

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى :

﴿ يَقُولُ الَّذِينَ كَفَرُوا لَسْتَ مُرْسَلًا ۚ قُلْ كَفَىٰ بِاللَّهِ شَهِيدًا بَيْنِي وَبَيْنَكُمْ وَمَنْ

عِنْدَهُ عِلْمُ الْكِتَابِ ﴾

Dedication

It is my pleasure to dedicate this research to my beloved

Parents,

Brothers,

Sisters,

My teacher: Prof. Izz al-Din Mohammed Osman,

All teachers,

And

Friends.....

Acknowledgement

I thank God, for helping me to complete my research , with my wishes to be acceptable to my god and make it purely for god Face.

My teacher and supervisor professor Izz-al-Din Mohammed Osman may god protect him on his acceptance and supervision of this research and follow-up since the first steps and his mentoring helped bring this work in this way, we ask god to richly reward him.

I would also like to thank my teachers:

- 1. Dr: Osama Ahmed Ibrahim.**
- 2. Dr: Talat Mohyaldein.**

For their acceptance to discuss this reasearch and enriching advice and guidance that help to bring this work in best image and ask god to reward them and makes their work in the balance of their good needs. As i extend my gratitude and appreciation to the sudan university of science and technical , wish made it's adificult road until got this high status among universities and deanship, professors and administrators. Also extend my sincere thanks to all members of my family and my colleagues at work to encourage me and help me to complete this resarech.

Thank You All.....

ملخص البحث

الهندرة هي أداة لتطوير الشركات وذلك من خلال التغيير لطرق أدائها للأعمال ، لنجاح عملية الهندرة يجب تهيئة وتدريب الموظفين والعاملين لقبول هذا المبدأ من أجل تطوير المؤسسة حتي لا تؤول إلي الفشل ، و قد حققت الشركات التي طبقت مفهوم الهندرة بنجاح نتائج هائلة في نسبة تحسين الدخل والأرباح وزيادة الإنتاجية، وتوفير الجهد والقوي البشرية ،وتقليل الأخطاء ،وتقديم خدمات أفضل للعملاء.

في هذا البحث قمنا بتطبيق عملية الهندرة لنظام التعيين بإدارة الموارد البشرية بالكلية الوطنية للدراسات الطبية والتقنية ، وإستخدمنا كل من برنامجي البونيتا و البيزاجي في عملية الهندرة ،وهي من برامج الهندرة المشهورة . ولقد وجدنا ان الهندرة ساعدت علي تقليل عدد العاملين وتطبيق المعايير القياسية لنظام التعيين وتقليل الوقت ونوصي بتطبيقها في كل المؤسسات لتسهيل عملية تدفق البيانات وتداولها .

Abstract

Reengineering is a tool for the development of companies through a change in ways of business performance , the success of Reengineering process must be initialized and the training of staff and employees to accept reengineering concept for the development of the institution so as not to devolve to failure, companies has implemented the concept of Reengineering successfully ha s good results in the rate of improvement of income and profits and increase productivity, and provide the effort and manpower, and reduce errors, and provide better services to customers.In this project i apply the Reengineering concept in the human resources department, hiring process in national college for medical technical and studies, and I recommend to apply it in all organizations to facilitate the process of data flow and circulation. I used Bonitasoft and Bizagi programs, they are popular programs for reengineering.

Table of Contents

Dedication	i
Acknowledgement.....	ii
Arabic Abstract.....	iii
English Abstract.....	iv
Table of contents.....	v
Table of figures.....	ix
✓ Chapter One: Introduction	
1.1 Objective.....	1
1.2 Importance of the study.....	2
1.3 Methodology.....	2
1.4 Scope of Work.....	2
1.5 Organization of thesis.....	2
✓ Chapter Two: Background	
2.1 Business process.....	3
2.2 Business process management(BPM).....	3
2.3 Change management.....	5
2.3.1 Change management is necessary.....	5
2.4 Project management.....	6
2.5 Effective Change Management.....	6

✓ **Chapter Three: Literature Survey**

3.1	Re-engineering.....	7
3.2	Map and Analyze As-Is Process.....	8
^{3.3}	Design To-Be process.....	8
3.4	Business Process Re-engineering(BPR).....	8
3.5	Business Process Modeling Notation 2.0.....	9
3.5.1	Basic Constructs.....	10
3.5.1.1	Swimlanes.....	10
3.5.1.1.1	Pools.....	11
3.5.1.1.1.1	Lanes.....	11
3.5.1.1.2	Flow Objects.....	12
3.5.1.1.3	Events.....	12
3.5.1.1.4	Activities.....	13
3.5.1.1.5	Gateways.....	14

3.5.1.2	Connecting Objects.....	16
3.5.1.2.1	Sequence Flows.....	16
3.5.1.2.2	Message Flows.....	17
3.5.1.2.3	Data.....	17
3.5.1.2.4	Artifacts.....	18
3.5.1.2.4.1	Groups.....	18
3.5.1.2.4.2	Text Annotations.....	18
3.6	Workflow.....	19
3.7	BPR Success & Failure Factors.....	19
3.8	The impact of BPR on organizational performance.....	20
✓	Chapter Four: Case Study	
4.	Introduction.....	21
4.1	Bonita Soft	21
4.1.1	Features.....	21
4.1.2	Application.....	22
4.1.3	Benefits of BPM with Bonita	22
4.1.4	The first screen will be seen when launch Bonita Soft	23
4.1.5	How to define and execute process with Bonita	24
4.1.6	Bonita soft studio form Builder.....	25
4.2	Bizagi	29
4.2.1	model.....	29

4.2.2 Automate.....	29
4.2.3 Execute.....	29
4.2.4 Improve	30
4.2.5 The benefits from implement Bizagi.....	32
4.3 Define and execute process with Bizagi.....	33
4.3.1 Process Modeling	33
4.3.2 Data Modeling	35
4.3.3 Creating User Interface	36
4.3.4 Define Business Roles	37
✓ Chapter Five: Result, Comparison, Conclusion & Recommendation.	
5.1 Comparison between Bonitasoft and Bizagi.....	42
5.2 Conclusion	44
5.3 Result	45
5.4 Recommendation	46

Table of Figures

Figure 1 : Swimlanes.....	10
Figure 2 : blackbox pool.....	11
Figure 3 : Flow objects.....	12
Figure 4 : Intermediate event.....	13
Figure 5 : Activities.....	13
Figure 6 : Data-Based Exclusive Gateway.....	14
Figure 7 : Inclusive Gateway.....	14
Figure 8 : Parallel Gateway.....	15
Figure 9 : Connecting Objects Type.....	16
Figure 10 : Sequence Flow.....	16
Figure 11 : Message Flow.....	17
Figure 12 : Data.....	17
Figure 13 : Artifacts.....	18
Figure 14 : Artifacts.....	18
Figure 15 : Text Annotation.....	18
Figure 16: first screen “welcome to Bonita Studio”.....	23
Figure 17: design a new process	24
Figure 18: Bonita Studio Form Builder	25
Figure 19: First screen in the system	26
Figure 20: Hiring Process Diagram	27
Figure 21: HR Lane.....	28
Figure 22: IT Lane.....	28

Figure 23: Accounting Lane.....	29
Figure 24: Facility Lane.....	29
Figure 25: Manager Lane.....	30
Figure 26: Personal Details screen	30
Figure 27: Employee requirements screen	31
Figure 28: Creating the process in Bizagi	36
Figure 29: Model process with Bizagi process modeler	37
Figure 30: Define the Data	38
Figure 31: Creating User Interface	39
Figure 32: Define business Role	40
Figure 33: Hiring System.....	41
Table1: Comparison between Bonitasoft and Bizagi.....	43