

**Deanship of Graduate Studies  
Al-Quds University**



**The Effect of Implementing an Application Performance Monitoring Tool  
for E-Banking Services on Customer Experience**

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**The Effect of Implementing an Application Performance Monitoring Tool  
for E-Banking Services on Customer Experience**

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**Al-Quds University**  
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**Thesis Approval**

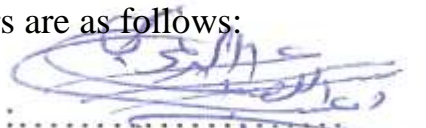
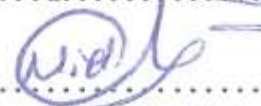
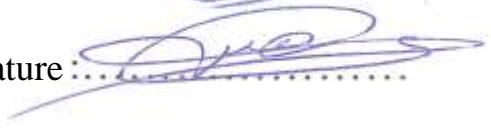
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**Declaration**

I certify that this thesis is submitted for the degree of Master, is the result of my own research, except where otherwise acknowledged, and that this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

**Signed:****Shatha Sameer Abdullatif Barghouthi****Date: 4/8/2019**

## **Dedication**

To my Husband Yazan & Son Adam who held my hand tightly through this journey and have been extremely patient and tolerant, the encouragement you've provided is unmatched.

To my Father & first teacher Professor Dr. Sameer who taught me how to be tenacious and articulate, and no matter how difficult things get they need to be seen through

To my Mother Amira whose love and support is endless, and who taught me the true meaning of patience and unconditional love.

To my Brother Sinan, the IT guru that I look up to, the journey you took through your education and career has impacted my life in so many ways, I stand here because you set for me the perfect example.

Thank you for everything, without you all none of my success would be possible

## **Acknowledgement**

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I'd wish to extend my gratitude to the bankers that shared with me a pool of information and for the respondents of the questionnaire, this research wouldn't have been completed if it weren't for you.

Finally, I'd like to thank all those who assisted me in coming this far, especially my colleagues, your support and encouragement has been unwavering

## **Abstract**

For banks to advance and develop, they must capitalize on investing customers and compete with other banks. In keeping up with this task, adoption of new technologies is an uphill battle as new software and technologies are routinely introduced or upgraded by banks to serve their customers and to attract new ones. One of the recent advances in this area is implementation of new software monitoring the performance (Application Performance Monitoring Tool – APM) of the e-banking services being provided. This research examines the significance of implementing such a monitoring solution. The research sample was constituted from commercial bank customers in Amman-Jordan to examine their customer experience since some banks have implemented the monitoring whilst others have not which provided an excellent opportunity to evaluate each individual bank and to compare between banks.

The developed questionnaire used to collect data was reviewed by experts; a pilot sample was used to evaluate the questionnaire. Electronic distribution of the questionnaire returned 2504 responses which were filtered down to 1311 responses. Each question was then analyzed for each bank to determine the level of statistical significance at  $\alpha \leq 0.05$  using *t*-test.

The individual results and the collective results were in agreement showing a high level of significant differences between banks implementing the monitoring tool vs. banks that did not apply the tool.

In conclusion the study concluded that the implementation of an APM has a positive impact on customer experience; therefore it is appropriate to recommend the implementation of the Application Performance Monitoring Tool (APM).

Key Words: Application Performance Monitoring, Customer Experience, Commercial Banks, e-Services.



## أثر استخدام برمجيات مراقبة أداء الأنظمة البنكية الإلكترونية على تجرید العملاء

إعداد: شذا سمیر عبد اللطیف البرغوثی

إشراف: الدكتور سلیوی البرغوثی

### ملخص الدراسة

لكي تتقدم البنوك وتتطور ، يجب عليها الارتكاز على العملاء المستثمرين والتنافس مع البنوك الأخرى ، تماشياً مع هذه المهمة ، يعتبر اعتماد التقنيات الجديدة معركة شاقة، حيث يتم إدخال أو تحديث البرامج والتقنيات الجديدة بشكل روتيني من قبل البنوك لخدمة عملائها ولجذب عملاء جدد. أحد التطورات الحديثة في هذا المجال هو تنفيذ برنامج جديد يراقب أداء التطبيقات (APM) للخدمات المصرفية الإلكترونية التي يتم توفيرها. يبحث هذا البحث في أهمية تطبيق برامج مراقبة أداء الأنظمة البنكية الإلكترونية هذه. تشكلت عينة البحث من عملاء البنوك التجارية في عمان - الأردن لدراسة تجربة العملاء كون أن بعض البنوك قد نفذت هذه الإداة في حين أن البعض الآخر لم ينفذها وفر فرصة ممتازة لتقييم كل بنك على حدة والمقارنة بين البنوك.

تمت مراجعة الاستبانة المطورة المستخدمة لجمع البيانات من قبل الخبراء ؛ تم استخدام عينة تجريبية لتقييم الاستبانة. أعاد التوزيع الإلكتروني للاستبانة 2504 استجابة تمت تصفيته وصولاً إلى 1311 إجابة. ثم تم تحليل كل سؤال لكل بنك لتحديد مستوى الأهمية الإحصائية عند  $\alpha \leq 0.05$  باستخدام اختبار t.

كانت النتائج الفردية والنتائج الجماعية متفقة على إظهار مستوى عالٍ من الاختلافات الكبيرة بين البنوك التي تنفذ أداة المراقبة مقابل البنوك التي لم تطبق الأداة.

في الختام ، أيدت الدراسة أن تطبيق هذه الأداة له أثر إيجابي على تجربة العملاء ؛ لذلك من المناسب التوصية بتنفيذ أداة مراقبة أداء التطبيقات (APM).

الكلمات المفتاحية: مراقبة أداء التطبيقات ، تجربة العملاء ، البنوك التجارية ، الخدمات الإلكترونية.

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# **Chapter I**

## **Background of the Study**

1.1 Introduction

1.2 Research Problem

1.3 Objectives of the Study

1.4 Research Questions

1.5 Hypothesis

1.6 Importance of the Study

1.7 Research Model

1.8 Scope of the Study

## Chapter I

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### 1.1 Introduction

The performance of electronic banking (e-banking) services is one of the most important aspects of contemporary Customer Relationship Management (CRM) approach that has sparked the attention of professionals and researchers in the services industry in general and in the banking vertical, and banking services arena especially.

Lately, the importance of the service industry is growing at an unprecedented rate, and this came tightly coupled with the growing expectations of customers towards the quality of the performance of the services provided, additionally, the acute competition forced organizations to provide outstanding services to surpass their competition through adopting purposeful marketing strategies that aim to obtaining positive customer experience and satisfy their needs and hence, gain their loyalty (Aboud & Kanaan, 2012، عبود وكنعان).

All banks have continuously been working on obtaining the best customer experience through satisfying their different wants and needs, this stemmed off their realization that positive customer experience leads to customer loyalty which makes them regular customers, and from this point, banks have been working on providing their e-banking services through state-of-the-art software's for the sake of customer's positive experience, and thus created a highly competitive environment (Al-Araag, 2013، الأعرج).

The evaluation of a bank's performance by its client is based on the quality of the services being provided, and consequently, banks are seeking to continually improve and enhance their services in-line with customer needs in order to keep up with the changes in the surrounding environment.