

**THE ROLE OF SOCIAL MEDIA IN EMPOWERING  
THE INVOLVEMENT OF WOMEN IN INFORMATION  
TECHNOLOGY WORKFORCE IN IRAQ**

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# **THE ROLE OF SOCIAL MEDIA IN EMPOWERING THE INVOLVEMENT OF WOMEN IN INFORMATION TECHNOLOGY WORKFORCE IN IRAQ**

**A dissertation submitted to Dean of Awang Had Salleh Graduate School in**

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## Abstrak

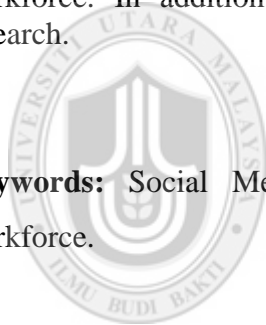
Kurangnya penglibatan tenaga kerja golongan wanita dalam bidang Teknologi Maklumat (TM) di Iraq dapat diperhatikan sejak beberapa tahun kebelakangan ini. Hakikatnya, penggunaan media sosial secara meluas dan rancak di Iraq merupakan salah satu cara yang berkesan yang boleh memperkasakan golongan wanita sebagai tenaga kerja dalam bidang TM. Kajian ini bermatlamat untuk menyelidik kesedaran wanita tentang penggunaan media sosial yang memperkasakan mereka sebagai tenaga kerja dalam bidang TM dan peranan media sosial untuk memperkasakan wanita dalam sektor ini. Untuk mencapai objektif kajian dan bersandarkan teori feminisme siber, kajian ini melakukan satu tinjauan dalam kalangan pelajar wanita di Kolej Pendidikan Ibn al-Haytham, Universiti Baghdad. Kajian ini cuba melihat cara media sosial meningkatkan bilangan penglibatan golongan wanita sebagai tenaga kerja dalam bidang TM. Satu sampel kajian yang melibatkan seramai 162 orang pelajar wanita dari kolej tersebut telah digunakan. Kaedah kuantitatif digunakan untuk mengutip data. Dapatan kajian menunjukkan terdapat hubungan yang signifikan antara kesedaran wanita dan galakan kepada penglibatan wanita sebagai tenaga kerja dalam bidang TM menerusi penggunaan media sosial. Selain itu, terdapat hubungan yang signifikan antara pemerksaan golongan wanita dengan galakan kepada penglibatan wanita sebagai tenaga kerja dalam bidang TM menerusi penggunaan media sosial. Oleh yang demikian, kesedaran wanita dan pemerksaan wanita melalui penggunaan media sosial merangsang penglibatan wanita sebagai tenaga kerja dalam bidang TM. Selain itu, kajian ini turut menyarankan beberapa cadangan untuk kajian pada masa yang akan datang.

**Kata kunci:** Media sosial, Pemerksaan wanita, Teori feminisme siber, Tenaga kerja TM.

## Abstract

The underrepresentation of the women workforce in the field of Information Technology (IT) in Iraq has been closely observed over the last few years. One of the facts is that social media have been widely and intensively used in Iraq, which is an effective way to empower women in the IT workforce. This study aimed to investigate women's awareness of using social media to get empowered in the IT workforce as well as the role of the social media in women empowerment in this sector. In order to achieve the objectives of this research and based on the theory of cyberfeminism, the current study conducted a survey amongst the female students of the University of Baghdad - College of Education Ibn al-Haytham and tried to find out how the use of social media is contributing to the growth of women participation in the IT workforce. For this purpose a sample of 162 female students was taken from this college. The quantitative method was used to collect data for this study. The findings in this study revealed there was a significant relationship between women's awareness and the encouragement of women in the IT workforce through the use of the social media. Besides, there was a significant relationship between the empowerment of women and the encouragement of women in the IT workforce through the use of the social media. Hence, women's awareness and empowerment of women through the social media encouraged the involvement of women in the IT workforce. In addition, this study recommends several suggestions for further research.

**Keywords:** Social Media, Women empowerment, Cyberfeminism theory, IT workforce.



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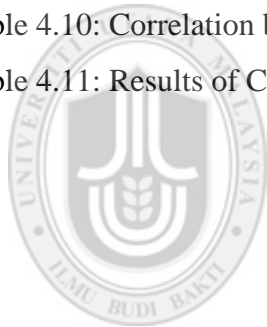
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## List of Abbreviations

|              |  |
|--------------|--|
| <b>CSO</b>   | Central Statistical Organization                 |
| <b>COBOL</b> | Common Business Oriented Language                |
| <b>CS</b>    | Computer Science                                 |
| <b>DV</b>    | Dependent Variable                               |
| <b>ENIAC</b> | Electronic Numerical Integrator and Computer     |
| <b>IV</b>    | Independent Variable                             |
| <b>IT</b>    | Information Technology                           |
| <b>STEM</b>  | Science, Technology, Engineering and Mathematics |
| <b>SPSS</b>  | Statistical Packages Social Science              |
| <b>UNDP</b>  | United Nations Development Programme             |
| <b>VIF</b>   | Variation Inflation Factors                      |
| <b>AQ</b>    | Awareness Questions                              |
| <b>EQ</b>    | Empowerment Questions                            |
| <b>ENQ</b>   | Encouragement Questions                          |
| <b>MIS</b>   | Management Information System                    |
| <b>SD</b>    | Standard Deviation                               |

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

Information Technologies (IT) refers to the integration of telecommunication networks, computers, and audio-visual systems used to create, access, store, transmit, and manipulate information (Bolanle, Zhang, Oluwadare & Akintola, 2013). With such integration, it supports various applications in various fields like business, education, healthcare, and entertainment. Currently, it integrates also digital social media networks such as Facebook, Twitter, and YouTube (Ajjan, Beninger & Crittenden, 2014). There are literally hundreds of different social media platforms (e.g., blogging, micro-blogging, social networking, text messaging, shared photos), in which they have fundamentally changed the way individuals, communities, and organizations communicate and collaborate (Correa, Bachmann, Hinsley & de Zúñiga, 2013). Currently, social media is referred to as a web-based service that allows individuals to construct a public or semi-public profile within a bounded system (Borrero, Yousafzai, Javed & Page, 2014).

Having been incorporated with various utilities, social media has infiltrated people's daily life with amazing rapidity to become an important social platform for computer-mediated communication (Lin & Lu, 2011). This is because they create, share, and/or exchange information and ideas in virtual communities and networks (Poonia, Scholar & Bhurani, 2014) by providing a variety of new behaviours that were not previously possible, such as online collaborative authoring, online collaborative reviewing, online collaborative editing, online collaborative associating, and online collaborative experimenting. The use of social media with its



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## REFERENCES

- Abedalla, R. W., Escobar, L. S. & Al-Quraishi, D. A. (2014). Accessing Information Technology- Social Media in Iraq. *Scientific and Research Publications*, 4(9), 1–6.
- Abisola, S., Oyesomi, K., Nelson, O. & Omole, F. (2014). How Sociable are Women on Social Media? An Experiential Study on Nigerian Women. *International Journal of Research in Social Sciences*, 4(2), 57–72.
- Adya, M. & Kaiser, K. M. (2005). Early Determinants of Women in the IT Workforce: A Model of Girls' Career Choices. *Information Technology & People*, 18(3), 230–259.
- Ahuja, M. K. (2002). Women in the Information Technology Profession: A Literature Review, Synthesis and Research Agenda. *European Journal of Information Systems*, 11(1), 20–34.
- Ajjan, H., Beninger, S. & Crittenden, V. L. (2014). Empowering Women Entrepreneurs in Emerging Economies: A Conceptual Model. *Organizations And Markets In Emerging Economies*, 5(1), 16–31.
- Ali, F. A. & Aliyu, U. Y. (2015). The Use of Social Networking among Senior Secondary School Students in Abuja Municipal Area of Federal Capital Territory, Nigeria. *Journal of Education and Practice*, 6(15), 15–23.
- Al-mukhaini, E. M. (2014). Adoption Of Social Networking In Education: A Study of The Use of Social Networks by Higher Education Students in Oman. *Journal of International Education Research*, 10(2), 143–154.
- Al-Rawi, A. K. (2014). The Arab Spring & Online Protests in Iraq. *International Journal of Communication*, 8, 916–942.
- Alsop, R. & Heinsohn, N. (2005). Measuring Empowerment in Practice: Structuring Analysis and Framing Indicators. *World Bank Policy Research Working Paper*, 5(2), 123.
- Amanda, W. & Michael, M. (2009). Adolescents' Online Social the Death of a Peer. *Journal of Adolescent Research*, 24(1), 67–90.

- Angela, N. (2013). Not Quite Kicking Off Everywhere: Feminist Notes on Digital Liberation. *Internet Research*, 9, 157–175.
- Anne, M. (1993). Chasing Shadows: Alienation in Working Women. *Equal Opportunities International*, 12, 20–22.
- Appelrouth, S. & Edles, L. D. (2010). *Sociological Theory in the Contemporary era: Text and Readings*. Pine Forge Press.
- Armstrong, D., Nelms, J., Riemenschneider, C. & Reid, M. (2012). Revisiting The Barriers Facing Women In Information Systems. *Journal of Computer Information Systems*, 53(2).
- Armstrong, D. & Riemenschneider, C. (2014). The Barriers Facing Women in the Information Technology Profession: An Exploratory Investigation of Ahuja's Model. *ACM*, 5(29), 85–96.
- Ary, D., Jacobs, L. C., Razavieh, A. & Sorensen, C. (2009). Introduction to Research in Education. *Getting Started in PER*, 12(3), 669.
- Balcita, A. M., Carver, D. L. & Soffa, M. L. (2002). Shortchanging The Future of Information Technology: The Untapped Resource. *SIGCSE Bulletin*, 34(2), 32–35.
- Barker, V. (2009). Older Adolescents' Motivations for Social Network Site Use : The Influence of Gender, Group Identity, and Collective Self-Esteem. *ResearchGate*, 12(2), 209–213.
- Barrett, M. & McIntosh, M. (2005). Ethnocentrism and Socialist-Feminist Theory. *JSTOR*, 80(20), 64–86.
- Baruch, R. (2014). Women and Information Technology: How Do Female Students of Education Perceive Information Technology, and What is Their Approach toward It ? *Journal of International Women's Studies*, 15(1), 190–214.
- Beasley, C. & Bacchi, C. (2007). Envisaging a New Politics for an Ethical Future: Beyond Trust, Care and Generosity towards an Ethic of 'Social Flesh'. *SAGE*, 8(3), 279–298.
- Beddoes, K. & Borrego, M. (2011). Feminist Theory in Three Engineering Education Journals: 1995–2008. *Journal of Engineering Education*, 100(2), 281–303.

- Beena, M. & Vidyapith, B. (2012). Role of ICT Education for Women Empowerment. *International Journal of Economic Research*, 3(3), 164–172.
- Berson, I. R. (2003). Grooming Cybervictims The Psychosocial Effects of Online Exploitation for Youth. *Journal of School Violence*, 2(1), 5–18.
- Bimrose, J., Watson, M., McMahon, M., Haasler, S., Tomassini, M. & Suzanne, P. (2014). The Problem with Women? Challenges Posed by Gender for Career Guidance Practice. *International Journal for Educational and Vocational Guidance*, 14, 77–88.
- Blanchard, M., Herrman, H. & Burns, J. (2008). Study of Marginalised Young People ' s Findings From A study of Marginalised. *ResearchGate*, 27(4), 35–42.
- Blum, L., Frieze, C., Hazzan, O. & Dias, M. B. (2007). A Cultural Perspective on Gender Diversity in Computing. *Special Interest Group on Computer Science Education*, 12(5), 4–20.
- Boase, J., Horrigan, J. & Wellman, B. (2006). The Strength of Internet Ties. *Pew Internet & American Life Project*, 25(1), 1–65.
- Bolanle, O., Zhang, M., Oluwadare, S. & Akintola, K. (2013). Women's Perceptions and Uses of Information and Communication Technologies in Nigeria and China : A Comparative Analysis. *Information Management and Business Review*, 5(4), 203–216.
- Borrero, J. D., Yousafzai, S. Y., Javed, U. & Page, K. L. (2014). Expressive Participation in Internet Social Movements: Testing the Moderating Effect of Technology Readiness and Sex on Student SNS Use. *Computers in Human Behavior*, 30, 39–49.
- Boyd, D. M. & Ellison, N. B. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210–230.
- Broos, A. (2005). Gender and Information and Communication Technologies (ICT) Anxiety: Male Self-assurance and Female Hesitation. *CyberPsychology & Behavior*, 8(1), 21–31.
- Bruns, A. (2008). *Blogs, Wikipedia, Second Life, and Beyond: From Production to Producersage*. Peter Lang.

- Bryant, E. M. & Marmo, J. (2011). A Functional Approach to Social Networking Sites. *Computer-Mediated Communication in Personal Relationships*, 22(10), 3–20.
- Bryman, A. & Cramer, D. (2011). *Quantitative Data Analysis with IBM SPSS 17, 18 and 19: A Guide for Social Scientists*. Routledge.
- Buchanan, D. & Bryman, A. (2007). Contextualizing Methods Choice in Organizational Research. *Organizational Research Methods*, 10, 483–501.
- Burch, S. & Leon, I. (2000). Networking for Change Women in Sync The APCWNSPs First 8 Years. *APC*, 12(1), 100.
- Burgess, J., Foth, M. & Klæbe, H. (2006). Everyday Creativity As Civic Engagement: A cultural Citizenship View of New Media. *Proceedings Communications Policy & Research Forum*, 9(26), 1–15.
- Cattane, V. (2012). Egyptian Women Bloggers: Perceptions of Empowerment in the Online Public Sphere. *Journalism and Mass Communication Department*, 0752, 105.
- Charles, O., Helen, N. & Jennifer, N. (2014). The Use of Social Networking Sites among the Undergraduate Students of University of Nigeria, Nsukka. *Library Philosophy and Practice*, 5(3), 56–66.
- Chasib, H. A. (2014). *Exploring the Effect of Cyber-bullying on Student Attitude in Online Learning: A Case Study of UUM*. UUM.
- Chen, G. M. (2012). Why do Women Write Personal Blogs? Satisfying Needs for Self-disclosure and Affiliation Tell Part of the Story. *Computers in Human Behavior*, 28(11), 171–180.
- Chen, G. M. (2013). Why do Women Bloggers Use Social Media? Recreation and Information Motivations Outweigh Engagement Motivations. *New Media & Society*, 1–17.
- Chou, Y., Yen, H. & Sun, C. (2014). An Integrate Method for Performance of Women in Science and Technology based on Entropy Measure for Objective Weighting. *Springer*, 8(8), 4–16.

- Coleman, S. & Rowe, C. (2005). Remixing citizenship. *Democracy and Young People Use of the Internet*, 7(15), 33.
- Collin, P., Rahilly, K., Richardson, I. & Third, A. (2011). The Benefits of Social Networking Services. *Research Report*, 10(22), 4–29.
- Correa, T., Bachmann, I., Hinsley, A. & de Zúñiga, H. (2013). *Personality and Social Media Use*. IGI Global.
- Creswell, J. W. (2003). *Research design Qualitative Quantitative and Mixed Methods Approaches*. SAGE.
- Creswell, J. W. (2008). Editorial: Mapping the Field of Mixed Methods Research. *Journal of Mixed Methods Research*, 3(2), 95–108.
- Croasdell, D., McLeod, A. & Simkin, M. G. (2011). Why Don't More Women Major in Information Systems? *Information Technology & People*, 24, 158–183.
- Crump, B. J., Logan, K. & McIlroy, A. (2007). Does Gender Still Matter? A Study of the Views of Women in the ICT Industry in New Zealand. *Gender, Work and Organization*, 14(4), 349–370.
- CSO Iraq. (2012). *University and Technical Education Report*. Central Statistical Organization (Vol. 5).
- Dale, C., Xu, C. & Jiangshuan, L. (2008). Statistics and Social Network of YouTube Videos. *IEEE*, 15(6), 229–238.
- Das, S. K. & Bhowal, A. (2013). Self Help Groups as an Empowerment Model: Perceptions of Direct Stakeholders. *American Journal of Rural Development*, 1(5), 121–130.
- Den Broeck, J. & Fadnes, L. T. (2013). Data Cleaning. In *Epidemiology: Principles and Practical Guidelines* (pp. 389–399). Springer.
- Donna, H. (1988). Situated Knowledges: The Science Question in Feminism and The Privilege of Partial Perspective. *JSTOR*, 14(3), 575–599.
- Donovan, J. (2012). *Feminist Theory: The Intellectual Traditions*. Bloomsbury Publishing USA.

- Duehr, E. E. & Bono, J. E. (2006). Men, Women, and Managers: Are Stereotypes Finally Changing? *Personnel Psychology*, 59, 815–846.
- Edosomwan, S. (2011). The History of Social Media and its Impact on Business. *Applied Management and Entrepreneurship*, 16(3), 1–13.
- Enns, C. Z. (1992). Toward Integrating Feminist Psychotherapy and Feminist Philosophy. *Professional Psychology: Research and Practice*, 23(6), 453.
- Friborg, O. & Rosenvinge, J. H. (2013). A comparison of Open-ended and Closed Questions in the Prediction of Mental Health. *Springer Science Business Media*, 47(24), 1397–1411.
- Gajjala, R. (1999). Cyberfeminism, Technology and International Development. *Gender & Development*, 7(2), 8–16.
- Gayles, J. G. (2014). Attracting and Retaining Women in STEM. *IEEE*, 10(14), 90–93.
- Gazzar, N. El. (2011). Adolescents' Perception and Attitudes Towards Social Media Netowrks in Egypt - A Survey. In *In Proceedings of the EU Kids online Conference* (Vol. 21, pp. 1–23).
- Giesen, D., Meertens, V., Visschers, R. & Beukenhorst, D. (2012). Questionnaire Development. *Statistics Netherlands*, (12), 1–82.
- Giles, G. & Price, I. R. (2008). Adolescent Computer Use: Approach, Avoidance, and Parental Control. *Australian Journal of Psychology*, 60(2), 63–71.
- Goroshko, O., Samoilenko, S. & Fairfax, D. (2011). Twitter as a Conversation through e-Learning Context. *Revista de Informatica Sociala*, 23(15), 19.
- Hafkin, N. J. (2015). ICTs and Gender Equality: Transformation Through Research? *Information Technologies & International Development*, 11(2), 43–45.
- Hashim, W. (2015). Electronic Commerce Obstacles for Educated Iraqi Women. *Computer Science and Mobile Computing*, 4(2), 24–27.
- Hawthorne, S. & Klein, R. (1999). *Cyberfeminism: Connectivity, Critique and Creativity*. Spinifex Press.

- Heilman, M. E. (2012). Gender Stereotypes and Workplace Bias. *Research in Organizational Behavior*, 32, 113–135.
- Heinze, N. & Hu, Q. (2009). Why College Undergraduates Choose IT: A Multi-theoretical Perspective. *European Journal of Information Systems*, 18(5), 462–475.
- Heuwagen, S. E. (2014). A Good Blog Is A Continuing Conversation. How I Learned To Blog And Use Social Media As a Feminist Activist. *GEMS*, 7(7).
- Hillier, L. & Harrison, L. (2007). Building Realities Less Limited Than Their Own: Young People Practising Same-Sex Attraction on the Internet. *Sexualities*, 10(1), 82–100.
- Jonker, J. & Pennink, B. (2010). *The Essence of Research Methodology: A Concise Guide for Master and PhD Students in Management Science*. Springer Science & Business Media.
- Joshi, K. D. & Schmidt, N. L. (2006). Is the Information Systems Profession Gendered? Characterization of IS Professionals and IS Career. *ACM SIGMIS Database*, 37(4), 26–41.
- Joshi, K. D., Trauth, E., Kvasny, L. & McPherson, S. (2013). Exploring the Differences among IT Majors and Non-Majors: Modeling the Effects of Gender Role Congruity, Individual Identity, and IT Self-Efficacy on IT Career Choices. *ICIS*, 12(3), 120.
- Junco, R., Heiberger, G. & Loken, E. (2010). The Effect of Twitter on College Student Engagement and Grades. *Computer Assisted Learning*, 8(25), 1–14.
- Kabeer, N. (1999). Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment. *Development and Change*, 30(5), 435–464.
- Kabeer, N. (2001). Conflicts Over Credit: Re-Evaluating the Empowerment Potential of Loans to Women in Rural Bangladesh, 29(1).
- Karolak, M. & Guta, H. (2015). Veiling and Blogging: Social Media as Sites of Identity Negotiation and Expression among Saudi Women. *Journal of International Women's Studies*, 16(2), 115–127.



- Keller, B. & Mbewe, D. C. (1991). Policy and Planning for the Empowerment of Zambia's Women Farmers. *Canadian Journal of Development Studies/Revue Canadienne D'études Du Développement*, 12(8), 75–88.
- Khan, E. A. & Moin, A. (2013). Women Empowerment: Role of New Media. *Excellence International Journal of Education and Research*, 1(3), 206–216.
- Kimbrough, A. M., Guadagno, R. E., Muscanell, N. L. & Dill, J. (2013). Gender Differences in Mediated Communication: Women Connect More than Do Men. *Computers in Human Behavior*, 29(3), 896–900.
- Kothari, C. (2004). *Research Methodology: Methods and Techniques*. New Age International.
- Kvasny, L. (2006). Let the Sisters Speak: Understanding Information Technology from the Standpoint of the "Other." *ACM SIGMIS Database*, 37(4), 13.
- Kvasny, L., Trauth, E. M. & Morgan, A. J. (2009). Power Relations in IT Education and Work: The Intersectionality of Gender, Race and Class. *Journal of Information, Communication and Ethics in Society*, 7, 96–118.
- Lamont, M. (2013). Gender, Technology, and Libraries. *Information Technology and Libraries*, 28, 137–142.
- Lehtonen, H. (2014). *Social Media and Women of The Arab Spring*. University of Jyväskylä.
- Lemons, M. & Parzinger, M. (2007). Gender Schemas: A Cognitive Explanation of Discrimination of Women in Technology. *Journal of Business and Psychology*, 22, 91–98.
- Levy, P. S. & Lemeshow, S. (2013). *Sampling of Populations: Methods and Applications*. John Wiley & Sons.
- Lin, K. Y. & Lu, H. P. (2011). Why People Use Social Networking Sites: An Empirical Study Integrating Network Externalities and Motivation Theory. *Computers in Human Behavior*, 27(3), 1152–1161.
- Livingstone, S. (2008). Taking Risky Opportunities in Youthful Content Creation: Teenagers' Use of Social Networking Sites for Intimacy, Privacy and Self-Expression. *New Media & Society*, 10(3), 393–411.

- Malhotra, N. K. (2008). *Marketing Research: An applied Orientation*. Pearson Education India.
- Mawaddah, B. M. (2013). *Factors Affecting the Success of Nanotechnology Product Commercialisation in Malaysia*. UUM.
- McCabe, J. (2013). Making Theory Relevant: The Gender Attitude and Belief Inventory. *Teaching Sociology*, 41, 282–293.
- Monami, H. & Shams, Q. (2014). Empowering Women through Online Bakery Stores in Bangladesh: Barriers and Effective Strategies for Growth and Development. *Spearheading ICT4D Knowledge*, 4(1), 74.
- Moreno, L., González, Y. & Segura, I. (2014). Women in Computer Science Survey on the Perception of the Women's Participation in STEM Studies. *ACM*, 11(12), 7–8.
- Motter, J. L. (2011). Feminist Virtual World Activism: 16 Days of Activism Against Gender Violence Campaign, Guerrilla Girls BroadBand and subRosa. *Visual Culture & Gender*, 6(4), 109–119.
- Neuhauser, C. (2007). Project manager leadership behaviors and frequency of use by female project managers. *Project Management Quarterly*, 38(1), 21.
- Newsom, V. A. & Lara, L. (2012). Arab Women, Social Media, and the Arab Spring: Applying the Framework of Digital Reflexivity to Analyze Gender and Online Activism. *Journal of International Women's Studies*, 13(5), 31–45.
- Njoroge, R. (2013). *Impacts of Social Media Among The Youth on Behavior Change: A Case Study of University Students in Selected Universities In Nairobi, Kenya*. Universities of Nairobi.
- Norusis, M. J. (2011). *IBM SPSS Statistics 19 guide to data analysis*. Pearson Education.
- Notley, T. M. & Tacchi, J. a. (2005). Online Youth Networks: Researching the Experiences of “Peripheral” Young People in Using New Media Tools for Creative Participation and Representation. *Community, Citizen's and Third Sector Media and Communication*, 10(1), 73–81.

- Nowacka, K. & Estelle, L. (2015). Can Social Media Effectively Include Women's Voices in Decision-Making Processes? *OECD Development Centre*, 2(3), 1–5.
- Oliver, K., Collin, P., Burns, J. & Nicholas, J. (2006). Building Resilience in Young People through Meaningful Participation. *Advances in Mental Health*, 5(1), 34–40.
- Orser, B., Riding, A. & Stanley, J. (2012). Perceived Career Challenges and Response Strategies of Women in the Advanced Technology Sector. *Entrepreneurship & Regional Development*, 24(3), 73–93.
- Panko, R. R. (2008). IT Employment Prospects: Beyond the Dotcom Bubble. *European Journal of Information Systems*, 17(6), 182–197.
- Poonia, J., Scholar, T. & Bhurani, P. (2014). Social Computing: A New Perspective to Enhance the Utilization of Behavioural Modelling. *ICSPCT*, 402–406.
- Raacke, J. & Bonds-Raacke, J. (2008). MySpace and Facebook: Applying the Uses and Gratifications Theory to Exploring Friend-Networking Sites. *CyberPsychology & Behavior*, 11(2), 169–174.
- Ramazanoglu, C. & Holland, J. (2002). *Feminist Methodology: Challenges and Choices*. SAGE.
- Reid, M. F., Allen, M. W., Armstrong, D. J. & Riemenschneider, C. K. (2010). Perspectives on Challenges Facing Women in IS: The Cognitive Gender Gap. *European Journal of Information Systems*, 19(5), 526–539.
- Richardson, I., Amanda, T. & MacColl, I. (2007). Moblogging and Belonging: New Mobile Phone Practices and Young People's Sense of Social Inclusion. *ACM*, 9(4), 73–78.
- Rosser, S. V. (2005). Through the Lenses of Feminist Theory: Focus on Women and Information Technology. *Frontiers: A Journal of Women Studies*, 26(1), 1–23.
- Rossi, P. H., Wright, J. D. & Anderson, A. B. (2013). *Handbook of Survey Research*. Academic Press.
- Rutledge, C. M., Gillmor, K. L. & Gillen, M. M. (2013). Does This Profile Picture Make Me Look Fat? Facebook and Body Image in College Students. *ResearchGate*, 2(4), 251–258.

- Sandelowski, M. (2000). Combining Qualitative and Quantitative Sampling, Data Collection, and Analysis Techniques in Mixed-Method Studies. *Research in Nursing & Health*, 23(3), 246–255.
- Schuler, S. R. & Rottach, E. (2010). Women's Empowerment across Generations in Bangladesh. *Journal of Development Studies*, 46(10), 379–396.
- Sekaran, U. (2006). *Research Methods for Business: A Skill Building Approach*. John Wiley & Sons.
- Sekaran, U. & Bougie, R. (2010). *Research Methods for Business: A Skill Building Approach*. Wiley London.
- Serva, M. A., Baroudi, J. J. & Kydd, C. T. (2009). The Effects of Stereotype Threat on MIS Students: An Initial Investigation. *Journal of Computer Information Systems*, 50(2), 51–60.
- Shirky, C. (2011). The Political Power of Social Media-Technology, The Public Sphere and Political Change. *JSTOR*, 90(28), 28–41.
- Spieß, J., Joens, Y. T., Dragnea, R. & Spencer, P. (2014). Using Big Data to Improve Customer Experience and Business Performance. *Bell Labs Technical Journal*, 18(4), 3–17.
- Stavrositu, C. & Sundar, S. S. (2012). Does Blogging Empower Women? Exploring the Role of Agency and Community. *Journal of Computer-Mediated Communication*, 17(4), 369–386.
- Stephens, R. J., Metcalf, A., Blanchard, M., Mangan, C. & Burns, J. (2011). Reaching the Hard-to-Reach: How Information Communication Technologies Can Reach Young People at Greater Risk of Mental Health Difficulties. *Australasian Psychiatry*, 19(9), 58–61.
- Stevens, J. P. (2012). *Applied multivariate statistics for the social sciences*. Routledge.
- Stoker, D. J. (1981). *Sampling in Practice*. University of Pretoria.
- Subrahmanyam, K. & Lin, G. (2007). Adolescents on the Net: Internet Use and Well-Being. *Adolescence*, 42(168), 659–677.

- Susarla, A., Oh, J. & Tan, Y. (2012). Social Networks and the Diffusion of User-Generated Content: Evidence from YouTube Social Networks and the Diffusion of User-Generated Content: Evidence from YouTube. *Information System Research*, 23(8), 22–41.
- Sutton, J. & Pollock, S. (2000). Online Activism for Women's Rights. *CyberPsychology & Behavior*, 3(5), 699–706.
- Tasir, Z., Mohammed, Y., Harun, J. & Shukor, N. A. (2011). Students' Perception towards the Use of Social Networking as an e-Learning Platform. *Recent Researches in Education*, 5(7), 70–75.
- Taussig, M. T. (1980). Reification and The Consciousness of The Patient. *Social Science & Medicine. Part B: Medical Anthropology*, 14(1), 3–13.
- Timm, D. M. & Duven, C. J. (2008). Privacy and Social Networking Sites. *New Directions for Student Services*, 12(124), 89–101.
- Trauth, E. M. & Howcroft, D. (2006). Critical Empirical Research in IS: an Example of Gender and the IT Workforce. *Information Technology & People*, 19, 272–292.
- Trauth, E. M., Quesenberry, J. L. & Huang, H. (2006). Cross-Cultural Influences on Women in the IT Workforce. In *Proceedings of the 2006 ACM SIGMIS CPR Conference on Computer Personnel Research Forty four years of Computer Personnel Research: Achievements, Challenges & the Future* (pp. 12–19). ACM.
- Trauth, E. M., Quesenberry, J. L. & Huang, H. (2008). A Multicultural Analysis of Factors Influencing Career Choice for Women in the Information Technology Workforce. *Journal of Global Information Management*, 16(4), 1–23.
- Trauth, E. M., Quesenberry, J. L. & Morgan, A. J. (2004). Understanding The Under representation of Women in IT: Toward a Theory of Individual Differences. In *In Proceedings of the 2004 SIGMIS conference on Computer Personnel Research: Careers, Culture, and Ethics in a Networked Environment* (pp. 114–119). ACM.
- Tufekci, Z. & County, B. (2008). Grooming, Gossip, Facebook and Myspace. *Routledge*, 11(4), 544–564.

- UNDP. (2014). Human Development Report 2014. *Empowered Lives Resilient Nations*, 8(1), 239.
- Valkenburg, P. M. & Peter, J. (2009). Social consequences of the Internet for Adolescents: A decade of Research. *Current Directions in Psychological Science*, 18(1), 1–5.
- Valkenburg, P. M., Peter, J. & Schouten, A. P. (2006). Friend Networking Sites and Their Relationship to Adolescents' Well-Being and Social Self-Esteem. *CyberPsychology & Behavior*, 9(5), 584–590.
- Wagner, D., Vollmar, G. & Wagner, H.-T. (2014). The Impact of Information Technology on Knowledge Creation: An Affordance Approach to Social Media. *Journal of Enterprise Information Management*, 27(1), 31–44.
- Wajcman, J. (2006). Technocapitalism Meets Technofeminism: Women and Technology in a Wireless World. *Labour & Industry*, 16(3), 7–20.
- Wentling, R. M. (2009). Workplace Culture that Hinders and Assists the Career Development of Women in Information Technology. *Information Technology, Learning, and Performance Journal*, 25(1), 25–42.
- Wiid, J., Africa, S., Cant, M. C. & Nell, C. (2013). Open Distance Learning Students' Perception of The Use of Social Media Networking Systems as an Educational Tool. *International Business & Economics Research Journal*, 12(8), 867–882.
- Wkh, R. U., & Ri, G. (2015). *A Quantitative Framework of Skill Evaluation of IT Workforce*. Purdue University Graduate School.
- Zaidan, A., Zaidan, B., Kadhem, Z., Larbani, M., Lakulu, M. & Hashim, M. (2015). Challenges, Alternatives, and Paths to Sustainability: Better Public Health Promotion Using Social Networking Pages as Key Tools. *Springer*, 39(7), 1–14.
- Zikmund, W. G., Carr, J. C., Griffi, M. & Jacobsen, B. (2010). Business Research Methods. *South-Western, Cengage Learning*, 8, 1–18.
- Zita, M., Burger, C. & Scholtz, B. (2014). The Use of Social Media as an Enabler to Create Environmental Awareness of Staff in Higher Education. In *Proceedings of the 28th EnviroInfo 2014 Conference* (pp. 25–32).