

UTILIZING INTELLIGENT RESOURCE MANAGEMENT SYSTEM (IRMS) DASHBOARD TO AUTOMATE BUSINESS REPORTING TASK

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ABSTRACT. Managing people has become more complicated whenever the company is growing and business function is expanding. In order to support this growth, a reliable reporting approach is critical to present the data in real time. This paper discusses the challenges in managing essential business reports and people-management task in conventional way and how Integrated Resource Management System (IRMS) is used as a solution to overcome the challenges. It also discusses on the future work to be done to increase the effectiveness of business reporting.

Keywords: HR reporting, business report, automate, online dashboard, project dashboard, project management

INTRODUCTION

Hi-quality business reporting is the heart of strong and sustainable organizations. It allows organizations to present a cohesive explanation of their business and helps them engage with internal and external stakeholders, including customers, employees, shareholders, creditors and regulators, while also promoting better internal decision making. Today's rapid-changing global environment calls for dashboard tools that can enable quick analysis and valuable insights – to help organization get the right people, with the right strategic focus, in the right roles. This document is intended to serve as an analysis on business reporting tool known as Integrated Resource Management System (IRMS) in terms of reporting format, data integrity and cycle time reduction.

THE CHALLENGES

The following are the analysis of challenges faced in producing business reporting manually:

Challenges in Managing Hardcopy/Softcopy Reports

Managing hardcopy/softcopy reports required an excellent record keeping system to ensure the reports are safe and accessible when needed. Softcopy reports which kept in individual personal computer are at risk should there is an issue with the hard disk – missing reports. Besides, printing reports as hardcopy are exposing it to unauthorized person if it misplaced and not properly keep by the owner. Additionally, since many organizations nowadays are electing to go paperless as part of their cost saving approach, presenting report on hard copy format obviously is not in line with the organization's policy.

Challenges to Ensure Data Integrity

Reports presented manually e.g. Microsoft Excel format are prone to accuracy issue which impacted data integrity and reliability especially during data entry process. The reports have potential human error resulted inaccurate decision making and analysis. Other than that, the reports are produced from various structured/unstructured data sources which is not standardize throughout the organization.

Challenges in Managing Processing Time

A recent survey released in October 2013 which commissioned by a team at SuccessFactors, and conducted by the international research firm Vanson Bourne [1] shows that organizations are wasting an average of 17 hours every week - that's more than two full working days — just producing business reports. The amount of time spent on business reporting and metrics has increased over the last five years, according to a survey of 1,300 HR, finance, and IT managers. This will increase the cycle time to produce reports thus lowering individual productivity.

The top-line survey finding:

- 72 percent of survey participants identified having geographically dispersed workforce
- 51 percent of participants said they face challenges connecting data from a range of structured and unstructured sources – from enterprise databases and applications to social media platforms – because of this geographical-dispersion
- Only 22 percent of respondents considered themselves to be “very effective” when it comes to workforce analytics

These surveys is clearly stated that on-demand information is business critical, so reporting delays impacted HR's ability to deliver strategic value to the business.

THE SOLUTION

IRMS as an Automated Reporting Tool

Integrated Resource Management System (IRMS) is internally developed by CCQSI department in MIMOS Berhad, Malaysia. It is an online and web based dashboard tool that provides real time reports regarding organization structure, human resource related data and project information.

The tool is developed using PHP language for the backend with support of Bootstrap technology for the front end. Bootstrap is an open source contains HTML and CSS-based design templates for text, forms, buttons, navigation and other component for developing web-based application and it is supported by all popular browsers. It is also contains optional Javascript/jQuery extensions.

IRMS dashboard utilized the capability of ZingChart (ZingChart, 2015) in generating user-friendly, fast, animated and interactive chart as an added value to plain black and white business reports. ZingChart is the JavaScript charting library for big data. It has hundreds of features and can be used to create all kinds of visualizations, from the most simple charts that adhere to flat design principles, to complex dashboards and graphs that are heavily styled.

Apart from report presentation at the front end, another mandatory element of this reporting tool is the data. IRMS utilized web services to grab data from several servers available in organization. Those servers keep an employee attendance records, employee leave data, detail

employee profile, project detail and project budget information. Some information such as project detail and project budget resides in SAP system, thus web services is in use to retrieve data in SAP and exported to IRMS MySQL database for report generation usage. Figure 1 explained how data is being processed from various database in order to produce report in IRMS dashboard.

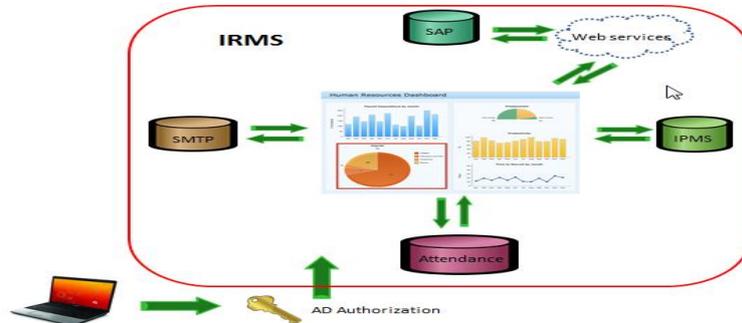


Figure 1. IRMS Data Flow

IRMS to Generate Reports

IRMS is developed to provide real-time business report. It is accessible via any web browser. The tool has various business reports which are very handy and useful to support organization data analysis and decision making.

Resource Related Reports. IRMS dashboard consist resources related reports such as Resource Types, Resource Total and Resource Expiration by Month which are presented in ZingChart chart. Resource Types chart is a chart that explained an existing employment types such as trainee, permanent or contract staff as shown in Figure 2. Added capability is ability to filter data by Division and Department. The chart is useful for hiring purposes.

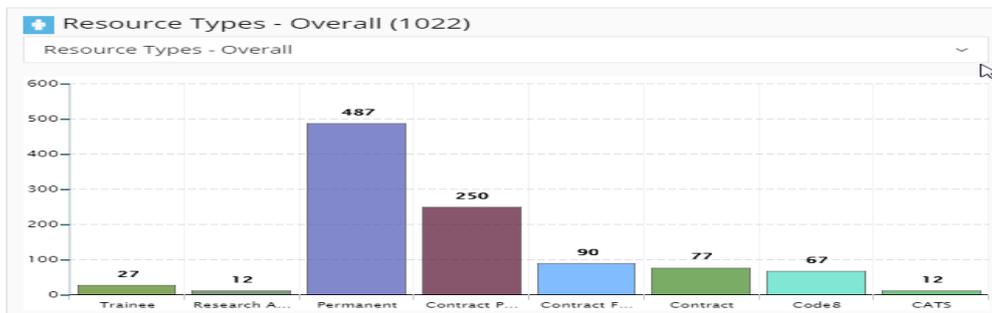


Figure 2. Resource Type Chart

Besides the chart, resource type report is also presented in table-format with export to Microsoft Excel/PDF capability as shown in Figure. 3. User has an option to save the online reports as PDF/Excel document for future reference and analysis.

Name	Emp ID	Grade	Employee Type	Department	Division	Start Date	End Date
Abdul Malek Bin Abu Hassan	6	2	Permanent	System Infrastructure & Deployment Eng	Information Communication Technologies	10 March 1986	N/A
Ismail Bin Mat Yusoff	12	9	Permanent	Product & System Architecture	Industrial Electronics Technology	11 December 1986	N/A
Mohamed Rawidean Bin Mohd Kassim	15	8	Permanent	Product & System Architecture	Industrial Electronics Technology	02 June 1988	N/A
Iskandar Bin Md Nasir	16	9	Permanent	Fab Engineering Operations	Nano Semiconductor Technology	15 August 1988	N/A

Figure 3. Table Format of Detail Information

Another available resource related reports in IRMS is Total Resources Breakdown which presented in pie chart. It shows number of resources divided into two groups – Project and Support resources with percentage of each group. From the chart, we understand there are 1022 resources hired with 574 are Project Resources while 448 are from Support group. Refer Figure 4.



Figure 4. Pie Chart of Resource Total Breakdown

Resource expiration data also included as one of resource related report in IRMS. Resource Expiration chart as shown in Figure 5 is useful to retrieve information on resource hiring status thus making plan for next hiring.

Latest Updates feature summarize IRMS data activity such as resource birthday, resource on leave or on training and such as shown in Figure 6.

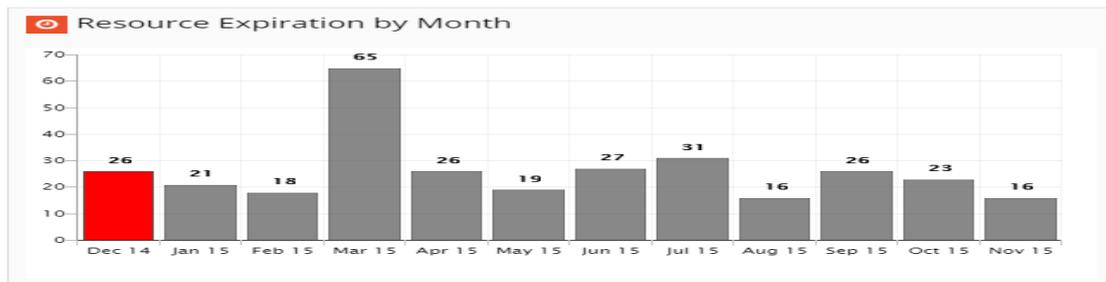


Figure 5. Bar Chart of Resource Expiration by Month

Latest Updates		
	26 Resource(s) Are Expiring This Month	Dec 2014
	42 Resource(s) Not Assigned To Any Projects	17 Dec
	471 Resource(s) Assigned To Projects	17 Dec
	4 Department(s) Are Currently Without HODs	17 Dec
	2 Resource(s) Are Travelling (TAR) Today	17 Dec
	30 Resource(s) On Training Today	17 Dec
	68 Resource(s) On Leave Today	17 Dec
	82 Resource(s) Are Celebrating Their Birthdays This Month	Dec 2014
	Holiday: Christmas Day - National	25 Dec

Figure 6. Latest Updates List

When user login to IRMS, they will see summary boxes of available reports on top of IRMS dashboard as shown in Figure 7. User might be able to retrieve any reports they interested to by clicking on View More link. It is extremely convenience compare to Microsoft Excel/PowerPoint or Word formatted report.



Figure 7. Summary Boxes of Available Reports

Organization Chart. These days, the need of creating Organization Charts are becoming indispensable, as companies start focusing on extensive hiring for far reach availability, increase in productivity and targeting diverse markets. Considering this trend, IRMS added a capability to automate Organization Chart as shown in Figure 8. Importantly, with just a simple click, IRMS will auto generate the Organization Chart for your usage.

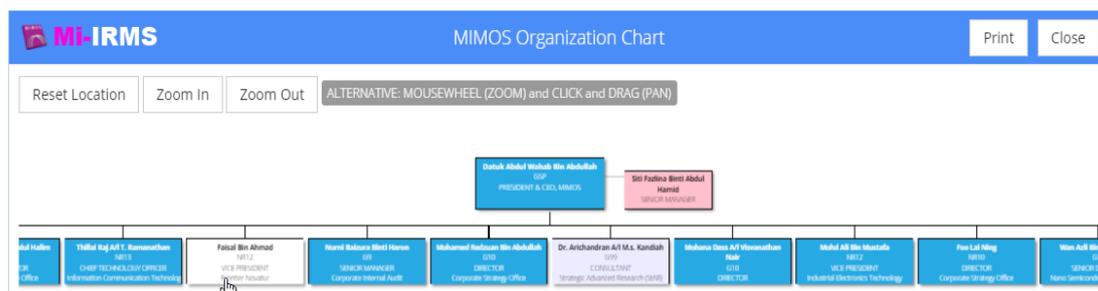


Figure 8. Organization Chart

Project Management Report. Last but not least, project planning report which given information on project budget and resources assigned to the projects as shown in Figure 9. Report presented in an interactive chart with detail project info. This detail project info in table format as per Figure 3 can be exported as PDF/Excel file.

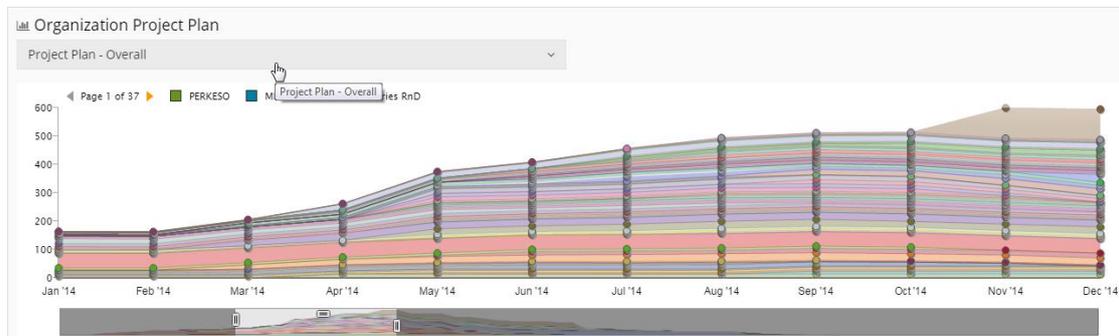


Figure 9. Project Information Chart

IRMS to Enhance Data Security and Confidentiality

User access restriction is crucial to avoid unauthorized access to organization data which might be private and confidential. IRMS is only accessible should the personnel granted an access by system admin.

There are 5 types of access levels in IRMS which are Administrator, Individual, Department, Division and Organization. Administrator access is a system admin which is super user.

Department and Division access are dedicated to Department /Division Head which they able to view data from their department/division only, not other department/division. Same goes to Individual access, which is the personnel able to view his/her own personal profile. Meanwhile, Organization access is given to CEO whereby he is able to see the whole picture of IRMS. With this, data integrity is secured compare to manual reporting.

IRMS to Reduce Reporting Cycle Time

Generating report in real-time with online access reduced cycle time in report preparation and improve the overall quality of analysis and reporting. Reports can be measured and displayed 24/7 with live data since the data is retrieve from SAP via web service. With this approach, should person in charge is not available to provide the report, report delivery is not impacted. Automate business reporting through IRMS is time saving solution in terms of accessing, manipulating and managing data, thus freeing resources to perform more analysis in order to deliver required reports.

CONCLUSION AND FUTHER WORK

From the study and research conducted, it clearly shows that IRMS is capable to automate business reporting efficiently. It improves decision making process since the data is more accurate and standardize throughout organization. Additionally, IRMS contributed to cost and time saving at the same time reduces ones effort to prepare reports. Data integrity is guaranteed since only authorized personnel have an access to system and data as well.

For future work, we plan to develop IRMS on mobile platform. With this approach, IRMS usage is widen and can be access from anywhere, anytime especially when there is a need to present the data outside the organization.

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