



The use of effective accounting tools and performance evaluation: An empirical study on tourism companies in the Province of Najaf, Iraq

Murtadha Ibrahim Maki
Basic Science Branch, College of Nursing
University of Kufa, Iraq

Murtadha Saleh Mahdi & Hassnain Raghieb Talab*
Accounting Department, College of Administration and Economics
University of Kufa, Iraq
hassnainr.abozaid@uokufa.edu.iq

Naghham Rasool Radhi
Financial Affairs Department
Presidency of the University of Kufa, Iraq

Corresponding author*

Abstract

There has been an emergence of a new term in the accounting field due to recent developments in various sectors such as the industrial and service sectors and the need for the development of accounting methods that are suitable for these advances. The term agility originally came from graceful thought which is one of the trending important terms that have been produced in accounting through the use of one of the modern methods represented by agile accounting. This study conducted a performance evaluation process in the Najaf governorate, Zamzam Tourist Complex which is one of the key tourist hotels. The study relied on the point box in the performance evaluation process assuming there is wastage in hotel resources. The finding showed that if the performance fund is used in the service unit, it will lead to getting rid of the existing waste and it will raise the efficiency of performance in the Zamzam Tourist Complex Hotel. Through this result, the study proved the validity of this hypothesis presented. More importantly, this study finds that the lack of control over these resources and the lack of an efficient system used in controlling the disbursement, resources and equipment are among the main reasons for the existence of real waste in the hotel. Lastly, this study recommends that fund performance must be applied in detail in order to activate the role of oversight and internal audit, which will have a positive impact on and ultimately lift the performance evaluation of the hotel.

Keywords: Lean accounting, lean thinking, Box Score, value streams, tourism companies.

Introduction

Finding a modern accounting method to measure the performance of hotel units has become a necessity as this will allow the diagnosis of areas of weakness and imbalance in an organization. There is an urgent need to address the bottlenecks and gaps that arise due to the increasing number of customers and the inability to control them and accordingly provide their needs in a smooth manner. It is safe to say that the research problem is embodied in the presence of a lack of hotel performance and the need for accounting tools that can measure and evaluate that performance in accordance with modern accounting methods. The increase in the numbers of Arab and foreign tourists who visit the city of Najaf for the purpose of religious tourism and to visit the monuments in this city require all parties to take necessary care, especially the accountants. The accountants and inspectors have to develop modern methods that are compatible with the reality of tourism in order to improve the services provided to tourists in hotel units and measure the performance of activities within these units in line with the Fourth Industrial Revolution changes that are manifesting (Mpfu & Nicolaidis, 2019).



In this study, the main objective was to achieve the following goals:

1. To review the theoretical parts of agile accounting and focus on its most important tools (performance fund or point fund); and
2. To use modern methods of accounting in practice by raising and evaluating performance in hotel units.

The study assumes that there is possibility of raising and evaluating performance within the hotel units comprising different departments through the use of agile accounting tools such as the point box. Additionally, the study hypothesized that the performance fund works to eliminate sources of waste in the hotel units.

Literature review

The Effect of Agile Accounting Tools on Evaluating Performance in Hotel Units

After the openness of Iraq to the outside world, many tourists from different countries especially the neighboring ones, appeared to come for the purpose of tourism by visiting archaeological sites or for the purpose of visiting the holy places as there are many touristic places in Iraq. Examples of those places are the marshes in the province of Nasiriyah and Al-Mallawiyah in the province of Samarra. Other religious places are the tomb of Imam Al-Hussain and his brother Aba Al-Fadl Al-Abbas in the holy Karbala, the tomb of Imam Al-Kadhim in the governorate of Baghdad and the Imam Al-Hassan Al-Askari in the city of Samarra. There is also and the tomb of Imam Ali Ibn Abi Talib in the province of Najaf and the cemetery of the Valley of Peace.

In addition to the scientific seminaries in holy Najaf, there are also many historical mosques, such as the Kufa Mosque and Al-Sahla Mosque. The holy Najaf is considered the center of the supreme religious reference for the Shiites who made Najaf a destination intended for many of the Shiite sect from all over the world either for the purpose of visiting places being a Holy City or for the purpose of seeking knowledge, considering the city of Najaf as a center of learning. It was indicated by the Tourism Authority in Najaf that the number of visitors who enter this governorate is approximately 5,000 visitors daily.

Besides Lebanon, the Indian side (Bohra), Turkey and other Islamic countries, the Iranian delegations are generally the largest share of the delegations coming from the Gulf countries. This matter has helped to revitalize tourism in various parts of Iraq especially the province of Najaf, which requires care from all parties in order to protect and develop tourism. Therefore, services must be provided of a high quality, high efficiency and at an appropriate price which requires an accountant to find a method that can minimize the costs of the services provided in the hotel and get rid of the real waste of resources. Hence, this study intended to implement agile accounting tools in the hotel sector.

Lean Accounting

Organizations whether they are productive or service purposeful or non-profit evolve with the continuous development of life especially with the development of information and technology. So, it is natural for the measurement and computer communication systems for these organizations to evolve with the development of all life facilities. Over the years, accounting has gone through great developments from being an art to record some financial transactions for individual project owner into an accounting system. It has also move into an administrative and caliphate system that specializes in providing internal and external reports to every administration. In addition, accounting in the last decade has evolved into an information system that responds instantly and reflects information of objective and relative importance. Through the



implementation of some of the practices and procedures that provide data and information management is quick and also provided at the right time.

Lean production was firstly introduced by Toyota taking from historical perspective. Celik (2016) reported that the owners of “Toyota Production system” that are used to come across while discussing production has Toyota executives that showed how the system is built after getting inspiration through a visit to “Ford Motor Company” in 1920. A man named Taiichi Ohno developed the company as one of the leaders of Toyota and Consultant Shigeo Shingo after World War II.

What is Lean Accounting?

Ruiz-de-Arbulo-Lopez, Fortuny-Santos and Cuatrecasas-Arbós (2013) defined Lean thinking as “a way to do more with less effort from equipment, less time and less space or less human effort while achieving customer satisfaction as regard what they want. Kocamis (2015) stated that lean thinking comprises a set of measures taken against wastage; lean thinking means that if the waste activities are going to be evacuated, then the product will not be affected. Furthermore, lean accounting is a new approach in accounting that emerged along with the rise of business interest to encourage the culture of lean thinking. The aim is to measure the monetary effect of applying lean improvement project to business process. Daferighe, James and Offiong (2018) described lean accounting to comprise value stream costing, visual management, simple accounting, box scores, visual performance measures, target costing and value stream costing.

In a recent article by Kennedy and Brewer (2017), the two concepts of lean accounting are illustrated: a value stream cost analysis; and lean income statement. All the value added activities used in providing specific products and services to customers are present in a value system. In order to avoid false signals and punishment, lean accounting is the method employed to encourage and support lean manufacturing. It was argued by the proponents of lean accounting that lean production processes cannot be measured in the same way as traditional batch production. Conventional accounting methods are common for large-scale production processes that absorb public expenditures and adopt the idea of a stock for final work and operation. It reflects the era in which it developed, characterized by the diversification of fewer products and broad economic thought. Moreover, Kocamis (2015) mentioned that the information generated by traditional approaches can lead to decisions that are both tragic and wrong.

Difference between Traditional Accounting and Lean Accounting

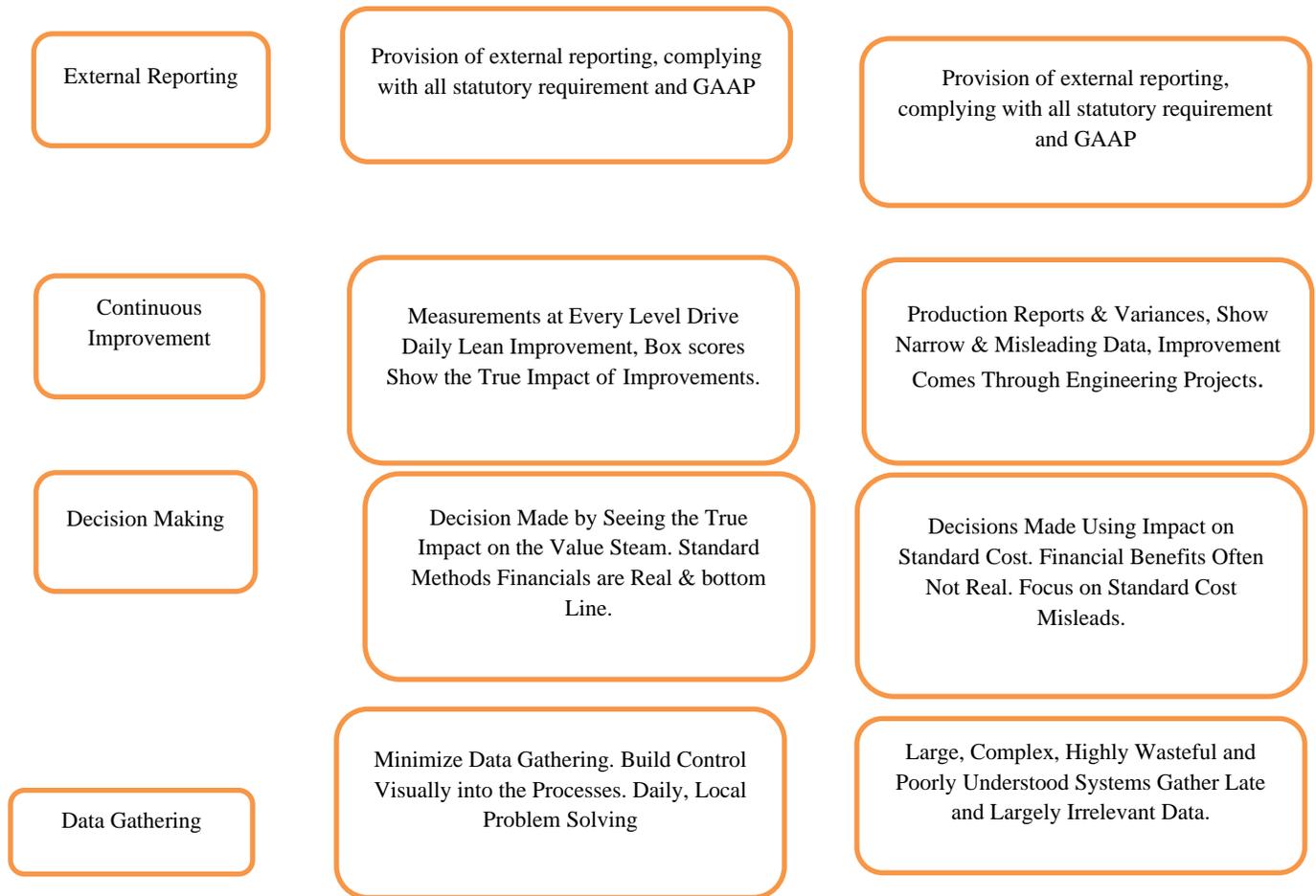
The traditional cost accounting system follows a simple principle in allocating costs to products. Allocation of indirect overhead costs is based on multiple departmental overhead rates and firm-wide overhead rate. Selling at administrative and general costs is categorized as period expenses. While the resulting cost of allocation is far from being precise, the application of the traditional cost system is straightforward (Huang, 2018; Ngwenya & Shange, 2019). The concept of ‘lean’ is a philosophy that non-value adding activities are being eliminated and recognized in lean manufacturing system. It comprises a set of practices and principles with the aim to minimize cost over waste removal and simplification of manufacturing process (Ramphal & Nicolaidis, 2018). Also, other processes have to be removed not just the non-value adding activities in the processes of accounting; accounting system should interpret the results of effort in lean manufacturing. Three keys aspects of lean organization are supported by the tools and methods of lean accounting such as: value stream management, continuous improvement and visual management (Monroy, Nasiri & Pelaez, 2012). The following is the summary of the most important distinction between traditional accounting and lean accounting



Figure1 shows the most important distinction between traditional accounting and lean accounting.

Figure1. Important distinctions between traditional accounting and lean accounting

	Lean Accounting	Standard Costing
Costing	Value stream Costing. Quick, simple, Actionable Drives lean Behaviors	Standard Product Costing, Complex, wasteful, and costing to all Drives Anti-Lean Behaviors
Costing Accounting	Controls Costing through Timely, Reporting and Value Stream Accounting	Reports Costs Monthly Against Departmental Budgets
Performance Measurements	It controls the process, maximizes throughput; Vital few, drives the company strategy.	Departmental focus on Standard Costs and Variances, Seeks labor Efficiency & Machine Utilization
Operations & Accounting Share a lean Culture	Simple Information leading to Teamwork, Continuous Improvement & Profit Growth Accountants at the Gemba	Departmental Command and Control Management, Creating Fear & Individuals; Accountants in their Offices
Organizing your Processes for lean	Value Steams Focus on Value. Measurements Drive Lean, Clear Accountability & Authority.	Department Efficiency Focused on the Budget. Most Can Not See the Value. Obscure Accountability & Authority.
Financial Reporting	Weekly & Monthly Financials, Plain English Reports Show Actual, Real Numbers.	Monthly, after-the-fact Reports, Only Finance, Understanding, Standard Costing Provides Misleading, Anti-lean Data



Source: the researcher used the study of Vineeta Arora on Lean Accounting: a case study of selected enterprises in India from Department of Accountancy and Statistics Faculty of Commerce Mohanlal Sukhadia University, Udaipur, 2016 and the study of Arora, and Soral, (2017) on Conceptual issues in lean accounting: A review. IUP Journal of Accounting Research & Audit Practices, 16(3).

Relationship between Cost and Value

Focusing on the value is a critical point in agile thinking. However, value creation is tantamount to cost reduction. In the concept of agility, this represents a common but critical deficiency; thus, there is importance in examining the association between cost in details and customer values. Womack and Jones in 1996 developed value as the first concept of agile thinking (Womack, et al., 1998). In this manner, the organization can move from merely “focusing on the shop floor”, a term used to describe the reality of the situation in the factory. That is, in terms of cost and waste reduction, it has the implementation of associated and operation costs, activities used and associated waste in that. It is a philosophy that at times seeks to promote the customer’s value by adding characteristics to the service and products and getting rid of wasteful activities.

In as much as the value is related to customer requirements, it has always been a major development regardless of whether the activity appears to be a waste of resources from the point of view of the organization. Thus, it is the customers who decide what is not adding value or wasted. The figure shows the relationships between cost and value and how product and service can be drawn in relation to value-cost presentation to the customers. The more attractive the



proposal is for customers, the higher the value-cost balance. The cost-value balance indicates the condition in which the customer is willing to pay the price required for the products.

This changed from focusing merely on reducing waste to focusing on the value of the customer and thus it opens a secondary basis for value creation. If the internal waste is reduced, then a value is created as there is reduction in the activities responsible for associated costs and extravagance; this increases the customer's value. Also, when additional features and services are provided, increase in value is made; these are valued by the customer as they express their satisfaction for the product and service. This includes smaller delivery payments and shorter delivery cycle which may not incur additional cost adding value to the customer (Hines, Holweg, Piercy & Rich, 2004).

Why the need for Lean Accounting?

1. To provide correct, clear and timely information for making effective change in its entire organization and to make change in making decision. This will eventually leads to an increase in attention to the principles of customer's retention, cash flow, profitability and development.
2. To use agile tools to remove waste resources due to excess accounting operations in control and other procedures.
3. To protect the culture of agility by encouraging and educating employees in an organization, promoting continuous improvement and providing actionable information at all levels of the organization (Rosa & Machad, 2012).

Lean Action Principles, Tools and Practices

The tools and practices of lean accounting are categorized into five principles as shown below:

Table 1. Principles, tools and practices of lean accounting

Principles	Practices	Tools of Lean Accounting
1. simple business accounting	Continuous waste elimination (transaction process and reports)	1. value stream mapping; current and future state 2. Kaizen continuous improvement 3. PDCA problem solving
2. Lean Accounting for Change	Management control and continuous improvement	1. Performance measurement chart connecting metrics to process, plan reporting business strategy, lean improvement, target costs and value streams. 2. Value stream performance boards containing continuous and breakthrough improvement projects 3. Box scores showing value stream performance
	Cost management	1. value stream costing 2. value stream income statements
	Customer and supplier value and cost management	1. target costing
3. Clear and timely information provision	Financial reporting	1. Plain English: financial statement 2. Simple, largely cash-based accounting
	Visual reporting of financial and non-financial performance measurements	1. Primary reporting using visual performance boards, product design, administration, sales or marketing, divisions, value stream and plants, process/cell in production.
	Decision making	1. incremental cost and profitability analysis using value stream costing and box score
	Planning and budgeting	1. Hoshin policy deployment 2. Sales, operations and financial planning (SOFP)
4. Planning from a lean perspective	Impact of lean improvement	1. Capacity analysis and value stream cost 2. Current and future state value stream maps



		3. Box scores showing financial, capacity and operational change from lean improvement. Plan for financial benefit from the lean changes
	Capital planning	1. incremental effect of capital expenditure on value stream box score often used with the approach of 3P
	Invest in people	1. Performance measurements tracking continuous improvement participation, cross training and employee satisfaction 2. Profit sharing
5. Strengthened internal accounting control	Internal control system based on lean operational control	1. transaction elimination matrix 2. process maps showing SOX risks and control
	Inventory evaluation	1. simple methods of inventory evaluation with no requirement for continuous product costs and inventory records

Source: Lean accounting and Lean Business Philosophy in Nigeria by Enoch (2013)

Lean Accounting Perspectives and Evaluation Performance

The application of philosophy of lean requires the introduction of new performance evaluation procedures that allow oversight and lead to continuous improvement of operations. These procedures that reflect lean principles will be parts of approaches of visual management used by lean organizations and strive to establish a connection on one hand between the business cell and the value stream and the goals and strategy of the unit on the other hand.

The organization's strategy, goals and objectives start with the agile performance indicators while everything that needs to be achieved to follow up on the unit's strategy is linked to the goals of the value stream which are directly related to cells and processes through critical success factors. In the processes, of lean accounting continuous improvement is required. Essentially customers must receive what they order on time and in excellent condition (Nicolaides & Harding, 2012). Lean production is thus applicable to service operations aligned with agile unity. In order to follow the agile unity strategy on top of all this, it is agile principles that determine exactly what must be done. Three main areas are focused on by the performance appraisal in agile units are:

1. Production cell measurement
2. Value stream measurement
3. Company or plant level measurement

A very few measurements are needed and these measurements must be focused on the Lean issues that people are expected to address. The measurement of the cell level is primarily designed to assist the operations of people to daily complete the actions needed to be in a state of completion and to create quality product on time according to the need of the customers. These measurements are often tracked manually and visually and frequently (often in hours). The immediate need for creating values for the customers are given more attention.

Primarily, the value stream measurements are designed to motivate continuous improvements of the value stream process. It is the team of value stream continuous improvement that works with these measurements to assure that they move in the right direction every week. The measurements of plant or company are more familiar measurements used by the company's manager to track the achievement of the strategic objectives. In most cases, the plant or company measurements are financially balanced than the value-level or cell level measurement (Maskell, Baggaley & Grasso, 2011; Flayyih, Mohammed & Talab, 2019).

One of the important tools for agile accounting concerned with evaluating performance in agile units must be addressed when evaluating performance which is called the Box Score. This tool can be identified by extending and reconciling literature on the tools.



Box Score

It is a tool for recording the structured summary of weekly results of scores from value stream performance reporting. Generally, it has also been used for routine decision making for making or acquiring decisions, outsourcing decisions, profitability decisions, product rationalization etc. These decisions can be achieved by using simple but yet powerful information that is always available from the box score. It also presents lean targets and goals that allow every level of lean organization to comprehend the efficiency of lean and what is needed to be done to create improvement (Woehrle & Abou-Shady, 2010).

The operational, resource capacity and financial measures are presented by Box score which are considered as the key drivers for value optimization. There is assumption that the box score can empower the employee and management to take effective decision in order to improve the future state of the value stream and create customer's value. The value stream box score can be the tool to make a bridge between shop floor of financial or operational statement of accounting and finance departments (Woehrle & Abou-Shady, 2010).

The empirical results show that some of the important and non-financial operational measures of balanced scorecard can be connected to the box score. It is recommended by Cunnigham and Fiume (2003) that the measures should be few non-financial and operational leading factors that measure process not the people prioritizing the improvement of the initiatives in accordance with the company's strategy (Ogar, Abdus-Samad & Shu, 2017).

Components of Score Box

Every week, these measurements come together in a Box score after a summary report where operational indicators are integrated with other information related to performance of VS. BS and VSP & L are complementary to each other and it comprises simple board showing there types of indicators: financial section, operational section and capacity section. The operational section comprises an average of three to six indicators of operational performance such as: average cost, first time through, throughput time and on-time delivery.

On other hand, the capacity section contains three indicators measuring in percentage: unused and available capacity; capacity consumed by supporting activities (downtime caused by setting up maintenance); and capacity consumed by productive activities. These indicators reveal how production capacity is applied and possible bottlenecks in an operational flow. In contrast to the other two sections, calculation of the capacity indicators must be done weekly but only when there is introduction of changes in the production processes.

The financial section comprises the main financial indicator and is being calculated using VSP & L: VS ROS, VS costs, Revenue and VS profit. Each indicator is compared with the annual objective and with the value of the previous week. In specific weekly meeting involving managers, some representatives of employing working in VS and VS directors, each BS is analyzed. This is done so that the issues of operations, finance and capacity can be discussed and solutions can be found to problems encountered in the VS. So, in each VS, a direct and understandable vision of the present situation is allowed by BS with respect to its aims. Identification of areas for increase and improvement in staff motivation is also allowed (Cesaroni & Sentuti, 2014; Krishnan, 2006).



Application of the Performance Fund to Tourist Companies for Evaluation and Improvement of Hotel Performance

From the previous topic, agile accounting and the most important tools are discussed: the performance fund for evaluating performance in tourism companies. In this section, a brief summary of tourism companies (hotels) will be addressed, and then the implementation of the performance fund will be done with result analysis and discussion of the results.

Brief on Al-Rawda Hotel

The most modern of hotels in Najaf is the Al Rawda Hotel. This hotel is located at the end of Al-Rasoul Street and was built in 2007. In 2009, the hotel started to receive guests and it comprises six floors. The hotel is classified as second-class hotels according to the classification of the Tourism Authority. It contains 71 rooms with 180 beds with a good restaurant and a moderate event hall.

Value Stream at Al Rawda Hotel

For the performance fund to be applied to any organization, it must be reclassified into streams of value. The value stream has already been clarified as it is necessary on what are the current costs and revenues in months and weeks in order to understand the effect of performance fund. This study considers Al Rawda Hotel as a service unit and was the sample of this study. The study also considered the proximity of the shrine of Imam Ali Ibn Abi Talib and the proximity of the market which leads the guests to go to this hotel. The Table below summarizes some important data for the Al Rawda Hotel.

Al-Rawda Hotel Value Stream

This hotel is distinguished from other hotels by the proximity of the shrine of Imam Ali Ibn Abi Talib and the proximity of the market, which makes tourists flock to the location increasingly as its daily activities are characterized by speed. The administration must pay attention to the flow of data and information around this stream in a timely manner as a result of the large number of guests in order to take all necessary measures to accommodate the largest number of tourists that serve this stream as providing services to tourists is the primary source of this stream's revenue. Some data that is useful for the stream in the performance fund indicators to be prepared later will be available in order for a performance evaluation to be carried out in this stream. From the year 2019, there is a table that shows some data and information that is useful in establishing the performance fund for the value of the Al Rawda Hotel value stream.



Image 1. Zamzam Tourist Complex https://bookupadvisor.com/images/hotels/hotel_373_svxjucb616kykjcw9rt.JPG



Table 2. Al-Rawda Hotel Stream data for two months

Data	March	April
Monthly revenue	131750000	180000000
Number of guests per month	2661	3672
The percentage of those not received	%1	%2
Number of people not received at the hotel	26	72
Material cost	8000000	10000000
Cost of wages	4800000	4800000
Additional costs	1300000	2000000
Total conversion costs	6100000	6800000
Total costs	14100000	16800000
Number of employees	12	12
Net profit (loss)	117650000	163200000
Sales ratio	%89	%90

Source: Prepared by authors based on hotel records

During the month of March, the revenues of the hotel amounted to one hundred and eighty million Iraqi dinars as the month is considered as one of the best months of the year for active tourism. During the Nowruz holidays, tourists arriving in Najaf starts to increase as the number of guests during this month reached 3672 guests of whom 3600 were completely received in the hotel while 72 guests were not received by the hotel due to lack of conviction for the tourist in the amount required for one night. Some tourists see the price by the hotel management as being high and then go for hotels that are far from the shrine of Imam Ali Ibn Abi Talib. It is possible to be low for the market prices with the capabilities of the tourist not finding hotel as it will be completely full in some days and the price of one night is 50,000 dinars.

It is clear that the revenue achieved in the month of March is greater than the revenue achieved during the month of Arbel as the revenue achieved reached one hundred and thirty one million, seven hundred and fifty thousand dinars (131 750 000 dinar). The number of guests in this month was 2,661 guests, of whom 2,635 were guests at the hotel. One percent rate of the guests was not received for the same reasons that were mentioned previously. It was noticed that the material costs for the month of March amounted to ten million dinars (10,000,000 dinar) after a reclassification and disposal of the study, which is greater from April's eight million debt costs. This is considered normal due to seasonal similar or fluctuations. Based on the number of guests staying in the hotel, the costs may vary from month to month. Even if there is a difference, perhaps a questioner asks how to compare the performance of the two months with no similarity of costs. The answer can be compared through efficiency indicators in the performance fund, which will be explained later.

There are other costs called transfer costs in addition to these costs, these are the cost of employee wages in the value stream and other additional costs that were classified in traditional accounting systems as indirect and industrial costs. In the case of agility system, they are considered transfer costs and are directly on production units, the additional costs and the process of transferring. The measuring and sorting them is a process that has several ways to reach the exact numbers. The study suffices to access useful information and expresses the current reality objectively taking into account the feasibility of obtaining this information. In some cases, it is Lev conversion which includes: energy costs of operating buildings (such as rent, electric power and water); support costs, maintenance; and any other costs incurred by the current value during the period. The following table explains the transfer costs for the Al-Rawda hotel value stream during the month of March:



Table 3. The transfer costs (wages + additional costs) in the hotel's value stream

Sequence	Data	Transfer costs
1	Worker's wages	4800000
2	Water the water	315000
3	Electricity wages	750000
4	Maintenance fees	935000
5	Total	6800000

The details and numbers of how to reach the calculation of workers wages in the value of the hotel's stream amounted to four million and eight hundred thousand dinars (4,800,000) and were as follows:

Table 4. Monthly salaries of workers in the value stream

Sequence	The employee	Numbers	monthly salaries	Total
1	Reception staff	2	400000	800000
2	Cleaning staff	6	400000	2400000
3	Cooking staff	2	400000	800000
4	Management staff	2	400000	800000
Total				4800000

Source: Hotel records

The next discussion is on energy as it is known that each unit or institution has energies where the energies have the ability to provide services or produce products to the organization during a certain period. The energies of the hotel unit are represented by its area and the number of beds that accommodate the residents. The available energy can be expressed in current which can be used as the energy used in the family that is occupied while the unused energy is available, but it was not used because it is currently redundant.

A performance fund can be prepared that addresses three main sections which are the performance indicators, energy indicators, total cost of the current indicators after obtaining all this information on a monthly or weekly level. Notably, there is current profit or loss during the specified period "monthly or weekly" and that agile accounting works to measure the average cost per unit of production by dividing the total current costs by the number of units produced. This is because there are no load rates and there are no standard costs; also, there are no deviations so all costs are real and directly on the units of the products and the units produced to take the same share of the costs. There are some opinions that the average cost can be obtained by dividing the transfer costs only without the materials by the total units produced during the period.

Performance Fund for Hotel Value Stream

This study further moved to define all the data and get the results of operational and financial indicators after the researcher described all the requirements for establishing a performance fund in order to establish the performance fund. The following section explains the operational indicators for the performance fund for July. In the same way, the month of August will be calculated, so there is no need for repetition.



Sales per Unit Person

It is an indicator that measures the efficiency of workers in the current sales, in other words, it is known through this indicator how many units the employees of the value stream have accomplished during the period, particularly in the hotel. It is derived at by knowing how many guests have been serviced during the period in the current sales calculated by dividing the total units sold (to the inmates who were received at the hotel without refusal) by the number of workers in the current following the formula below:

$$UPP = (\text{Total Inmates}) / (\text{Current in Personnel Number})$$

$$\text{Factor per guest 300} = (3672-72) / 12 = \text{Upp March for a month}$$

$$\text{Factor per guest 220} = (2661-26) / 12 = \text{Upp per month}$$

The percentage of 2% of the guests in the month of March could not be provided as indicated by the hotel management due to lack of agreement on the price of the night and the percentage is in the hotel's stream(3672 x 2%) is only meant for 72 guests.

It means that the rate of production of workers in the hotel stream for the month of March was 300 guests for each worker. When compared to other months, this number is useful and to know the extent of improvement or reduction in the performance.

Delivery on Time: On Time Delivery

It is an indicator to measure efficiency from a time perspective i.e. delivery at the required time. At the same time, it is an indicator of control; whenever it is weak, it indicates the inefficiency of the current. It can be used in hotel units to measure performance efficiency and is calculated through the following formula:

$$OTD = (\text{their service has been made by guests}) / (\text{actual work hours})$$

$$\text{Actual work hours} = \text{Actual hours (8) hours} \times \text{Number of actual days in the month (30)}$$

$$= 8 \times 30 = 240 \text{ working hours per month as a general average}$$

$$\text{Month OTD} = (3672-72) / (240) = 15$$

$$\text{Month: OTD} = (2661-26) / (240) = 11$$

The result indicates that for every hour the service was provided to approximately 15 guests in March and 11 guests in April

This indicator being actual work can serve as when compared to other months with the trends of performance

Door to Door Installation: Dock to Dock day

It is an indicator to measure the speed at which raw materials are converted into a final product in the value stream and then get delivered to the customer. This indicator serves more in production units even if it is an indication of the velocity of the flow of materials through the value stream in any case, but not in service units.

The First Time Through

This is an indicator to measure the efficiency from the point of view of perfectionism and the absence of errors, faults, or rejection and faithfulness to another philosophy. Also, it is indicator



that measures the extent of uniformity in work within the hotel unit and the following equation is used to calculate it.

$Tff = (\text{good image of their service made by guests}) / (\text{total guests})$

Guests who were served well = Total guests - guests who could not be received at the hotel

$3600 = (3672 \times 2\%) - 3672$

$$\text{March } tff = \frac{3672 - 72}{3672} = 98\%$$

$$\text{April } tff = \frac{2661 - 26}{2661} = 99\%$$

The higher the rate, the better the indicator; it is an indication of quality in providing service or reaching idealism

Average Cost per Unit

This indicator is used to know the average cost of the product. It is used also for continuous improvement and cost reduction.

$AC = (\text{total costs}) / (\text{total guests})$

For the month of March, $AC = (16800000) / (3600) = 4666$

Month: $AC = (14100000) / (2635) = 5351$

It is the average cost of a guest in the value stream on the hotel. Additionally, a profit margin can be added to the cost to obtain prices that can be used in competition and maintain the market share. Whatever the case, everything that was explained in detail was related to the Al Rawda Hotel Value Stream. The numbers and how to obtain them from the records of the hotel for the month of March were discussed.

The financial indicators and energy indicators are discussed after the operational indicators had been clarified. The revenues for the month of March amounted to one hundred and eighty million Iraqi dinars (180,000,000). For the month of April, its revenues amounted to one hundred and thirty one million seven hundred and fifty thousand Iraqi dinars (131,750,000). In addition to the transfer costs that was described in the previous table all available energy is used and there are no unproductive or unexploited energies which will be noted in the performance box.

Research methodology

In order to investigate the research hypotheses, prove and make verifications, an inductive approach was adopted in this study by relying on field applications, observations and field research. This study was divided into two sections: the first part covers the reviewing of the theoretical framework for agile accounting and some of its modern tools with a focus on the Cosmin point box as an important tool through the use of scientific sources and literature; the second part covers the implementation of the tools in hotel units named Zamzam Tourist Complex Hotel in Najaf for verification of the research hypothesis and the possibility of achieving it.

Discussion of result analysis of the performance fund and the hypotheses

This section reports the achieved results after the performance fund for the hotel's value stream has been established for two months in a row. Notably, the first part of the fund, which is the operational indicators, included several indicators and the first indicator is sales per person. It was



3600 guests in the month of March while 2635 guests in the month of April. This means that the month of March was better in terms of this indicator which means that the 12 employees in the Al Rawda Hotel stream provided each person with services in the month of March more than April. On the second indicator which is delivery, the appointed time reached 15 guests per hour in March; in the month of April, growth was 11 guests per hour. This gives preference for the month of March in performance. On through the first time which is the third indicator, the percentage of the month of March was 98%, while the rate of the month of April was 99%. This shows that the number of those who were not received at the hotel has decreased in April. This means that the hotel is constantly improving as this a good indicator.

As regarding the last indicator which is the average cost of a guest has reached 4666 dinars in March. It increased to 5351 dinars in April which is not a good indicator as it is an improvement to reduce the average cost in terms of operational performance indicators. With regards to the capacity indicators, available energy was 180 beds in Al-Rawda Hotel value stream. Considering that the tourism season is active during the month of March and extends until the end of the month of April, this was completely occupied most of the time. On the other hand, the production or productive energy has reached 100% of the available energy. This means that there is always production; it indicates that there are no spaces or vacancies without exploiting all of this regarding energy.

Table 5. Performance Fund for Al-Rawda Hotel Value Stream for the year 2019

		April	March
		Operation	
Unit per person		2635	3600
On- time delivery		11	15
First time through		99%	98%
Average product cost		5351	4666
		Capacity	
Productive		100%	100%
Nonproductive			
Available		100%	100%
		Financial	
	Monthly Revenue	131,750,000	180,000,000
	Material cost	8,000,000	10,000,000
	Conversion	6,100,000	6,800,000
V.S profit		117,650,000	163,200,000
		89%	Return on Sales 90%

On the third part of the performance fund, the costs and revenues for the current month are shown and those costs and revenues can also be compared between periods of months or weeks. There was an increase in the total costs from the month of March to the month of April by 2,700,000 dinars (16,800,000 – 14,100,000). The difference can rise up due to the increase in both material costs and transfer costs. This shows that the performance fund gives more clear explanations for each case in which the costs may vary from month to month, whether rise or fall, which serves the continuous improvement team.

For the last discussion, the rate of return on the investment is the product of dividing it into pieces in a value stream on the total monthly sales. The current month of March profits amounted to 163,200,000 dinars at the rate of return of 90% while profit for the month of April amounted to 117,650,000 million dinars at the rate of 89%. This shows that the profits of the month of March are the bigger profits than that of April by 45.55 million dinars. With this, all indicators and numbers mentioned in the performance fund have been completed. Thus, it can be concluded that the two



hypotheses have been fulfilled: the first hypothesis states that “there is possibility of raising and evaluating performance within the hotel units of different departments through the use of agile accounting tools, especially the point box”.

Notably, the fund performance is presented through financial and non-financial indicators which enable management to make more improvements in performance, efficiency, quality and speed of delivery and disposal of excess or unnecessary activities. For the second hypothesis that states that “the performance fund eliminates waste in General TIA”, the value of t has been achieved and validated through what the performance fund can achieve in eliminating waste in the general resources by making comparisons and competition between value streams and encouraging good ones knowing the causes of inefficient currents and imbalances or bottlenecks.

Conclusion

To come to the concluding part, this study has completed all issues related to the value stream and has reached conclusions that there is a waste in service performance in the Al-Rawda Hotel. This waste is due to lack of an efficient control system over resources and a misuse of resources. For the sake of separating responsibilities and resources and distributing them over the operation, the unit must be divided into streams of value so that each stream works as an independent part. All streams then work towards achieving the goals and objectives of the hotel unit as represented by its strategies with the aim of serving the guest in pursuit of customer satisfaction.

This study recommends the need to establish a performance fund in order to examine the performance of various hotels and make weekly or monthly comparisons related to them. This is a necessity in order to reach the best performance and eliminate all sources of wasting energies and resources that are available. This constitutes a total improvement of the organization whether in the service of the guest or in reducing the consumption of resources which are the benefits meant for the hotel units.

References

- Arora, V. (2016). Lean Accounting: A Case Study of Selected Enterprises in India. PhD. Degree of Mohanlal Sukhadia University, Udaipurin, the Faculty of Commerce.
- Arora, V. & Soral, G. (2017). Conceptual issues in lean accounting: A review. *IUP Journal of Accounting Research & Audit Practices*, 16(3).
- Çelik, İ. E. (2016). Mathematics and Excel Based Statistical Lean Accounting Implementation on a Construction Industry Firm. *Beykent Üniversitesi Sosyal Bilimler Dergisi*, 9(1).
- Cesaroni, F. M. & Sentuti, A. (2014). Implementing a lean accounting system in a lean enterprise. In Proceedings of The 18th IAMB Conference, September (pp. 17-19).
- Daferighe, E. E., James, E. E. & Offiong, P. E. (2018). Lean Accounting and Waste Management in Brewery Industry in Nigeria. *Advances In Research*, 15(1), 1 – 11.
- Enoch, O. K. (2013). Lean accounting and lean business philosophy in Nigeria: An exploratory research. *International Journal of Economics, Finance and Management*, 2(7), 508-515.
- Flayyih, H. H., Mohammed, Y. N. & Talab, H. R. (2019). The role of accounting information in reducing the funding constraints of small and medium enterprises in Iraq. *African Journal of Hospitality, Tourism and Leisure*, 8(4), 1-10.



- Hansen, D. R., Mowen, M. M. & Guan, L. (2007). *Cost Management. Accounting & Control* 6th Edition. Mason, MI: South-Western Cengage Learning.
- Hines, P. A., Holweg, M., Piercy, N. & Rich, N. L. (2004). From production toolkit to strategic value creation: A review of the evolution of contemporary lean thinking. Presented at: 9th International Symposium on Logistics (ISL 2004), Bangalore, India, 11-14 July 2004.
- Kennedy, F., Owens-Jackson, L., Burney, L. & Schoon, M. (2007). How do your measurements stack up to lean?. *STRATEGIC FINANCE-MONTVALE-*, 88(11), 32.
- Kocamiş, T. U. (2015). Lean Accounting Method for Reduction in Production Costs in Companies. *International Journal of Business and Social Science*, 6(9), 6-13.
- Krishnan, A. (2006). An application of activity based costing in higher learning institution: A local case study. *Contemporary Management Research*, 2(2), 75-75.
- Maskell, B. H., Baggaley, B. & Grasso, L. (2017). *Practical lean accounting: a proven system for measuring and managing the lean enterprise*. Productivity Press.
- Monroy, C. R., Nasiri, A. & Peláez, M. Á. (2014). Activity based costing, time-driven activity based costing and lean accounting: Differences among three accounting systems' approach to manufacturing. In *Annals of Industrial Engineering 2012* (pp. 11-17). Springer, London.
- Mpofu, R. & Nicolaidis, A. (2019). Frankenstein and the Fourth Industrial Revolution (4IR): Ethics and Human Rights Considerations, *African Journal of Hospitality, Tourism and Leisure*, 8(5), a71
- Ngwenya, J. C. & Shange, N. L. (2019). Learners' views on challenges encountered during practical work in Consumer Studies: A case of one school in KwaZulu-Natal. *African Journal of Hospitality, Tourism and Leisure*, 8(1), 1-13.
- Nicolaidis, A. & Harding, P. (2012). Evaluation of the Nissan Plant Management System as a Global Improvement Tool and the Role of Hoshins. *Journal of Emerging Trends in Economics and Management Sciences*, August, 2012.
- Ramphal, R.R. & Nicolaidis, A. (2018). Intelligent consistency- Ethical practices of Lean Six Sigma in quality service provision in the hospitality industry. *African Journal of Hospitality, Tourism and Leisure*, 7, 1-15.
- Rosa, A. C. R. & Machado, M. J. C. V. (2013). Lean accounting: Accounting contribution for lean management philosophy. *Tourism & Management Studies*, 3, 886-895.
- Ruiz-de-Arbulo-Lopez, P., Fortuny-Santos, J. & Cuatrecasas-Arbós, L. (2013). Lean manufacturing: costing the value stream. *Industrial Management & Data Systems*.
- Samad, M. A., Shu, Y. & Ogar, K. (2017). Value Creation with Lean Accounting. Master Program in Accounting and Finance Accounting and Management Control, Lund University.
- Woehrle, S. L. & Abou-Shady, L. (2010). Using dynamic value stream mapping and lean accounting box scores to support lean implementation. *American Journal of Business Education (AJBE)*, 3(8), 67-76.
- Womack, J. P. & Jones, D. T. (1997). Lean thinking—banish waste and create wealth in your corporation. *Journal of the Operational Research Society*, 48(11), 1148-1148.