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ANTECEDENTS AND IMPACT OF AIS USAGE AMONGST JORDANIAN SMES: MODERATING EFFECTS OF ENVIRONMENTAL UNCERTAINTY AND FIRM SIZE

ABD ALWALI LUTFI

DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
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ANTECEDENTS AND IMPACT OF AIS USAGE AMONGST JORDANIAN SMEs: MODERATING EFFECTS OF ENVIRONMENTAL UNCERTAINTY AND FIRM SIZE

By

ABD ALWALI LUTFI

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ABD ALWALI LUTFI MAHMOUD

calon untuk ijazah
(candidate for the degree of)

DOCTOR OF PHILOSOPHY

ANTECEDENTS AND IMPACT OF AIS USAGE AMONGST JORDANIAN SMEs: MODERATING EFFECT OF ENVIRONMENTAL UNCERTAINTY AND FIRM SIZE

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ABSTRACT

An effective use of the Accounting Information System (AIS) facilitates firms to sustain their competitiveness by providing timely, accurate and reliable financial information for more informed business decisions. Despite extensive government efforts, the usage of AIS amongst the Small and Medium-sized Enterprises (SMEs) in Jordan is relatively low and thus limiting the impact on firms’ effectiveness. Furthermore, previous studies regarding the antecedents and impact of AIS usage are somewhat inconsistent. Thus, the purpose of this study was to propose an integrated model utilizing the Technological, Organizational, and Environmental (TOE) framework and the Resource-based View (RBV) theory to better explain the antecedents affecting AIS usage and its impact on AIS effectiveness amongst Jordanian SMEs. This study hypothesized seven factors affecting AIS usage based on the TOE framework. Meanwhile, RBV explained the relationship between AIS usage and AIS effectiveness as well as the moderating effects of environmental uncertainty and firm size on such relationships. Using the quantitative approach, this study employed a self-administered questionnaire survey on 741 owners of SMEs listed in the Amman Chamber Industry, of which 186 responses were usable for analysis (25% response rate). The Partial Least Squares (PLS) results revealed significant influence of compatibility (technological factor), owner/manager commitment and organizational readiness (organizational factors), as well as competitive pressure and government support (environmental factors) on AIS usage. Furthermore, compatibility demonstrated the strongest influence on AIS usage followed by competitive pressure. The results further demonstrated a positive and significant effect of AIS usage on AIS effectiveness. Finally, the findings only ascertained considerable moderating effect of firm size. Apart from extending the body of knowledge by providing a comprehensive model to explain how several interrelated factors influence AIS usage and its impact on AIS effectiveness, the results offer insights on how firms could improve the use of AIS for better firms’ performance.

Keywords:  AIS usage, AIS effectiveness, TOE framework, RBV theory.

Kata kunci: penggunaan sistem maklumat perakaunan, keberkesanan sistem maklumat perakaunan, model teknologi-organisasi-persekitaran, teori perspektif berasaskan sumber.
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I am also grateful to my father, to whom this work is dedicated to – may Allah place him in heaven. I wish he could have lived longer to see me holding the Ph.D. degree as he had invested so much in me so that I could accomplish this work. My father, Lutfi Khassawneh, left me with amazing memories that will last me for a lifetime. I pray for him from the bottom of my heart to be in Heaven, Insha’Allah.

I would also like to whole-heartedly thank my beloved mother “Nada Khassawneh”, whose unending encouragement, support and prayers helped through the hard times and kept me going on what seemed like an unreachable achievement. She has always been my anchor and my guide both in good and bad times.

My heartfelt gratitude and never-ending appreciation to my soul mate and beloved wife “Eman”, thank you for being a part of my life and my strength, sharing my joy and sorrows, fears, challenges and achievements. May Allah bless our home with immense Baraka. To my children, Mahmoud, Shahed and Mohamad, you are my life and my reason to go on. I thank Allah for you and pray that the sacrifices we have made for each other do not go in vain. May He grant us long, happy and prosperous life.

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<tr>
<td>ACI</td>
<td>Amman Chamber of Industry</td>
</tr>
<tr>
<td>AIS</td>
<td>Accounting Information System</td>
</tr>
<tr>
<td>AMOS</td>
<td>Analysis of Moment Structures</td>
</tr>
<tr>
<td>AVE</td>
<td>Average Variance Extracted</td>
</tr>
<tr>
<td>CA</td>
<td>Cronbach’s Alpha</td>
</tr>
<tr>
<td>CAIS</td>
<td>Computer Accounting Information System</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive officer</td>
</tr>
<tr>
<td>CMV</td>
<td>Common Method Variance</td>
</tr>
<tr>
<td>CR</td>
<td>Composite Reliability</td>
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<tr>
<td>DOI</td>
<td>Diffusion of Innovation theory</td>
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<tr>
<td>E-Business</td>
<td>Electronic Business</td>
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<td>E-Commerce</td>
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<td>EDI</td>
<td>Electronic Data Interchange</td>
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<td>E-government</td>
<td>Electronic government</td>
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<td>E-procurement</td>
<td>Electronic procurement</td>
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<tr>
<td>ERP</td>
<td>Enterprise Resource Planning</td>
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<tr>
<td>EU</td>
<td>Environmental Uncertainty</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GITR</td>
<td>Global Information Technology Report</td>
</tr>
<tr>
<td>HKJ</td>
<td>Hashemite Kingdom of Jordan</td>
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<tr>
<td>IBPS</td>
<td>Interorganizational Business Process Standards</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>IEBT</td>
<td>Internet/e-business technologies</td>
</tr>
<tr>
<td>IS</td>
<td>Information System</td>
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<tr>
<td>IT</td>
<td>Information Technology</td>
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<td>IT/IS</td>
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<td>Management Information System</td>
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<td>PhD</td>
<td>Doctor of Philosophy</td>
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<td>Construct Cross validated Redundancy</td>
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<td>Structural Equation Modelling</td>
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<td>SMEs</td>
<td>Small and Medium-Sized Enterprises</td>
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<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
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<tr>
<td>SWT</td>
<td>Subhanahu Wa Ta'ala</td>
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<tr>
<td>TOE</td>
<td>Technology-Organizational-Environmental framework</td>
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<tr>
<td>UN</td>
<td>United Nation</td>
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<tr>
<td>WASME</td>
<td>World Association for SMEs</td>
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<td>WB</td>
<td>World Bank</td>
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<td>WIPO</td>
<td>World Intellectual Property Organization</td>
</tr>
<tr>
<td>GCR</td>
<td>Global Competitiveness Report</td>
</tr>
<tr>
<td>MOICT</td>
<td>Ministry of Information and Communications Technology</td>
</tr>
<tr>
<td>TCA</td>
<td>Telecommunications Commission Authority</td>
</tr>
</tbody>
</table>
CHAPTER ONE
INTRODUCTION

1.1 Background

SMEs contribute significantly to both the social and economic development and growth of most developing countries (Olusola & Oluwaseun, 2013). Due to their capacity for improving economic growth and improve human welfare and the national output of a country, SMEs have been recognized as the main sustenance of the economy (Akinguola, 2006; Yahya, Nair, & Piaralal, 2014). This sector plays considerable roles in supporting higher Gross Domestic Product (GDP) and greater export activities and is a key source of new jobs, employment opportunities and the reduction of poverty (Kiveu, 2013; World Association for SMEs [WASME], 2006). As they are usually domestic-oriented business, SME business activities have direct effects on the national economy (Kotelnikov & Kim, 2007). Considering the imperative roles of SMEs in both developing and developed economies, many global agencies such as the World Bank (WB), United Nations (UN), World Intellectual Property Organization (WIPO), and the Organization for Economic and Cooperation and Development (OECD) have established guidelines enabling such firms to play a significant role in the worldwide economic system (Mohamad, 2012).

Like SMEs in other countries, Jordanian SMEs are considered to be the backbone and significant generator of the Jordanian economy (Al-Hyari, Al-Weshah, & Alnsour, 2012; Alshir’ah, Abdul-Jabbar, & Samsudin, 2016). This sector accounts for more
The contents of the thesis is for internal user only
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Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information systems research, 14*(2), 189-217.


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Henseler, J. (2012). *PLS-MGA: A Non-Parametric Approach to Partial Least Squares-Based Multi-Group Analysis*. In Challenges at the interface of data
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Appendix A

The English and Arabic Questionnaires

Dear Prof / Reader / Dr / Mr / Mrs / Ms,

ACADEMIC RESEARCH QUESTIONNAIRE

Dear Manager,

I am Ph.D. student at the University Utara Malaysia, currently preparing my doctoral project on

ANTECEDENTS AND IMPACTS OF AIS USAGE AMONGST SMEs: THE MODERATING EFFECT OF FIRM SIZE AND ENVIRONMENT UNCERTAINTY

Small and Medium-sized Enterprises (SMEs) have prominent roles in national agenda. In line with that, the government, through various initiatives, strongly encourages this sector to enhance its productivity by deploying the usage of Accounting Information System (AIS) solutions. In fact, these solutions do not use intensively by all SMEs. Thus, it is important to recognize factors affecting AIS usage as well as its impact amongst SMEs.

The main aim of this study is to examine AIS usage and AIS effectiveness among SMEs in Jordan. We really appreciate your cooperation in making this research a success. The surveys take between 10 - 15 minutes. Please spare some of your valuable time to complete it.

All your response will be kept fully confidential by School of Accounting in Universiti Utara Malaysia. If you have any questions about the questionnaire, or would you like to see the final results, feel free to contact the researcher.

Thank you for participating in this study. Your cooperation is highly appreciated.

The questionnaire consists of FIVE (5) major parts, namely: (1) Company Information, (2) AIS usage, (3) AIS usage impacts (AIS effectiveness), (4) factors influencing AIS usage, and (5) Personal Information.
AIS is defined in this study as ‘use of computer hardware and computer software applications to support business operations, organizational management and decision making processes’.

Yours sincerely

Abd Alwali Lutfi Al Khassawneh          ID: 95613
E-mail: abd_alwale@hotmail.com        Tel: 00962799005993/0060182991635
Supervisors: Prof. Dr. Kamil Md Idris     Dr. Rosli Bin Mohamad
## Operational Definition of Study's Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Operational definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Advantage</td>
<td>The degree to which AIS is perceived as being better than the idea it supersedes.</td>
</tr>
<tr>
<td>Compatibility existing</td>
<td>The degree to which AIS is perceived as consistent with the values, past experiences, and needs of potential users.</td>
</tr>
<tr>
<td>Owner/Manager Commitment</td>
<td>The extent of commitment and resource support from top organization’s management for AIS usage.</td>
</tr>
<tr>
<td>Organization readiness</td>
<td>The availability of the needed organizational resources for the usage of AIS.</td>
</tr>
<tr>
<td>Competitive Pressure</td>
<td>The Pressure derived from the advantages that competitors enjoy when they use technology, in which a firm has to consider whether or not to follow its competitors, or threat of losing competitive advantage, forcing firms to use AIS.</td>
</tr>
<tr>
<td>Government Support</td>
<td>The assistance provided by the authority to encourage the spread and use of AIS in businesses.</td>
</tr>
<tr>
<td>Networking</td>
<td>Perceived importance of social network as a source of advice to facilitate the usage of AIS.</td>
</tr>
<tr>
<td>AIS Usage</td>
<td>The extent to which is using computer hardware and software applications to support operations, management, and decision making in the business to conduct value and impact.</td>
</tr>
<tr>
<td>AIS Effectiveness</td>
<td>The extent to which AIS actually contributes to achieving organizational goals.</td>
</tr>
<tr>
<td>Environmental Uncertainty (EU)</td>
<td>Manager’s perceptions regard the recurrence of changes and unpredictability of marketing practices, production technology, competitors and service demand.</td>
</tr>
<tr>
<td>Firm Size</td>
<td>The number of employees working in the firm.</td>
</tr>
</tbody>
</table>
1. Now, we would like to learn about the current level of AIS usage. Please specify intensity of computer AIS usage for each of the following applications in your firm.

<table>
<thead>
<tr>
<th>Application</th>
<th>Not used at all</th>
<th>Not used</th>
<th>Sometime Used</th>
<th>Extensively used</th>
<th>Very extensively used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  General Ledger</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2  Credit Transactions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3  Inventory</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4  Budgeting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5  Budget Variance Analysis</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6  Trial Balance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7  Point-of-sale (POS)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8  Income Statement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9  Balance Sheet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10 Salary</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11 Financial accounting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12 Ownership statement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
PART (2): AIS EFFECTIVENESS

2. The following statements aim to assess the level of effectiveness of your computerized AIS. Please tick [/] to indicate the most appropriate number on the scale ranging from 1 = strongly disagree to 5 = strongly agree.

**Our computerized AIS achieves .....**

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High levels of Systems Quality (e.g. system reliability, features and functions, response time).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. High levels of Information Quality (e.g. information clarity, completeness, usefulness, accuracy).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. High levels of Information Use (e.g. regularity of use, number of enquiries, duration of use, and frequency of reports requests).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. High levels of User Satisfaction (e.g. overall satisfaction, enjoyment, difference between information needed and received and software satisfaction).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. High degree of positive Individual Impact (e.g. design effectiveness, problem identification, improved individual productivity).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. High levels of positive Organizational Impact (e.g. contribution to achieving goals, cost/benefit ratio, overall productivity gains, and service effectiveness).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
PART (3): FACTORS INFLUENCING AIS USAGE

This part assesses factors that potentially influence your company's decision to intensity use AIS. Kindly provide your assessment using a five-point scale specified respectively.

3. Relative Advantage

<table>
<thead>
<tr>
<th>Factor</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Using AIS can reduce our operation cost.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Using AIS can reduce our operation time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Using AIS can’t provide useful information for decision making.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Using AIS don’t improve the quality of our operations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Using AIS enhance the effectiveness of our firm’s operations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Using AIS don’t enable us to perform our operations more quickly.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

4. Compatibility

<table>
<thead>
<tr>
<th>Factor</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Using AIS is compatible with our business culture.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Using AIS is compatible with our business values.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Using AIS is compatible with our preferred work practices.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. AIS is not compatible with our existing information infrastructure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. AIS is not compatible with our firm's existing experience with similar systems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
5. **Owner/managers Commitment**

Please indicate the extent of your commitment in each of the following AIS development activity:

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>Highly Not Involved</th>
<th>Not Involved</th>
<th>Neutral</th>
<th>Involved</th>
<th>Highly Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Determine the need for AIS solutions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Selection of appropriate hardware and software.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Implementation of AIS related applications.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Solving problems since AIS implementation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Planning for further developments in AIS usage.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

6. **Organization Readiness**

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. We are financially ready to use AIS.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. We have enough technological resources to use AIS.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Our employees don’t have adequate knowledge to use AIS.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Our business values and norms would not prevent us from using AIS in our operations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. We don’t have in-house expertise to use AIS.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

7. **Competitive Pressure**

319
| 1. Our firm is **not** under pressure from competitors to use AIS. | 1 | 2 | 3 | 4 | 5 |
| 2. Some of our competitors have already started using AIS. | 1 | 2 | 3 | 4 | 5 |
| 3. Our competitors **don’t** know the importance of AIS and are using it for operations. | 1 | 2 | 3 | 4 | 5 |
| 4. Our firm experienced competitive pressure to implement AIS. | 1 | 2 | 3 | 4 | 5 |
| 5. Our firm is affected by competitors in the local market. | 1 | 2 | 3 | 4 | 5 |
| 6. Our firm is affected by competitors in the national market. | 1 | 2 | 3 | 4 | 5 |

**8. Government Support**

<table>
<thead>
<tr>
<th>1. Government involvement with AIS usage function is strong.</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Government is <strong>not</strong> interested in AIS usage function.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Government understands the importance of AIS usage.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Government <strong>doesn’t</strong> support the AIS usage function.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Government considers AIS usage as a strategic resource.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Government <strong>doesn’t</strong> understand AIS usage opportunities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Government keeps the pressure on operating units to work with AIS.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
8. Our firm is under pressure from government to use AIS.  
9. The government is providing us with incentives to use AIS.  
10. The government is active in setting up the facilities to enable AIS usage.

<table>
<thead>
<tr>
<th>Channels</th>
<th>Not important at all</th>
<th>Not important</th>
<th>Normal</th>
<th>Important</th>
<th>Highly Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Family members/relatives</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Staffs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. My own knowledge/experience</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Other business owner</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

9. Networking
How do you assess the importance of each of the following social influence of advices on AIS usage?

<table>
<thead>
<tr>
<th>Channels</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The actions of your competitors are easy to predict.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. The demand for your product is <strong>Unpredictable</strong>.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. To remain competitive, your firm must change its marketing practices very frequently.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. The rate of technological evolution in your industry is <strong>very slow</strong>.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. We are satisfied about the number of new products and services have been marketed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
during the past 5 years in our company.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6. The legal, economical, and political constraints surrounding our company have remained about the same.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

PART (4): COMPANY INFORMATION

We would like some information about your company.

(Please check [ ] on a box or write answer where appropriate)

11. What is the legal status of your company?

[ ] Limited Company [ ] Partnership [ ] Sole Proprietorship

12. In which year was the firm established? ----

13. How many full-time employees, including managers, does your company employ? ---

14. In which category does your company belong? (please tick [ ] the appropriate box):

[ ] Textile, clothing and footwear [ ] Electrical appliances
[ ] Plastic and rubber products [ ] Food Products
[ ] Typing, paper and packing [ ] Furniture and wooden products
[ ] Oil and gas industry (Transportation) [ ] Chemical/pharmaceutical industry
[ ] Mining and quarrying [ ] Tobacco and cigarettes
[ ] Iron, steel and aluminum industry [ ] Building materials and construction
[ ] Other (please specify):------------------------

15. How many years has your company been using accounting applications?

[ ] 2 years or less [ ] 3 to 5 years
[ ] 6 to 10 years [ ] over 10 years
PART (5): PERSONAL INFORMATION

Please tick (/) or write your responses on the following questions that most accurately describe yourself.

16. What is your current position in the company?
   □ Chief Executive Officer       □ Manager
   □ Senior manager               □ other (please specify):-------------

17. How long have you been in the current position?       ------ Years

18. Please indicate your gender:
   □ Male                              □ Female

19. Please indicate your age range:
   □ Under 30                         □ 30 - 39
   □ 40-49                             □ 50 and above

20. Please indicate your highest level of education:
   □ Diploma or below                □ Bachelor Degree
   □ Master's Degree                 □ PhD

Thank you for participating in this survey.
السلام عليكم ورحمة الله وبركاته

عزيزي المدير،

أما طالب دكتوراه في جامعة أورتارا الماليزية، أقوم حاليا بإعداد مشروع الدكتوراه تحت عنوان

العوامل المؤثره على استخدام نظم المعلومات المحاسبية واثرها في مجال التعليم المحاسبية في الشركات الصغرى والمتوسطة في الأردن: تأثير حجم الشركة وبيئة عمل التآكل

في الواقع، المشاريع الصغرى والمتوسطة الحجم لها دورهم وبارز في جدول الأعمال الوطني. وبناءً على ذلك، فإن الحكومة، ومن خلال مختلف المبادرات، تلتقي بقوة لهذه القطاع لتعزيز إنتاجيته عن طريق نشر استخدام نظم المعلومات المحاسبية (AIS). في الواقع، نظم المعلومات المحاسبية لا تستخدم بشكل مكثف من قبل جميع الشركات الأردية الصغرى والمتوسطة. وبالتالي، من المهم أن تتحقق وتسري العوامل التي تؤثر على استخدام نظم المعلومات المحاسبية فضلا عن تأثيره على الشركات الصغرى والمتوسطة.

الهدف الرئيسي من هذه الدراسة هو دراسة العوامل المؤثره على زيادة وتكييف استخدام نظم المعلومات المحاسبية واتصال الاستخدام على فعالية هذه النظم بين الشركات الصغرى والمتوسطة في الأردن.

هذه الدراسة تعتمد كثيرا على تعاونك في إنجازها ولقد تم اختيارك لكي تقود المشروع المستهدف في البحث.

وكل ذلك استناداً إلى أنك ذا صبر وفائض من الوقت لم تتمكن من القيام بهذا البحث. ولذا أرجو أن تتمكن من القيام بذلك.

ويكون الاستنتاج من خمسة (5) أجزاء رئيسية، وهما: (1) استخدام نظم المعلومات المحاسبية (2) أثر استخدام نظم المعلومات المحاسبية (3) نظم المعلومات المحاسبية في استخدام نظم المعلومات المحاسبية (4) نظم المعلومات عن الشريحة، و (5) نظم المعلومات الخاصة.

تعتبر هذه الدراسة بأنها "استخدام أجهزة الكمبيوتر وتطبيقات برامج الكمبيوتر لدعم العمليات التجارية، وإدارة المنظمة وعمليات صنع القرار.

لكن خالص الشكر والتحية،

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البريد الإلكتروني: abd_alwale@hotmail.com

الإشراف:
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عميد كلية الاقتصاد والعلوم الإدارية
د. روسلي محمد
رئيس قسم نظم المعلومات المحاسبية والتكنولوجيا
الأسبياء

الجزء الأول: الوضع الحالي للاستخدام البرمجيات المحاسبية المحوسية

في هذا الجزء الرجاء الإاجابة باختيار مستوى المطابقة للعمل. فإذا كانت الجملة مطابقة للإجابة فيمكنك الاختيار بين الجزء الثاني:

(في حال استخدام البرمجيات المحاسبية المستخدمة لا تحتوي على الوظيفة المقابلة لها)

غير مطلقا

(في حال استخدام البرمجيات المحاسبية المستخدمة تحتوي على الوظيفة المقابلة لها ولكن بعداد هذه الوظيفة)

مستخدم نادرا

(في حال استخدام البرمجيات المحاسبية المستخدمة تحتوي على الوظيفة المقابلة لها ولكن بعداد هذه الوظيفة بشكل منتظم وفي فترة طويلة وليس بشكل دوري ومنتظم)

مستخدم على نطاق واسع

(في حال استخدام البرمجيات المحاسبية المستخدمة بشكل مكلف ومستمر بشكل دوري)

مستخدم على نطاق واسع جدا

(يرجى تحديد مستوى استخدام البرامج المحاسبية المحوسية لأعداد كل من الوظائف والأنشطة التالية في شركتك)

الرجاء اختيار الرقم الأقرب إلى اجابةك بوضع علامة (1)

1. نرغب أن نعرف المزيد من المعلومات المستخدمة للبرامج المحاسبية المحوسية.

<table>
<thead>
<tr>
<th>الوظيفة</th>
<th>مستخدم على نطاق واسع جدا</th>
<th>مستخدم على نطاق واسع</th>
<th>مستخدم نادرا</th>
<th>غير مستخدم مطلقا</th>
</tr>
</thead>
<tbody>
<tr>
<td>إعداد دفتر الاستاذ العام</td>
<td>5</td>
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<td>3</td>
<td>1</td>
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<tr>
<td>إعداد العمليات الالتمانية</td>
<td>4</td>
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<tr>
<td>كشف تكلفة المخزون المنتج</td>
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<td></td>
</tr>
<tr>
<td>إعداد الموازنات</td>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>تحليل نقاط المبيعات</td>
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<td>1</td>
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</tr>
<tr>
<td>إعداد قائمة الدخل</td>
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<td>1</td>
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<td></td>
</tr>
<tr>
<td>إعداد الميزانية العمومية (قائمة المركز المالي)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>إعداد النروات والرواتب</td>
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<td></td>
</tr>
<tr>
<td>المحاسبة المالية</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>إعداد قائمة حقوق المالكين (رأس مال المساهمين)</td>
<td>1</td>
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<td></td>
</tr>
</tbody>
</table>
الجزء الثاني: فعالية نظم المعلومات المحاسبية

هذا الجزء يهدف لتقديم فعالية البرامج المحاسبية المحوسية في شركةكم. الرجاء الإجابة باختيار مستوى المطابقة للجملة إذا كانت الجملة مطابقة للاجابة فيمكنك الاختيار بين مواقف بشده أو موافق أما في حال عدم الموافقة بين الإجابة و الجملة فيمكنك الاختيار بين غير موافق أو غير موافق بشده أما في حالة عدم التأكد من الإجابة أو ان المطابقة ترتد بين الموافقة غير الموافق فيمكنك اختيار غير متأكد.

أنظمة المعلومات المحاسبية المحوسية في شركتنا تعتبر فعالة دائماً.

<table>
<thead>
<tr>
<th>مستوى عالي من جودة النظرة (مثل: موثوقية النظام, الخصائص والوظائف, زمن الاستجابة للنظام)</th>
<th>موافق بشده</th>
<th>موافق</th>
<th>غير موافق</th>
<th>غير موافق بشده</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. مستوي عالي من جودة النظام</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2. مستوي عالي من جودة المعلومات (مثل: معلومات واضحة, مكتملة وواضحة, دقيقة)</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3. مستوى عالي من استخدام المعلومات (مثل: استخدام المعلومات بشكل منظم, الاستخدام متكرر, تكرار طلب التقارير)</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4. مستوى عالي من رضا المستخدم (مثل: الرضا العام عن عمل النظام, الاستمتاع باستخدام النظام, مدى الاختلاف بين المعلومات المطلوبة والواردة)</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5. درجة عالية من التأثير على الأفراد بشكل إيجابي (مثال: تحسين إنتاجية الأفراد, فعالية التصميم, تحديد المشكلات)</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>6. درجة عالية من التأثير على المنظومة بشكل إيجابي (مثل: المساهمة في تحقيق الأهداف, نسبة التكاليف إلى الإيرادات, تحسين الإنتاجية بشكل عام, جودة وفعالية الخدمة والمعلومات المقدمة)</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

الجزء الثالث: العوامل المؤثر في استخدام نظم المعلومات المحاسبية

هذا الجزء لتقييم العوامل التقنية والموسمية والبيئية المتوفرة يتوفر على قرار الشركة لتكثيف استخدام البرامج المحاسبية المحوسية. الرجاء اختيار الرقم الأقرب إلى إجابة بوضوح علامة (1)

الفوائد المتوقعة

يجب هذا العام مستيو اقتاذكم لفوائد المتوقعة من استخدام نظم المعلومات المحاسبية بصورة متكاملة. ان استخدام شرككم نظم المعلومات المحاسبية يؤدي إلى

<table>
<thead>
<tr>
<th>مستوى عالي من جودة التشغيل والعمليات لدينا</th>
<th>موافق بشده</th>
<th>موافق</th>
<th>غير موافق</th>
<th>غير موافق بشده</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. يقلل من كلفة التشغيل والعمليات لدينا</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2. يقلل من الوقت التشغيل والعمليات لدينا</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3. لا يوفر معلومات مفيدة لاتخاذ القرارات</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
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<tr>
<td>4. لا يحسن جودة التشغيل والعمليات لدينا</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5. يعزز عالياً التشغيل والعمليات لدينا</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>6. لا يمكننا من أداء عملياتنا بسرعة أكبر</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
4. التوافق

قياس هذا العامل مستوى انتقاداتكم أن استخدام نظم المعلومات المحاسبية بصورة مكثفة متوافق مع شرككم من النواحي الفنية والتقنية. أن استخدام شرككم لنظم المعلومات المحاسبية

<table>
<thead>
<tr>
<th>موافق بلاذه</th>
<th>موافق 4</th>
<th>غير متأكد 3</th>
<th>غير موافق 2</th>
<th>غير موافق بلاذه 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
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</tr>
</tbody>
</table>

1. يتوافق مع ثقافة العمل في شركتنا.
2. يتوافق مع قيم العمل المرشودة في شركتنا.
3. يتوافق مع ممارسات وخطط العمل الفضلى في شركتنا.
4. لا يتوافق مع البنية التحتية لتقنية المعلومات والأجهزة الموجودة في شركتنا.
5. لا يتوافق مع خبرة وموهبت الموظفين في شركتنا.

5. التزام المالك المدير

قياس هذا العامل مستوى التزام المالك المدير باستخدام نظم المعلومات المحاسبية بصورة مكثفة أكثر. أن

<table>
<thead>
<tr>
<th>= موافق بلاذه</th>
<th>موافق 4</th>
<th>غير متأكد 3</th>
<th>غير موافق 2</th>
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</tbody>
</table>

1. تحديد الحاجة إلى حلول نظم المعلومات المحاسبية.
2. اختيار الأجهزة والبرامج المحاسبية المناسبة.
3. استخدام التطبيقات ذات الصلة بنظم المعلومات المحاسبية.
4. حل المشاكل ذات الصلة منذ استخدام نظم المعلومات المحاسبية.
5. التخطيط لمزيد من التطور والتحسين فيما يتعلق باستخدام نظم المعلومات المحاسبية.

6. جاهزية الشركة

قياس هذا العامل مستوى جاهزية شرككم لاستخدام نظم المعلومات المحاسبية بصورة مكثفة أكثر. أن استخدام نظم المعلومات المحاسبية بصورة مكثفة يكون عندما

<table>
<thead>
<tr>
<th>موافق بلاذه</th>
<th>موافق 4</th>
<th>غير موافق 2</th>
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<tbody>
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</tr>
</tbody>
</table>

1. يكون لدينا موارد كافية لاستخدام نظم المعلومات المحاسبية.
2. يكون لدينا موارد كافية لاستخدام نظم المعلومات المحاسبية (مثل الأجهزة والموظفين).
3. لا يوجد لدى الموظفين معرفة خبرة كافية باستخدام نظم المعلومات المحاسبية.
4. لا يوجد موظفين مؤهلين لاستخدام نظم المعلومات المحاسبية.
5. لا يوجد موظفين مؤهلين لاستخدام نظم المعلومات المحاسبية.

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7. الضغط التنافسي

يقيس هذا العامل الدور الذي تترأته بها شركتك من قبل المنافسين لاستخدام نظم المعلومات المحاسبية بصورة مكثفة

<table>
<thead>
<tr>
<th>مواقف</th>
<th>موافق بشده</th>
<th>موافق غير متأكد</th>
<th>موافق بشده غير موافق</th>
<th>غير موافق</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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</tbody>
</table>

8. الدعم الحكومي

يقيس هذا العامل مستوى مساهمة الحكومه لدعم استخدام نظم المعلومات المحاسبية بصورة مكثفة

<table>
<thead>
<tr>
<th>مواقف</th>
<th>موافق بشده</th>
<th>موافق غير متأكد</th>
<th>موافق بشده غير موافق</th>
<th>غير موافق</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>
9. الشبكات (تأثير العلاقات الاجتماعية)

يقيس هذا العامل مستوى الاستمتاع بكل من التالية كمسودة للنصيحة والمشورة حول استخدام البرامج المحاسبية المحوسية بصورة مكثفة أكثر. أن استخدام شركائكم لنظم المعلومات المحاسبية بصورة مكثفة توجه الاستعانة بها

<table>
<thead>
<tr>
<th>رقم</th>
<th>الملاحظة</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>أحد الأصدقاء</td>
</tr>
<tr>
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<tr>
<td>3</td>
<td>الموظفين في الشركة</td>
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<tr>
<td>4</td>
<td>معرف الذي يخزني الشخص</td>
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<td>أصحاب ومديرين الشركات الأخرى</td>
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<th>رقم</th>
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<tr>
<td>1</td>
<td>يكون من المهم الاستماع لتصرفات وردود افعال المنافسين للشركة</td>
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<tr>
<td>2</td>
<td>لا يمكن التنبؤ بحجم الطلب على المنتج الخاص بالشركة</td>
</tr>
<tr>
<td>3</td>
<td>لكي تكون الشركة قادرة على المنافسة، يجب أن تقوم الشركة بتغير وتزويد الممارسات التسويقية باستمرار</td>
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<td>4</td>
<td>معدل إدخال التطور التكنولوجي فيما يتعلق بصناعات منخفضة جدا</td>
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<td>5</td>
<td>نحن راضون عن حجم وعدد المنتجات والخدمات التي تم تسويقها خلال الخمس سنوات الماضية</td>
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<tr>
<td>6</td>
<td>لا تزال شركتنا تواجه القيود القانونية والاقتصادية والسياسية المحيطة بها</td>
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</table>

10. إدراك حاله عدم القدرة في البيئة الخارجية

يقيس هذا العامل مستوى إدراك شركائكم لحاله عدم القدرة في البيئة الخارجية واثره على استخدام نظم المعلومات المحاسبية بصورة مكثفة أكثر

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<td>لكي تكون الشركة قادرة على المنافسة، يجب أن تقوم الشركة بتغير وتزويد الممارسات التسويقية باستمرار</td>
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<td>6</td>
<td>لا تزال شركتنا تواجه القيود القانونية والاقتصادية والسياسية المحيطة بها</td>
</tr>
</tbody>
</table>
الجزء الرابع: معلومات عن الشركه

هذا الجزء يحتوي على أسئلة عامة عن الشركة. يرجى وضع إشارة (✓) في المكان الصحيح.

11. يرجى تحديد الوضع القانوني للشركة

- ملكية فردية
- شراكة

12. الرجاء تحديد متى تم تأسيس الشركة

13. الرجاء تحديد عدد الموظفين بدوام كامل الذين يعملون في الشركة بما فيهم المديرين

14. تحت أي من القطاعات الرئيسية التالية تندرج طبيعة عمل شركتك (الرجاء وضع إشارة (✓) في المربع المناسب)

- النسيج واللباسية والاحتيةج
- المنتجات البلاستيكية والمطاطية
- الآلات والمنتجات الخشبية
- الطعام والورق والتعبئة
- الصناعات الكيميائية والدوائية
- التكعيب والسيارات
- الحديد والصلب
- الصناعات الإنشائية والبناء

15. يرجى تحديد عدد سنوات استخدام البرامج المحاسبية المحوسية في شركتك

- أكثر من 10 سنوات
- من 6 إلى 10 سنوات
- من 3 إلى 5 سنوات
- 2 سنوات أو أقل

الجزء الخامس: البيانات الشخصية

يرجى وضع علامة (✓) أو كتابة ردوتك على الأسئلة التالية التي تتعلق بالبيانات démographique في الشركه.

16. يرجى تحديد المركز الوظيفي الحالي لك في الشركة

- مدير عام
- مديري تنفيذي
- مدير
- آخر (يرجى تحديدها)

17. يرجى تحديد عدد السنوات في هذا المركز الوظيفي الحالي

18. يرجى تحديد الجنس

- ذكر
- أنثى

19. يرجى تحديد إحدى الفئات العمرية التالية

- أقل من 30 سنة
- 30 - 39
- 40 - 49
- 50 فما فوق

20. يرجى تحديد أعلى مؤهل علمي حصلت عليه

- دبلوم أو أقل
- بكالوريوس
- ماجستير

شكراً لكم على مشاركتكم القيمة في هذه الأطروحه

عدوالاوي لطفي خصاونة
**Appendix B**  
*Non-Response Bias Using Independent Samples Test Between Demographics Variables*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
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### Appendix C

**Normality Test**

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## Appendix D

### Multicollinearity Test

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### Appendix E

**Path Coefficients (Mean, STDEV, T-Values)/ The Main Effect Model**

<table>
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<tr>
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<th>Original Sample (O)</th>
<th>Sample Mean (M)</th>
<th>Standard Deviation (STDEV)</th>
<th>Standard Error (STERR)</th>
<th>T Statistics (O/STERR)</th>
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<tbody>
<tr>
<td>AIS Usage -&gt; AIS Effectiveness</td>
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<td>Compatibility -&gt; AIS Usage</td>
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<td>Competitive Pressure -&gt; AIS Usage</td>
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### Appendix F

*Path Coefficients (Mean, STDEV, T-Values)/ The Moderating (Interaction) Effects*

| AIS Usage * Environmental Uncertainty -> AIS Effectiveness | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | Standard Error (STERR) | T Statistics (|O/STERR|) |
|-----------------------------------------------------------|---------------------|-----------------|-----------------------------|------------------------|------------------------|
| 0.000774                                                  | -0.028671           | 0.080633        | 0.080633                    | 0.0096                 | 0.0096                 |
Appendix G

Non-Response Bias Using Independent Samples Test Between responded via email & by hand

<table>
<thead>
<tr>
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<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
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