Business Analysis Skills and Techniques Among Software Developers from Various BPO Industries In Iloilo City, Philippines

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Alex Ledonio (ME), Tracy N. Tacuban (MSCS),
May Florence J. Franco (MSCS)
Iloilo Science and Technology University, Burgos St. Lapaz Iloilo City 5000 Philippines

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Abstract- *In Iloilo City, Philippines, BPO Industry is booming and an upcoming Megaworld Business District situates a multitude of BPO companies. In this study the software developers of various BPO companies in Iloilo City were evaluated according to their competency on Business Analysis Skill and Techniques. A common misconception is that IT programmers should be detached to business analysis process and will just have to wait for the requirement solution to implement through software development. This study will gauge how much skills and knowledge they possess on the Business Analysis side. The result of the study reveals that software developers evaluated has an average rating on Business Analysis Tasks and Techniques. Respondents are lacking skills generally on business planning, business requirements analysis, and elicitation processes. These results can be used as a baseline data to recommend a necessary adjustment in school curricula.*

Keywords-Business Analysis Skills, Business Analysis Techniques, BPO Industries

INTRODUCTION

Business Process Outsourcing (BPO) is the booming industry in the Philippines, particularly in Iloilo City, Philippines. According to Information Technology and Business Process Association of the Philippines (IBPAP)[1], BPO industry earned $18.9 B in 2014, $21.2 B in 2015, and it is expected to reach $25 B this 2016. Business process and operations of a company, typically not a core process like Human Resource, Accounting, Marketing, Customer-related functions, are outsourced or contracted to BPO. In this manner the company gains an enormous savings.

Popular trend nowadays, is the integration of Information Technology (IT) with BPO. It uses Internet in the delivery of outsourced process. It also uses software developers in creating business-related software solutions. According to Ramachandran, and Sudhir [2], Business-related services are processed and delivered using an Information Technology to save cost and focus more on core functions relating to growth and improvement of their respective business endeavor. Using IT, business can deliver data and services to clients easily and at the same time these information need to be highly secured and integral. Software developers or programmers are critical element in the BPO industry. They should possess the necessary skill and techniques leading to company savings and operational efficiency.

Software Systems Solutions developed by software developers often arise from Business Analysis. Business analysis identifies business needs and determining solutions. Software developers are working along-side with Business Analyst to investigate business problems, improve business operation, and develop method of IT support.

BPO industry carefully picks the right software developer with necessary experience and skills. According to Bailey and Mitchell [3], the three essential competencies needed by an Industry from a Computer Programmer are Technical Skill, Business Skill, and Soft Skill. Industry primarily looks for soft skills; these are associated with Emotional Intelligence which is a bundle of personalities that makes a person being a good team player among others.

As stated by Ahlan, Arshad, Suhaimi, and Hussin [4] technical, soft skill and problem-solving skill are essential qualities industries are looking for even from an upcoming IT graduates.

Though soft skill is paramount, it is undeniably rooted down to the skills and techniques of a software developer. It is believed that with strong academic background and enough experience or exposure

enables programmers to acquire superior knowledge in business related IT support.

According to Hardin, Joshi, and Li [5] the matching of Information System workers to the demands of industry is often addressed at the Academic and Practitioner Literature. Technology changes with time and job skills requirements changes at pace with technology as well. The only way an IT professional can cope up with it is through constant exposure and experience.

Since IT professionals need to have constant exposure and experience related to their area of specialization and there is a growing industry of BPO in the Philippines, even the Commission of Higher Education (CHED) addresses the issues in the need for manpower in ICT industry that can deliver better software packages. CHED released CMO No. 53, s.2006 that states the Policies, Standards and Guidelines for Information Technology Education (ITE) programs prescribing Specialization on Business Analytics.

Currently, there has been no study conducted and no statistical data gathered to assess the competency of software developers on business analysis in Iloilo City, Philippines. Typical problem in Iloilo City is the Industry Gap between academe and industry. Iloilo City is relatively young in terms of technological utilization, research, and advancement. Manufacturing and Fabricating Industries are small, IT Companies were scarce and often at start-up phase. Compared to metro-cities like Cebu City and Metro Manila, these cities have already addressed the industry gap problem since they have a multitude of Industries, they can easily immerse the need of industry to academe. In this way, academe learning and training is always abreast with the need of industry. Upon graduating it is easier for the graduates to land a job in an Industry.

Another factor for industry gap as cited in a study conducted by Durban and Catalan [6] points out numerous issues and concerns about education in the Philippines particularly in Iloilo City, issues like politically-backed teaching appointment, lack of proper monitoring of educational programs, overloaded teachers, reduced budget allocation to State Universities and Colleges, and most of all poor Faculty Development Program. Schools have a vital role of delivering technology to a society. If the teacher couldn't deliver the necessary knowledge that is supposed to be needed in the industry particularly IT-BPO industry, then the school has failed. Constant skill upgrade of a teacher is a must.

These issues coupled with lack of industry linkages by the academe surely results to even wider industry gap. Graduates are often alienated with the job they are applying for and often end up as under-employed. This will manifest into lesser-skilled worker. Workers cannot be at par with the global standards.

Poor academic foundation leads to one of the biggest challenges in IT-BPO industry- Recruitment. As stated in an article, Recruitment: A Challenge for Every Call Center in the Philippines [7] only 9 out of 100 applicants get hired, while 20 to 40 candidates need to undergo training. The reason for this high failing number is the applicant's lack of critical thinking ability and poor oral communications. This is one manifestation of weak educational foundation. To augment the problem, CHED created a tertiary curriculum program that includes BPO industry-related subjects like Business Communication. This will help equip graduates for IT-BPO industry. According to Tuazon [8] skills mis-match is high on IT-BPO and the Academe is entrusted to fill in the gap.

Since, there is a newly established program from CHED and State Universities and Colleges will be offering these subjects, the researchers come up with a research that could identify the Business Analysis Skills and Techniques of BPO employees prior to the implementation of the CMO as to identify the strength and weaknesses of Iloilo Business Analytics manpower.

Even with industry gap and other impending issues, Schools and Universities should still nonetheless continue to find ways in addressing the needs of industry particularly IT-BPO industry. This research is one way of learning and bridging the gap, particularly the need for business analysis skills and techniques in IT-BPO industry. The researcher is compelled to conduct a study to survey and to find out the strength and weakness of software developers in business analysis. This finding will give insights to other related studies and to help enforce future policies in making things right. This study is an eye-opener on what skill is really lacking and what the IT-BPO industry really needing.

This study will assess the Business Analysis skills and techniques of various software developers from BPO in Iloilo City, Philippines. Business Analysis Techniques refers to the ability of software developers to use methods that will identify business needs, evaluate options, define requirements, and formulate

workable solutions to fix business problem. These methods act as tools, like benchmarking, brainstorming, business rules analysis, diagramming and modeling, etc. to realize and address some business issues or problems. All of these techniques are contained in a questionnaire to assess the knowledge and ability to use tools or methods for business analysis. Data gathered would justify as the findings of the study. It will tell the competency of software developers as far as business analysis is concerned.

Benchmarking refers to comparing business process of one company to other company. Brainstorming is the gathering of ideas, findings, conclusions, and recommendations to address the problem. Business rules analysis tackles documenting of constrains to a business operation. Business rule can also describe operation. Diagram and modeling aids analyst in understanding and documenting a process iteratively and orderly. Decision analysis refers to making sound decision to achieve effectiveness. Document analysis is an act of reviewing documents for business process or requirements. Interview is an act of gathering firsthand information from stakeholder. Metrics and key performance indicator are numerical measures or cost of a specific business operation. Observation refers to gathering of feedback from customers or stakeholders. Problem tracking is a systematic tracking and management of defects in a business process. Root cause analysis is a tool used to determine the cause of problem and what should be done to prevent a problem from recurring. SWOT analysis identifies external and internal factors that can influence strength, weakness, opportunities, and threats of the company.

Selected Web Developers from a variety of BPO in Iloilo City responds to a questionnaire that will assess each of their Business Analysis skills and techniques relating to Business Process. The study will determine the business analysis skills and techniques of various developers to identify whether these selected programmers are at par with the necessary skills in business analytics and the researchers can also develop a trend on their skills and techniques so that a necessary adjustments to school curricula will be recommended.

OBJECTIVES OF THE STUDY

This study aims to assess the competency of software developers from selected BPO Industries in Iloilo City. The researcher aims to measure business analysis skills and techniques of software developers relating to Business Analysis.

Specifically, this study will identify the Business Analysis skills of BPO developers, analyst and engineers in planning business analysis approach, stakeholders' analysis, business analysis activity, and business analysis performance.

The study will also assess the skills relating to managing solution scope and requirements, manage requirements traceability, manage requirements re-use, and communicate requirements.

Also, the study will assess their capability to assess gaps, defining business case, prioritizing and organizing requirements, assess, validate and evaluate proposed solutions, assess organizational and readiness.

As to the Business Analysis Techniques, this study will assess the benchmarking, brainstorming business rules analysis, diagraming and modeling, decision analysis, document analysis, interview, metrics and key performance indicator, observation, problem tracking, prototyping risk and root cause analysis and SWOT analysis capability of various BPO developers in Iloilo City.

METHODS

Each respondent were given a set of questionnaire to honestly rate themselves in skills and techniques. Skills measured are; communication skills, technical skills, problem-solving skills, decision-making skills, and managerial skills. As with most IT roles, custom business solutions are 100% unpredictable. So finding ways to resolve problems relies on communication skills. Technically programmers should be able to adapt with the ever-changing technology in IT to promote efficiency. Frequent and random changes are apparent in business world, software developers should find quick ways of resolving problems. Decision making mainly relies on business analyst and any sound judgment and selected course of action taken by programmer will be consulted with business analyst. Software developers should know how to manage project timeline, objectives, and scopes from inception to completion.

Business analysis techniques are measured by the ability of the software developer to breakdown business process model, analyze each process by building case diagram, create software solutions modeling like website navigation model, and documentation.

Descriptive research is used to find out the skill and techniques of various software developers relating to business analysis. The research uses research questionnaire to accurately investigate the topic at hand, like business analysis tasks and business analysis techniques.

Researchers survey methods uses questionnaire that gathers first-hand information from the concerned demographic target. Carefully framed questionnaire draws out honest responses from sampled programmer or respondents. Respondents are software developers from selected BPO industries in Iloilo City and all software developers are encouraged to assess themselves. In this way we can gather more surveys for a much reliable results. The researcher used this kind of survey method because it is easy to administer, data is reliable, variability or results are reduced, and data is easy to analyze and correlate.

Respondents are either BPO company itself or software company that caters the programming needs of BPO. Most of this software company provides global solutions in web marketing, sales support, database services, and other customer-related functions. The following are surveyed company: Satellite GPS, Eversun, Mavericks, SoftTech, and Jimitron.

All software developers of the surveyed companies answered the questionnaire. The survey instrument was derived from slideapp.net [9] using suitable questions that assess the business analysis skill and techniques of respondents. Likert scale was used to determine the levels of skills, from one (1) being the lowest (Major Weakness) and five (5) as the highest (Expert Level). Researchers assured confidentiality of their survey result since identities are not important. In this way respondents will not be self-conscious and can honestly assess themselves effectively. Respondents were given enough time to respond on the questionnaires so as to assess more accurately on themselves

The questions were categorized as follows: Business Analysis Skills and Business Analysis Techniques. Business analysis skills refer to identifying necessary and best solutions and realize significant solution scope to the project. Business Analysis Techniques pertains to analysis of business functions and process using a standard modeling and diagrams. The questionnaire used in the survey were obtained from, Business Analysis, Task and Techniques Survey [9]

Data Processing and Statistical Treatment

Microsoft Excel was used to integrate and calculate the data collected in this study. To determine the result and reliability of the study, the Weighted Mean is used to get the average rating of the respondents. Standard Deviation is used to quantify the amount of variation or dispersion of the data.

The scoring method used by BPO Software Developer respondents to evaluate the system based on ISO 9126 was as follows: 4.21-5.0 Expert Level; 3.41-4.20 Strong Skill; 2.61-3.40 Demonstrated; 1.81-2.6 Needs Improvement; 1.0-1.8 Major Weakness.

RESULTS AND DISCUSSION

All software developers' evaluation is consolidated as a single population. A total of 57 respondents from 5 software companies were evaluated or assessed on their business analysis skills and techniques. The results were treated as a whole population rather than separately treating each software company's result.

Business Analysis Task

One of the objectives is to measure the Business Analysis Skills of software developers from selected BPO Company in Iloilo City. Business Analysis Skills of these programmers are measured by their proficiency with the given list of Business Analysis Tasks, as shown in Table 1. The overall mean is 2.72 with the standard deviation of 1.09. The result means that selected software developers possessed and demonstrated the minimum necessary skills for business process analysis. With these data, as business process analysis is concerned, it is evident that these programmers are far from the standards. These software developers need more exposures and proper training on Business Process Analysis. Software developers' knowledge on business analysis skills varies or disperses considerably as reflected in the Standard Deviation (1.09). Some software developers' skills are relatively higher than other software developers.

It is notable in the data gathered that evaluated software developers scored considerably low (Needs Improvement) on numerous business analysis tasks. The study briefly expounds on these tasks to emphasize what needs more improvements on their respective skills. The tasks that need improvement on the respondents' skillset are as follows:

Conduct Stakeholder Analysis. Weighted Mean, 2.16. This task requires the skill of identifying

valuable stakeholder that will and can contribute greatly to the project. Stakeholder can improve quality of projects and can also aid in acquiring more resources [10].

Plan Business Analysis Activities. Weighted Mean, 2.46. Encompasses planning of business analysis scope of work and deliverables. Implement a template and schedule of business analysis work.

Plan Business Analysis Communication. Weighted Mean, 2.51. Establishing constant communication between the company team and stakeholder. Company and stakeholder should always be abreast of vital information. Communication should be carefully planned as to what needs to be communicated, and the best way to deliver communication [11].

Plan Requirements Management Process. Weighted Mean, 2.56. A requirement is product or service in which the outcome should conform. This task constantly manages the requirements between the company and stakeholders. There has a proper documentation, verification, and feed-backing to ensure the requirements are attained [12].

Manage Business Analysis Performance. Weighted Mean, 2.30. Performance should be a quantified achievement. Actual performance is measured if it reaches a goal. Spreadsheets are typically used for business analysis performance

Prepare for Elicitation. Weighted Mean, 2.28. Elicitation is the process of collecting business requirements. Requirements are so essential in business analysis for this sets the outcome to be achieved. Preparation for elicitation is all about clarifying and identifying what information should be obtained from stakeholders. This information shall be the basis of building the requirements [13].

Conduct Elicitation Activity. Weighted Mean, 2.23. This task requires the meeting and brain-storming with stakeholders and gathers information regarding their needs and the company's role to meet that needs. Stakeholders could be a customer, a supplier, or end user [13].

Document Elicitation Result. Weighted Mean, 2.44. Documenting the result of elicitation activity. Meeting minutes are often the result of this documentation. Visual or audio recordings are also essential [13].

Confirm Elicitation Result. Weighted Mean, 2.46. This task validates that the requirements stated by stakeholders conforms to stakeholder's needs [13].

Assess Capability Gaps. Weighted Mean, 2.51. This task involves analyzing new capabilities to meet the business need. With new capabilities new requirements are formed that will help attain business need [14].

Define Business Case. Weighted Mean, 2.53. This refers to the ability to determine the effect of a certain decision or policy to the profitability of the company. It shows how decision affects cash flow of the company [15].

Table 1. Business Analysis Task Assessment Result

Business Analysis Task	Mean	Description	SD
1. Plan Business Analysis Approach	2.61	Demonstrated	1.15
2. Conduct Stakeholder Analysis	2.16	Needs Improvement	1.10
3. Plan Business Analysis Activities	2.46	Needs Improvement	1.15
4. Plan Business Analysis Communication	2.51	Needs Improvement	1.14
5. Plan Requirements Management Process	2.56	Needs Improvement	1.09
6. Manage Business Analysis Performance	2.30	Needs Improvement	1.18
7. Prepare for Elicitation	2.28	Needs Improvement	1.18
8. Conduct Elicitation Activity	2.23	Needs Improvement	1.13
9. Document Elicitation Results	2.44	Needs Improvement	1.15
10. Confirm Elicitation Results	2.46	Needs Improvement	1.17
11. Manage Solution Scope & Requirements	2.74	Demonstrated	1.14
12. Manage Requirements Traceability	2.70	Demonstrated	1.12
13. Maintain Requirements for Re-use	2.79	Demonstrated	1.13
14. Prepare Requirements Package	2.67	Demonstrated	1.09
15. Communicate Requirements	2.88	Demonstrated	1.12
16. Define Business Need	2.84	Demonstrated	1.07
17. Assess Capability Gaps	2.51	Needs Improvement	1.17
18. Determine Solution Approach	2.88	Demonstrated	1.18
19. Define Solution Scope	2.74	Demonstrated	1.11

Table 1 (cont). Business Analysis Task Assessment Result

Business Analysis Task	Mean	Description	SD
20. Define Business Case	2.53	Needs Improvement	1.09
21. Prioritize Requirements	3.26	Demonstrated	0.94
22. Organize Requirements	3.28	Demonstrated	1.00
23. Specify and Model Requirements	3.05	Demonstrated	1.03
24. Determine Assumptions & Constraints	2.81	Demonstrated	1.06
25. Verify Requirements	3.12	Demonstrated	0.98
26. Validate Requirements	3.14	Demonstrated	0.93
27. Assess Proposed Solution	2.95	Demonstrated	1.08
28. Allocate Requirements	2.84	Demonstrated	1.07
29. Assess Organizational Readiness	2.68	Demonstrated	1.05
30. Define Transition Requirements	2.61	Demonstrated	1.10
31. Validate Solution	3.04	Demonstrated	1.03
32. Evaluate Solution Performance	2.89	Demonstrated	1.08
Overall	**2.72**	**Demonstrated**	**1.09**

As shown in Table 1, illustrates tasks with low rating (needs improvement), software developers selected missed a lot of essential business analysis task, particularly the elicitation process. Elicitation is so vital and it is considered as the core of business analysis. This is where the requirements are defined and gathered. It identifies key needs of the stakeholders and the requirements needed to fulfill these need. Stakeholders could be suppliers, customers, or end-users.

A requirement is a product or service that an outcome should conform. Needs of stakeholder, like customer or end-user should be properly met with the business requirements. Business requirement is ever-changing and should adapt the needs of stakeholders. Hence, one of our objectives focuses on the skills needed to manage, trace, re-use, and communicate requirements. The results indicate that software developers selected possesses the ability to perform and meet the specified objective stated above. And they have DEMONSTRATED these tasks. The following are the weighted mean of the stated tasks in the objective: Manage Solution Scope and Requirements, 2.74. Manage Requirements Traceability, 2.70. Manage Requirements Re-use, 2.79. Communicate Requirements, 2.88.

The respondents lacking with fundamental business administration skills like able to analyze new capabilities to meet business need and able to determine how decision and policies can impact profitability. These skills are reflected as **Assess Capability Gaps** and **Define Business Case,** respectively.

Another objective is to measure the Business Analysis Technique of selected software developers. Business Analysis technique generally refers to the use of methods and diagrams to analyze business process and its necessary requirements. Table 2 measures Business Analysis Techniques. Overall result is satisfactory with the overall weighted mean of 2.78 (Demonstrated). It is evident that the skill they possess, as far as business analysis technique is concerned, is not that at par with the standards. Software developers have slightly higher understanding on business analysis techniques than business analysis tasks. The overall standard deviation is 1.10. Almost the same with the overall standard deviation of business analysis task. The business analysis techniques of these software developers disperses and varies considerably as reflected in the overall standard deviation.

It is evident in the data gathered that evaluated software developers scored considerably low (Needs Improvement) on numerous business analysis techniques. The study briefly expounds on these tasks to emphasize what needs more improvements. The tasks that need improvement on the respondents' skillset are as follows:

Acceptance and Evaluation Criteria Definition. Weighted Mean, 2.56. This task refers to determining what performance measures to use to determine effectiveness of a business process to the fulfillment of business goals [16].

Functional Decomposition. Weighted Mean, 2.37. Knowledge of modeling or presenting a diagram that is developed during project analysis phase to decompose business process functions and eventually defining functional requirements [17].

Table 2. Measures for Business Analysis Techniques

Business Analysis Techniques	Mean	VI	SD
1. Acceptance & Evaluation Criteria Definition	2.56	NI	1.09
2. Benchmarking	2.65	D	1.08
3. Brainstorming	3.35	D	0.97
4. Business Rules Analysis	2.70	D	1.10
5. Data Dictionary and Glossary	2.88	D	1.15
6. Data Flow Diagrams	3.21	D	1.03
7. Data Modeling	3.02	D	1.03
8. Decision Analysis	2.91	D	1.18
9. Document Analysis	2.96	D	1.12
10. Estimation	2.75	D	1.14
11. Focus Groups	2.63	D	1.10
12. Functional Decomposition	2.37	NI	1.06
13. Interface Analysis	2.63	D	1.10
14. Interviews	2.67	D	1.17
15. Lessons Learned Process	2.93	D	1.05
16. Metrics and Key Performance Indicators	2.44	NI	1.02
17. Nonfunctional Requirements Analysis	2.53	NI	1.09
18. Observation	3.16	D	1.15
19. Organization Modeling	2.74	D	1.13
20. Problem Tracking	3.09	D	0.99
21. Process Modeling	2.79	D	1.03
22. Prototyping	2.86	D	1.17
23. Requirements Workshops	2.63	D	1.14
24. Risk Analysis	2.79	D	1.05
25. Root Cause Analysis	2.75	D	1.09
26. Scenario and Use Cases	3.04	D	1.16
27. Scope Modeling	2.74	D	1.14
28. Sequence Diagrams	2.81	D	1.08
29. State-Transition Diagrams	2.53	NI	1.15
30. Structured Walkthroughs	2.53	NI	1.09
31. Survey/Questionnaire	2.84	D	1.10
32. SWOT Analysis	2.70	D	1.31
33. User Stories	2.81	D	1.11
34. Vendor Assessment	2.53	NI	1.15
Overall	2.78	D	1.10

D – Demonstrated; NI – Needs Improvement

Metrics and Key Performance Indicators. Weighted Mean, 2.44. Key Performance Indicator (KPI) measures performance against specific target. It is like measuring how much does building a project costs until completion. While a metrics measure how far does building a project reached in a given point of time [18].

Nonfunctional Requirement Analysis. Weighted Mean, 2.53. This entails the identification of quality attributes of the system. It defines what the system supposed to be. This validates that the outcome delivered by the system or requirement should be of accepted quality [19].

State Transition Diagrams. Weighted Mean, 2.53. Knowledge in determining the state of the process after an external event has injected to the state. The external event can influence state transition and system state transition depends on a variety of external events [20].

Structured Walkthroughs. Weighted Mean, 2.53. It is the process of performing static and step-by-step test as a part of software development process. This aims to identify errors and defects at the early phase of development [21].

Vendor Assessment. Weighted Mean, 2.53. Suppliers and vendors are the greatest influence in the quality of your products. Therefore these vendors should be assessed that the supplies delivered be of high quality and can be delivered whenever needed [22].

Majority of the Business Analysis Techniques were practiced by selected respondents. They scored high on analysis techniques that has similarity or likely inclined with Information System Development since this has been performed throughout their careers. However they scored low on techniques that is heavily inclined on the Business Administration area, like Metrics and Key Performance Indicators. And it is shown in the study that these programmers have the lowest rating on Metrics and Key Performance Indicators. The respondents scored with a mean of 2.44.

CONCLUSION AND RECOMMENDATION

Overall result indicates that these BPO programmers passed with Demonstrated rating in Business Analysis Task and Techniques. However this result is not that on "flying colors". The result shows that these programmers lacks an in depth knowledge on Business Analysis Tasks and Techniques. Essential business analysis tasks like Elicitation Activity, Planning Business Analysis tasks, among others. They also scored low on essential Business Analysis Technique like, Metrics and Key Performance Indicators, Non-functional Requirement Analysis, among others. This has yet to meet the standard expectations in the BPO industry and it widens the industry gap between academe and BPO.

This is a manifestation of weak foundation in Business Analysis from academic years of programmers. It has been practiced with the paradigm that programmers should be detached from the

business side and will just work on the implementation of IT solutions when needed. Although business analysis is integrated to Information Technology-related course, but it wasn't given enough emphasis. The implication, if this cannot be addressed immediately is, it will continue to widen the gap between the academe and industry. Increased fresh graduates will be under-employed or even unemployed. This study is an eye-opener of what skill is really lacking and it needs to address with. After all we wouldn't want graduates of our academe being left out in today's skillset demand.

It is apparent that Business Process is now seamlessly integrated with IT. It is therefore recommended that a necessary modification in the school curriculum is advised. For current practitioners or programmers, they need to undergo business side re-training, IT-BPO integration, and improving further their business analysis tasks and techniques. Commission on Higher Education (CHED) is pushing for the exposure and awareness in the importance of Business Analysis in the field of IT. Constant trainings are conducted to keep IT instructors abreast with the essential trend. Course curriculum is streamlined to integrate business analysis and business analytics. . It is timely that nowadays CHED are giving scholarship grants for an extensive study on Business Analysis and Business Analytics.

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REFERENCES

[1] Information Technology and Business Process Association of the Philippines (IBPAP) (2015). Benefits of Doing Business in the Philippines. Retrieved from https://goo.gl/qaLQ7f

[2] Ramachandran, K & Sudhir, V. (2004). Business Process Outsourcing Emerging Scenario and Strategic Options for IT-enabled Services. Vikalpa: The Journal for Decision Makers, 29 (01), 49-62.

[3] Bailey, J. & Mitchell, R. B. (2016). Industry Perceptions of the Competencies Needed by Computer Programmers: Technical, Business, and Soft Skills. Journal of Computer Information Systems, 28-33

[4] Ahlan, A. R., Arshad, Y., Suhaimi, Mohd A, & Hussin, H. (2010). The Malaysia IT Outsourcing Industry Skill-sets Requirements of Future IT Graduates. WSEAS Transactions on Computers.

[5] Hardin, A. M., Joshi, K.D., & Li, Xin. (2002). Business as Usual? Is Job Skill Requirements During the Internet Era. AMCIS 2002 Proceedings. Paper 292. Association for Information Systems Electronic Library (AISEL).

[6] Durban, J. M., & Catalan, R. D. (2012). Issues and concerns of Philippine education through the years. *Asian Journal of Social Sciences & Humanities*, *1*(2).

[7] Recruitment: A challenge for Every Call Center in the Philippines. (2014). url: https://goo.gl/B3Ox6B

[8] Tuazon, JM. (2011). BPO Industry Turns to Academe to Fill Talent Pool. Retrieved from https://goo.gl/6DFUUN

[9] Survey Instrument. (2015). Business Analysis, Task and Techniques Survey. Retrieved from https://goo.gl/7hHzij

[10] Thompson, Rachel. Stakeholder Analysis. Winning Support for your Project. Retrieved from https://goo.gl/BO8qRe

[11] Bennett, Teresa. How to Create Business Analysis Communication Plan. Retrieved from https://goo.gl/556Bok

[12] Piscopo, Mark. (2015). Requirements Management Plan Template. Retrieved from https://goo.gl/Gfymnm

[13] Tan, N. B. D. (2014). Business Analysis – Elicitation. Retrieved from https://goo.gl/x9UA9r

[14] Brandenburg, L. (2015). Solve the Real Business Problem. Retrieved from https://goo.gl/kR0330

[15] Business Case Definition. (2015). Retrieved from https://goo.gl/1nN3u1

[16] Yeltayeva, K. (2014). Acceptance and Evaluation Criteria Definition. Retrieved from https://goo.gl/QwSrjO

[17] Functional Decomposition. Retrieved from https://goo.gl/sfdjqp

[18] Walczak, Magda. (2014). Metrics and Key Performance Indicators. Retrieved from https://goo.gl/AqpzTj

[19] Internation Institute of Businesss Analysis. (2013). Non-Functional Requirement Analysis. Retrieved from https://goo.gl/aPTBeH
[20] State Transition Diagram. Retrieved from https://goo.gl/8Ni703
[21] Structural Walkthrough. Retrieved from https://goo.gl/SWIKAK
[22] Vendor Assessment and Technical Audit. Retrieved from https://goo.gl/d1jj5w