.1. EC Journal Selection

Previous EC journal rankings [e.g., Bharati & Tarasewich 2002; Chang & Hung 2004; Lowry et al. 2004; Wang & Chen 2010] were employed to determine an initial list of journals. Since several new journals may not have been included in previous studies, we also identified keywords for searching for new journals. In previous studies [e.g., Lee et al. 2007; Lee et al. 2011; Ngai & Wat 2002], keywords thought to be related to e-commerce have been included: EDI, Inter-organizational Systems (IOS), Business-to-Business (B2B), Electronic Commerce (E-Commerce), Electronic Business (E-Business), Internet Commerce, Electronic Marketplace (E-Marketplace), Internet Marketing, and Business-to-Customer (B2C). Therefore, we applied the above-mentioned keywords as search terms to find potentially related journals from EBSCO and Google, which resulted in 37 journals. After removing discontinued and merged journals, 30 remained.

Since this study focuses on journals in the EC field, it is necessary to determine the journal category in order to separate the pure EC journals from the list of journals obtained from the above-mentioned search. Five articles published from August to December, 2013 were randomly chosen from each journal on the candidate list, and fifteen scholars were invited to evaluate the relevancy of these articles to EC on a 10-point scale (the lowest score being 1 and the highest score 10) after reading their titles and abstracts. Journals with average scores over 5.5 were selected. This process resulted in 20 EC journals for our investigation. The procedure of EC journal selection is shown in Figure 2.

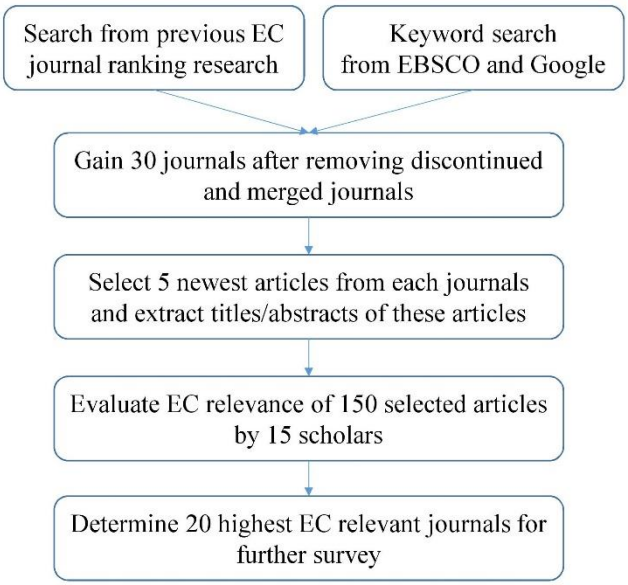


Figure 2: The Procedure for EC Journal Selection

3.1.2. Relevant Journal Selection

Since electronic commerce is highly associated with marketing and IS, most journals pertaining to the marketing field or the IS field have published EC studies. This study chose top journals in these two fields for comparison. The top journals in marketing were derived from previous studies [e.g., Chan et al. 2012; Rosenstreich & Wooliscroft 2012; Hult et al. 2009; Touzani & Moussa 2010; Pan & Chen 2011]. Based on the method suggested by Rainer & Miller [2005], the following five marketing journals were selected: Journal of Marketing (JM), Journal of Marketing Research (JMR), Journal of Consumer Research (JCR), Marketing Science (MS), and Journal of the Academy of Marketing Science (JAMS). Table 2 shows the previous rankings (scores) and the overall ranking (average scores) of the top five marketing journals.

The top five IS journals were chosen through the same selection process as the top marketing journals, based on six previous IS journal ranking studies: Barnes [2005], Rainer & Miller [2005], Nerur et al. [2005], Lowry et al. [2004], Peffers & Ya [2003], and Ferratt et al. [2007]. They are: MISQ, ISR, JMIS, DSS, and Information and Management (I&M). Table 3 presents the past ranking (scores) and the overall ranking (average scores) of these IS journals.

Table 2: Top 5 Journals in the Marketing Discipline

Journal Name	Chan et al. [2012] Rank 46 journals	Rosenstreich & Wooliscroft [2012] Rank 10 journals	Hult et al. [2009] Rank 50 journals	Touzani & Moussa [2010] Rank 69 journals	Pan & Chen [2011] Rank 44 journals	Overall Rank (Average)
Journal of Marketing	1 (0.022)	1 (0.1)	1 (0.02)	1 (0.014)	4 (0.091)	1 (0.049)
Journal of Marketing Research	2 (0.043)	2 (0.2)	2 (0.04)	3 (0.043)	3 (0.068)	2 (0.079)
Journal of Consumer Research	3 (0.065)	3 (0.3)	3 (0.06)	2 (0.029)	2 (0.045)	3 (0.100)
Marketing Science	4 (0.087)	5 (0.4)	4 (0.08)	4 (0.058)	1 (0.023)	4 (0.150)
Journal of the Academy of Marketing Science	5 (0.109)	6 (0.5)	5 (0.10)	6 (0.087)	16 (0.364)	5 (0.252)

Table 3: Top 5 Journals in the IS Discipline

Journal Name	Barnes [2005] Rank 23 journals	Rainer & Miller [2005] Rank 50 journals	Nerur et al. [2005] Rank 27 journals	Lowry et al. [2004] Rank 25 journals	Peffers & Ya [2003] Rank 50 journals	Ferratt et al. [2007] Rank 10 journals	Overall Rank (Average)
MISQ	1 (0.043)	1 (0.02)	4 (0.148)	2 (0.08)	1 (0.02)	2 (0.2)	1 (0.085)
ISR	3 (0.130)	3 (0.06)	6 (0.222)	1 (0.04)	2 (0.04)	1 (0.1)	2 (0.099)
JMIS	4 (0.174)	5 (0.10)	N/A*	4 (0.16)	3 (0.06)	4 (0.4)	3 (0.179)
DSS	9 (0.391)	8 (0.16)	10 (0.370)	9 (0.360)	7 (0.14)	8 (0.8)	4 (0.370)
I&M	10 (0.435)	12 (0.24)	9 (0.333)	11 (0.440)	5 (0.10)	9 (0.9)	5 (0.408)

* N/A represents that the journal was not ranked.

3.2. Evaluation Criteria

The purpose of this study was to understand the researchers' perception of the importance of EC journals from multiple dimensions. Thus, the study employed an opinion survey from scholars based on certain criteria. Previously used criteria include appropriateness, popularity, quality, ranking position, contribution, and author affiliation index (AAI). Certain scholars may reject the AAI approach because it is determined based on the number of article authors selected only from a base set of U.S. universities judged as high quality. The assessment of "quality" may vary considerably depending on the measurement approach and the subjective regional stance one chooses to adopt [Mylonopoulos & Theoharakis 2001]. In previous journal ranking research, several studies measured "Quality" as "Contribution" [Bharati & Tarasewich 2002], "Importance" [Rainer & Miller 2005], or "Popularity" [Mylonopoulos

& Theoharakis 2001]. Since quality is a multifaceted concept, we adopted three indices that were employed in previous journal ranking research as evaluation criteria in this study: popularity, relevance, and academic contribution. In this study, we examine which journals are preferred by researchers to publish their EC papers, therefore the index "Preference" was included in the survey criteria.

Popularity refers to the extent to which the journal is recognized by the respondents [Lowry et al. 2004]. Relevance was defined as the degree of correlation between the content of the published papers and the EC area, employing a concept of relevance is similar to Appropriateness as used in Bharati & Tarasewich [2002]. Academic contribution was defined as the degree to which the journal advanced the progress of EC research, based on the respondent's opinion, employing a concept similar to the Importance/Prestige Index (IPI) that has been applied to rank marketing journals [Hult et al. 2009], and to Perceived Value, which has been used in IS journal ranking studies [Peffers & Ya 2003].

Since the ranking results can act as the basis for scholars' decisions to publish in appropriate EC-related journals, we investigated which journals are preferred by researchers for submission of their EC papers. Thus, the index "Preference" was included in the survey criteria. Preference was defined as the respondents' propensity for publishing EC research papers in the journal.

In the questionnaire, respondents were asked to rate the relevance, contribution, and preference of the 30 selected journals on a five point Likert scale, as 1 = strongly disagree and 5 = strongly agree. Nineteen IS scholars were invited to participate in a pre-test. Based on the responses of these scholars, we made revisions to the questionnaire, including modifying the text and the layout of webpage, and adding the cover photographs of the journals next to each journal title in order to increase the respondent's impression of the journal.

3.3. Survey Administration

An online survey was then conducted to collect data. The sampling frame was researchers who conducted EC research. We chose the AIS Faculty Directory (http://directory.aisnet.org) as the main source of respondents. After removing duplicate and invalid emails from a possible 1,254 members, our list of target members totaled 1,148. The sampling frame is appropriate since we found that the background of these target members are highly relevant and 667 members (58.1%) have served as editorial board members for one or more EC journals, therefore the sampling frame is appropriate.

An email was sent to the target members to invite them to fill out the questionnaire on the survey website and a follow-up email was sent again after two weeks. Since the respondents may not have read or submitted papers to all of the 30 target journals, each journal was evaluated independently by each respondent. If a respondent was not familiar with a specific journal, the respondent was allowed to skip the items pertaining to that journal. Each respondent needed to evaluate at least one journal to be valid for later analysis.

4. Data Analysis

4.1. Demographic Profile of the Sample

We received a total of 162 valid responses. In order to check whether non-response bias is an issue for this study, we followed the rule proposed by Armstrong & Overton [1977] to compare early respondents with late respondents on three criteria, i.e., submission preference, journal relevance to EC, and academic contribution. None of these criteria is statistically significant, suggesting that non-response bias is not a problem. As shown in Table 4, most respondents were 41-50 years old (35.2%), followed by 31-40 years old (22.8%) and 51-60 years old (21.6%). Professors (32.1%) and Associate Professors (29.0%) made up the majority of job positions, with a total of 61.1%, followed by Chair Professors (19.8%). Geographically, respondents were rather evenly distributed across the Asia Pacific region (32.7%), Europe (29.6%) and North America (30.9%). Of the five respondents not in those regions, 3 were from South America and 2 were from Africa.

Since we employed the AIS Faculty Directory as our sampling frame, Information Systems dominated the respondents' area of expertise (65.4%), followed by Marketing (16.0%) and Other (see Table 5). In a sense, this result reflects the essential characteristic of e-commerce as being highly related to information system and marketing. Furthermore, respondents who worked at schools that balance research and teaching comprised 53.1% of the sample, whereas respondents who worked at research schools made up 43.8% of the sample.

Table 4: Demographics of Respondents

	Attribute	Number	Percentage
Age	< 31	2	1.2%
	31-40	37	22.8%
	41-50	57	35.2%
	51-60	35	21.6%
	> 60	21	13.0%
	Missing value	10	6.2%
Rank	Lecturer/Assistant Professor	22	13.6%
	Associate Professor	47	29.0%
	Professor	52	32.1%
	Chair Professor	32	19.8%
	Other	2	1.2%
	Missing value	7	4.3%
Region	Asia Pacific	53	32.7%
	Europe	48	29.6%
	North America	50	30.9%
	South America	3	1.9%
	Africa	2	1.2%
	Missing value	6	3.7%
Sample size		162	100.0%

Table 5: Research Areas of Respondents

	Attribute	Number	Percentage
Research Area	Information Systems	106	65.4%
	Marketing	26	16.0%
	Operations Management	5	3.1%
	Computer Science	4	2.5%
	Information Science	4	2.5%
	Other	11	6.8%
	Missing	6	3.7%
Sample size		162	100%

4.2. Overall Journal Rankings

The first criteria we analyzed was journal familiarity, since this reflects the popularity of a journal in EC research. Based on the number of responses who ranked a journal, the top five IS journals were also the five most popular journals overall (i.e., MISQ, DSS, JMIS, ISR and I&M), followed by pure EC journals (i.e., IJEC and JECR) and journals from the marketing field (MS and JM). This result may have been caused by having drawn the sample from the IS community.

Regarding EC journals, some of them may not be well-known in the IS or EC community, therefore it is helpful to differentiate popular journals from niche ones. A 50% response rate was used to divide them into two groups: comprehensive and niche. A journal was regarded as a "comprehensive EC Journal" if over 50% (i.e., 82 or more out of 162) of our respondents rated it, while the others were regarded as "niche EC Journals," which are well-known in a specific group of scholars or simply new, in order to make the ranking base more comparable. For example, a journal with 30% of the respondents' awareness is likely to have a lower impact on the field as compared with another one with 70% of the respondents' awareness, even though both have the same importance or preference ratings. As shown in Table 6, the four comprehensive EC Journals ranked by the rank total (i.e. the sum of ranks in four criteria) are IJEC, JECR, ECRA, and EM. Four journals passed the 50% hurdle and their rankings are shown in Table 6(a). The ranking of niche EC journals is presented in Table 6(b), in which Electronic Commerce Research (ECR), Journal of Interactive Marketing (JIM) and Journal of Organizational Computing and Electronic Commerce (JOCEC) are ranked top three. The top 5 journals in related areas are four IS journals (i.e., MISQ, ISR, JMIS, and DSS) and Journal of Marketing (Table 7).

Table 6: Ranking of Comprehensive and Niche EC Journals

(a) Comprehensive EC Journals

Rank	Journal Name	Criteria				
		Popularity (Rank)	Relevance to EC (Rank)	Contribution importance (Rank)	Submission preference (Rank)	Rank total
1	International Journal of Electronic Commerce	103 (1)	4.563 (1)	4.107 (1)	3.874 (1)	4
2	Journal of Electronic Commerce Research	100 (2)	4.410 (2)	3.800 (2)	3.690 (3)	9
3	Electronic Commerce Research and Application	84 (4)	4.369 (3)	3.798 (3)	3.726 (2)	12
4	Electronic Markets	88 (3)	4.193 (4)	3.511 (4)	3.443 (4)	15

(b) Niche EC Journals

Rank	Journal Name	Criteria				
		Popularity (Rank)	Relevance to EC (Rank)	Academic Contribution (Rank)	Submission preference (Rank)	Rank total
1	Electronic Commerce Research	59 (2)	4.407 (1)	3.831 (1)	3.763 (1)	5
2	Journal of Interactive Marketing	56 (4)	4.018 (3)	3.732 (2)	3.571 (2)	11
3	Journal of Organizational Computing and Electronic Commerce	63 (1)	4.000 (4)	3.476 (4)	3.349 (3)	12
4	Internet Research	57 (3)	3.772 (9)	3.491 (3)	3.298 (4)	19
5	International Journal of E-Business Research	34 (7)	3.882 (7)	3.294 (6)	3.265 (6)	26
6	Journal of Theoretical and Applied Electronic Commerce Research	35 (6)	4.114 (2)	2.914 (12)	3.000 (8)	28
6	Journal of Electronic Commerce in Organizations	37 (5)	3.973 (5)	3.108 (8)	2.865 (10)	28
8	Journal of Internet Commerce	16 (11)	3.813 (8)	3.125 (7)	3.125 (7)	33
9	International Journal of Electronic Commerce Studies	11 (14)	3.546 (11)	3.364 (5)	3.273 (5)	35
10	Journal of Internet Banking & Commerce	13 (12)	3.923 (6)	3.077 (10)	2.692 (14)	42
11	International Journal of Online Marketing	12 (13)	3.500 (12)	3.083 (9)	2.917 (9)	43
12	International Journal of Internet Marketing and Advertising	18 (9)	3.667 (10)	2.778 (15)	2.667 (15)	49
13	International Journal of Electronic Marketing and Retailing	22 (8)	3.273 (16)	2.864 (13)	2.773 (13)	50
14	International Journal of Electronic Business Management	18 (9)	3.500 (12)	2.722 (16)	2.667 (15)	52
14	Journal of eBusiness and eGovernment Studies	5 (16)	3.400 (14)	3.000 (11)	2.800 (11)	52
16	International Journal of E-Business Development	10 (15)	3.400 (14)	2.800 (14)	2.800 (11)	54

Table 7: Ranking of Relevant Journals

Rank	Journal Name	Criteria				
		Popularity (Rank)	Relevance to EC (Rank)	Contribution importance (Rank)	Submission preference (Rank)	Rank total
1	MIS Quarterly	139 (1)	3.777 (1)	4.252 (1)	4.043 (2)	5
2	Information Systems Research	117 (4)	3.692 (2)	4.111 (2)	4.060 (1)	9
3	Journal of Management Information Systems	121 (3)	3.579 (3)	3.909 (6)	3.984 (3)	15
4	Decision Support Systems	124 (2)	3.500 (4)	3.758 (8)	3.774 (4)	18
5	Journal of Marketing	92 (7)	3.435 (5)	4.033 (3)	3.609 (7)	22
6	Journal of Marketing Research	84 (8)	3.369 (6)	3.952 (5)	3.738 (5)	24
6	Marketing Science	98 (6)	3.327 (8)	3.980 (4)	3.684 (6)	24
8	Information and Management	106 (5)	3.349 (7)	3.613 (9)	3.604 (8)	29
9	Journal of Consumer Research	78 (9)	3.141 (9)	3.782 (7)	3.385 (9)	34
10	Journal of the Academy of Marketing Science	68 (10)	2.868 (10)	3.353 (10)	3.294 (10)	40

4.3. Ranking by Regions

The distribution of the authors' regions differed among the EC journals. Previous studies found that EC journal perception rankings varied among three regions, i.e., Australasia, Europe, and North America (Bharati and Tarasewich, 2002). Hence, we argued that scholars' perceptions toward EC journals would be different. In order to determine if there are variations among geographical regions, we further analyzed the data according to the respondents' three main locations: Asia Pacific, Europe, and North America. As shown in Table 8, the ranking varies across the regions. For EC journals, IJEC is clearly a top pick across all three regions, while the journals ranked 2 to 5 vary. For EC-related journals, the consensus is much stronger: MISQ, ISR, JMIS, and DSS are the top 4. This information may be helpful for researchers when they choose target journals to publish their research.

Table 8: EC Journal Ranking by Regions

Rank	Asia-Pacific	Europe	North America
● Comprehensive EC Journals			
1	International Journal of Electronic Commerce	International Journal of Electronic Commerce	International Journal of Electronic Commerce
2	Electronic Commerce Research and Application	Electronic Markets	Journal of Electronic Commerce Research
3	Journal of Electronic Commerce Research	Electronic Commerce Research and Application	Electronic Commerce Research and Application
4	Electronic Markets	Journal of Electronic Commerce Research	Electronic Markets
● Niche EC Journals			
1	Electronic Commerce Research	Electronic Commerce Research	Electronic Commerce Research
2	Journal of Interactive Marketing	Journal of Interactive Marketing	Journal of Organizational Computing and Electronic Commerce
3	Internet Research	International Journal of E-Business Development	Journal of Electronic Commerce in Organizations
4	Journal of Organizational Computing and Electronic Commerce*	International Journal of Electronic Business Management	Journal of Interactive Marketing
5	International Journal of E-Business Research*	International Journal of Online Marketing	International Journal of Electronic Commerce Studies
6	Journal of Electronic Commerce in Organizations	International Journal of E-Business Research**	Internet Research
7	Journal of Theoretical and Applied Electronic Commerce Research	Internet Research**	Journal of Internet Commerce
8	International Journal of Internet Marketing and Advertising	Journal of Internet Commerce	International Journal of E-Business Research
9	International Journal of Electronic Commerce Studies	Journal of Theoretical and Applied Electronic Commerce Research	Journal of Theoretical and Applied Electronic Commerce Research
10	Journal of Internet Commerce	Journal of Organizational Computing and Electronic Commerce	Journal of Internet Banking & Commerce

* Both "Journal of Organizational Computing and Electronic Commerce" and "International Journal of E-Business Research" were ranked No.4 in Asia-Pacific region.

** Both "International Journal of E-Business Research" and "Internet Research" were ranked No.6 in Europe region.

In order to know why scholars in different regions perceived IJEC, ECRA, JECR and EM differently, we conducted an authorship analysis of papers published in four comprehensive EC journals in 2016 and found that the authorship distribution is consistent with various regional perceptions. We counted the share of authors from different regions in these journals, employing a weighted authorship share. That is, if a paper includes one author affiliated with an Asian institute and one affiliated with an American institute, each region gets 0.5, respectively. The result is shown in Table 9, and there is a strong correlation between their authorship distribution and the regional rankings of ECRA, JECR and EM. This result may be related to the affiliation of their Chief Editors as ECRA is located in Singapore, JECR is in the US and EM is in Germany.

Table 9: Distribution of Authors in 2016

Journal	Asia-Pacific	Europe	America
International Journal of Electronic Commerce	49.0 %	35.0 %	16.0 %
Electronic Commerce Research and Application	60.3 %	21.8 %	17.3 %
Journal of Electronic Commerce Research	55.4 %	24.2 %	20.4 %
Electronic Markets	32.8 %	57.8 %	9.50 %

4.4. Ranking by Age and Academic Rank

Since the number and quality of publications will influence tenure and promotion decisions in most schools [Park & Gordon 1996], scholars' submission preferences may be related to their academic status. Taking this consideration into account, we further analyzed the impact of age and academic rank on scholars' perceptions of EC journals. The respondents were divided into three age-groups: less than 41 years-old; 41 to 50 years-old; and greater than 50 years-old. As Table 10 shows, the top 3 journals are the same for the groups of 41-50 years-old and greater than 50 years-old, but the top 3 journals differ in the group of less than 41 years-old. Older scholars preferred ISR, MISQ and JMIS, while younger scholars prefer DSS, JMIS and JMR, indicating a difference in preference between young and old scholars.

Table 10: Submission Preference by Age

Rank	≦ 40 years-old n = 39		41-50 years-old n = 57		≧50 years-old n = 56	
	Journal	Score	Journal	Score	Journal	Score
1	Decision Support Systems	4.179	Information Systems Research	4.103	Information Systems Research	4.341
2	Journal of Management Information Systems	4.138	MIS Quarterly	4.020	MIS Quarterly	4.170
3	Journal of Marketing Research	4.091	Journal of Management Information Systems	3.950	Journal of Management Information Systems	4.022
4	Journal of Interactive Marketing	4.083	Electronic Commerce Research	3.944	International Journal of Electronic Commerce	3.974
5	MIS Quarterly	4.059	Electronic Commerce Research and Application	3.938	Electronic Commerce Research	3.955
6	Journal of Marketing	4.000	International Journal of Electronic Commerce	3.794	Decision Support Systems	3.870
7	Marketing Science	3.960	Marketing Science	3.632	Journal of Electronic Commerce Research	3.800
8	International Journal of Electronic Commerce*	3.955	Journal of Marketing Research	3.600	Journal of Marketing Research	3.731
9	Journal of Electronic Commerce Research*	3.955	Journal of Marketing	3.543	Journal of Interactive Marketing	3.714
10	Information Systems Research	3.885	Information and Management	3.514	Marketing Science	3.655

* Both "International Journal of Electronic Commerce" and "Journal of Electronic Commerce Research" were ranked No.8.

Regarding the effect of academic rank, the respondents were grouped into junior (below associate professor level) and senior (full and chair professors). Table 11 presents the result, which reveals several differences as well. For example, IJEC was ranked second in the senior group but 11th in the junior group, while JECR was ranked second in the junior group but 9th in the senior group. However, MISQ, ISR, and JMIS are among the top four in both groups. These findings suggest that the scholars' submission preferences toward pure EC journals varied among academic ranks, which may be related to review cycles or their submission experience. It would be interesting to collect more data to uncover insights into this difference.

Table 11: Submission Preference by Academic Rank

Rank	Junior Scholar n = 69		Senior Scholar n = 84	
	Journal	Score	Journal	Score
1	MIS Quarterly	4.086	Information Systems Research	4.156
2	Journal of Electronic Commerce Research	4.000	International Journal of Electronic Commerce	4.016
3	Journal of Management Information Systems	3.980	MIS Quarterly	3.973
4	Information Systems Research	3.935	Journal of Management Information Systems	3.955
5	Decision Support Systems	3.918	Electronic Commerce Research	3.75
6	Information and Management	3.867	Electronic Commerce Research and Application	3.689
7	Journal of Interactive Marketing	3.842	Decision Support Systems	3.681
8	Marketing Science	3.825	Journal of Marketing Research	3.617
9	Journal of Marketing Research	3.818	Journal of Electronic Commerce Research	3.527
10	Electronic Commerce Research and Application	3.757	Marketing Science	3.509

5. Discussion and Conclusion

5.1. Findings

In order to know how IS scholars perceive EC journals, we have conducted an online survey to collect data about the popularity, relevance, contribution and submission preferences of 20 EC journals and 10 relevant journals. The popularity allows us to differentiate EC journals into comprehensive and niche. When the total rank of the four dimensions is summed up, the top four EC journals are IJEC, JECR, ECRA, and Electronic Markets, which implies that these four journals are the best-known and relevant to e-commerce. In terms of the reference disciplines, the top four journals are MISQ, ISR, JMIS, and DSS. This result is similar to the past ranking (Table 3), therefore these journals are generally perceived as the best for both general IS research and EC research. Regarding submission preferences in the e-commerce field, ISR, MISQ, and JMIS were ranked as the top 3 journals. One surprising finding is that only three marketing journals have response rates over 50%; the other two top marketing journals were not read by many EC researchers. This may indicate that they have not published many influential EC papers yet.

If we rank EC journals and relevant journals together according to the importance of their contribution, the top five journals are: MISQ, ISR, IJEC, JM, and Marketing Science. IJEC is the only EC journal considered to be as important as the top journals in reference disciplines. Regarding submission preferences, the top five journals are ISR, MISQ, JMIS, IJEC, and DSS. A correlation analysis on the relationships among the three criteria demonstrates that contribution importance and submission preference is highly correlated (0.801, $p<0.01$), while the other two are not. This result indicates that, even if their research topics belong to the EC field, most scholars will consider a journal's contribution when selecting a target journal for submission.

These findings may provide valuable guidelines for scholars engaged in EC research when considering which outlet is most appropriate as a submission target. High-quality and forward-looking EC-related research works may submit to top journals, especially top EC comprehensive journals, such as IJEC, JECR, ECRA and EM. If the research works involve specific themes, such as EC policy, marketing and advertising, certain niche journals may be more suitable for publication. The geographical difference of the audience and the research topic is another critical factor for submission. Beyond IJEC, which is the most important EC journal for academics in all regions, JECR is the second choice for North American scholars, while most European researchers submit their works to EM, and researchers in Asia Pacific prefer ECRA. Journal editors may want to look into this situation and promote their journals to low-ranked regions to enhance their overall influence.

5.2. Contributions and Limitations

Intended to investigate researchers' perceptions regarding EC journals, the main contributions of this study are twofold. First, this study provides information about how scholars rank EC journals and top journals in IS and Marketing. In the past, EC journals have been ranked according to the number of articles cited or as partial results of a ranking of IS journals. Few studies have ranked them based on scholars' perceptions. Since EC is often classified as

a cross-disciplinary area of IS and Marketing, our findings allow EC journals to be comparable with top journals in these two reference disciplines.

Another major contribution is that we differentiate EC journals into comprehensive and niche journals according to their popularity among our respondents. Comprehensive journals are known by more scholars and cover more research topics or methodologies, while niche journals may target a specific group of scholars, therefore these findings can help researchers choose suitable outlets when they have papers to submit. Moreover, it is worth mentioning that this study may highlight the need to identify EC as a unique discipline. Compared with IS or marketing, EC is young but has obtained more attention and citations across traditional areas. This study identified pure EC Journals, enabling citation analysis to be conducted to see whether EC will eventually be developed into a reference discipline for others, including the parent disciplines such as IS and Marketing [Baskerville & Myers 2002, Straub 2006, Wade et al. 2006].

Despite the contributions of this study, there are several limitations which suggest opportunities for future research. A major limitation is the use of pre-selected journal lists and self-reported information. This study relied on EC related journals collected from electronic databases and the internet as the basis for respondents to rank journals. Hence, it is advised to view the results carefully and not to over-generalize the ranking results. Future studies may employ other methods, such as a free-to-respond journal ranking [Lowry et al. 2004], which allows respondents to decide which journals to include in the ranking list or bibliometric analysis to find objective relationships among EC and relevant journals.

Next, we recruited AIS Faculty Directory and EC journal editorial board members as our sampling frame, which received a high percentage of respondents from IS scholars. As a result, the ranking may primarily reflect IS scholars' views of these selective journals and may not represent the views of scholars in other disciplines. Subsequent research may survey how scholars in various disciplines may perceive EC journals differently. Furthermore, this study simply distinguished comprehensive EC Journals from niche EC Journals by the median of sample size. The arbitrary method and limited sampling frame may affect the validity of our findings, therefore it may prove worthwhile to explore how to systematically classify journals.

5.3. Conclusion

This study attempted to examine the current status of EC research by investigating the perception of researchers of EC journals. Several useful results about scholars' perception of EC and relevant journals have been identified. First, IJEC, JECR, ECRA, and EM are leading EC journals recognized by the majority of researchers. Second, journal ranking and submission preference vary by region, age, and academic seniority of the researchers. Overall, the results from our study provide valuable insights for EC researchers when they read these journals or select a journal for publication.

REFERENCES

Armstrong, J.S. and T. Overton, "Estimating Nonresponse Bias in Mail Surveys," *Journal of Marketing Research*, Vol. 14, No. 3:396-402, 1977.

Barnes, S.J., "Assessing the Value of IS Journals," *Communications of the ACM*, Vol. 48, No. 1: 110-112, 2005.

Baskerville, R.L. and M.D. Myers, "Information Systems as a Reference Discipline," *MIS Quarterly*, Vol. 26, No. 1:1-14, 2002.

Bharati, P. and P. Tarasewich, "Global Perceptions of Journals Publishing E-commerce Research," *Communications of the ACM*, Vol. 45, No. 5:21-26, 2002.

Chan, K.C., P. Lai and K. Liano, "A Threshold Citation Analysis in Marketing Research," *European Journal of Marketing*, Vol. 46, No. 1/2:134-156, 2012.

Chang, C.M. and S.Y. Hung, "Distinct Journal Preference of Successful EC Researchers: A Citation Analysis," *Electronic Commerce Studies*, Vol. 2, No. 1:1-18, 2004.

Rosenstreich, D. and B. Wooliscroft, "Assessing International Journal Impact: The Case of Marketing," *European Business Review*, Vol. 24, No. 1:58-87, 2012.

Ferratt, T.W., M.F. Gorman, J.J. Kanet, and W.D. Salisbury, "IS Journal Quality Assessment Using The Author Affiliation Index," *Communications of the Association for Information Systems*, Vol. 19, No. 1:710-724, 2007.

Friedrich, T., "On the Factors Influencing Consumers' Adoption of Social Commerce – A Review of the Empirical Literature," *Pacific Asia Journal of the Association for Information Systems*, Vol. 8, No. 4:1-32, 2016.

Hsu, C.L., C.H. Chiang, "Electronic Commerce Research Profiles: Comparing E-Commerce and Information Systems Journals," *Pacific Asia Journal of the Association for Information Systems*, Vol. 9, No. 3:49-66, 2017.

Hult, G.T. M., M. Reimann, and O. Schilke, "Worldwide Faculty Perceptions of Marketing Journals: Rankings, Trends, Comparisons, and Segmentations," *Global Edge Business Review*, Vol. 3, No. 3:1-23, 2009.

Lee, S.M., T. Hwang, and J. Kim, "An Analysis of Diversity in Electronic Commerce Research," *International Journal of Electronic Commerce*, Vol. 12, No. 1:31-67, 2007.

Lee, S.M., T. Hwang, and D.H. Lee, "Evolution of Research Areas, Themes, and Methods in Electronic Commerce," *Journal of Organizational Computing and Electronic Commerce*, Vol. 21, No. 3:177-201, 2011.

Lin, A.J., C.L. Hsu, and C.H. Chiang, "Bibliometric Study of Electronic Commerce Research in Information Systems & MIS Journals," *Scientometrics*, Vol. 109, No. 3:1455-1476, 2016.

Lin, J., Y. Yan, and S. Chen, "Understanding the Impact of Social Commerce Website Technical Features on Repurchase Intention: A Chinese Guanxi Perspective," *Journal of Electronic Commerce Research*, Vol. 18, No. 3:225-244, 2017.

Lowry, P.B., D. Romans, and A.M. Curtis, "Global Journal Prestige and Supporting Disciplines: A Scientometric Study of Information Systems Journals," *Journal of the Association for Information Systems (JAIS)*, Vol. 5, No. 2:29-80, 2004.

Ngai, E.W. and F.K.T. Wat, "A Literature Review and Classification of Electronic Commerce Research," *Information & Management*, Vol. 39, No. 5:415-429, 2002.

Park, S.H. and M.E. Gordon, "Publication Records and Tenure Decisions in the Field of Strategic Management," *Strategic Management Journal*, Vol. 17, No. 2:109-128, 1996.

Touzani, M. and S. Moussa, "Ranking Marketing Journals Using The Search Engine Google Scholar," *Marketing Education Review*, Vol. 20, No. 3:229-247, 2010.

Mylonopoulos, N.A. and V. Theoharakis, "On Site: Global Perceptions of IS Journals," *Communications of the ACM*, Vol. 44, No. 9:29-33, 2001.

Nerur, S., R. Sikora, G. Mangalaraj, and V. Balijepally, "Assessing The Relative Influence of Journals in A Citation Network," *Communications of the ACM*, Vol. 48, No 11:71-74, 2005.

Pan, Y. and C. R. Chen, "Author Affiliation Index: A New Approach to Marketing Journal Ranking," *Marketing Education Review*, Vol. 21, No. 3:275-287, 2011.

Peffers, K. and T. Ya, "Identifying and Evaluating the Universe of Outlets for Information Systems Research: Ranking the Journals," *Journal of Information Technology Theory and Application (JITTA)*, Vol. 5, No. 1:63-84, 2003.

Rainer, R. K. and M. D. Miller, "Examining Differences across Journal Rankings," *Communications of the ACM*, Vol. 48, No. 2:91-94, 2005.

Straub, D., "The Value of Scientometric Studies: An Introduction to a Debate on IS as a Reference Discipline," *Journal of the Association for Information Systems*, Vol. 7, No. 5:241-246, 2006.

Tsai, H.H., "The Research Trends Forecasted by Bibliometric Methodology: A Case Study in E-Commerce From 1996 to July 2015," *Scientometrics*, Vol. 105, No. 2:1079–1089, 2015.

Wade, M., M. Biehl, and H. Kim, "Information Systems is Not a Reference Discipline (And What We Can Do About It)," *Journal of the Association for Information Systems*, Vol. 7,No. 5:247-269, 2006.

Wang, C.C. and C.C. Chen, "Electronic Commerce Research in Latest Decade: A Literature Review," *International Journal of Electronic Commerce Studies*, Vol. 1, No 1:1-14, 2010.

Wirtz, B.W. and V. Göttel, "Technology Acceptance in Social Media: Review, Synthesis and Directions for Future Empirical Research," *Journal of Electronic Commerce Research*, Vol. 17, No. 2:97-115, 2016.