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The Impact of Time Driven Activity Based Costing on Competitive Advantage in the Kurdistan Region of Iraq Economic Unit

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Abstract

The current research explores the important role TDABC to initiate basic and important elements of competitive advantages in education sector economic units. Private universities and institutions in the current dynamic and complex environmental circumstances should consider TDABC as a unique tool and perceived to be good in the hand of managers to improve the abilities of their competitive advantage. A sample of (137) respondents have been analyzed by using statistical methods (SPSS 24), and principally measure of TDABC as employed construct measure enhance effectiveness measures of competitive advantage components which represent in this study (cost, quality, time and innovation). Although, analysis of the study model test shows a statistically significant association of proposed TDABC perspectives on determinants of competitive advantage; hence result recommends reliance on TDABC orientation on private university and institution performance and competitive advantage.

Keywords: time driven activity based costing, competitive advantage, cost, quality, time, innovation.

2.2 Activity Based Costing

Initially the concept of ABC was introduced by Cooper, 1988; Cooper & Kaplan 1988 as an instrument for managing cost practices and improves product cost, procedures carried out includes assign an overhead cost to products produced and services provided (Hilton, 2005). Core concepts of ABC work in practical side assumes products and services completed by some activities and each activities need corporate resources (Kaplan & Cooper 1998), therefore cost of these resources allocate to each activity next the cost of activities are apportioned to cost objects by means of volume and non-volume related drivers (cooper, 1990). Based on the level benefits of each and commonly named cost driver, the cost of activity allocated to the cost objects, cost drivers are linked factors between activities and cost objects (cooper, 1990; Kaplan and copper, 1998). Moreover instead indirect cost allocated to the productive division or departments the Activity- based costing by identify activities and based on cost objects the costs allocated.

Compare to the traditional costing system the ABC has required ability to overcome previous system shortcoming (Mota et al 1999), traditional costing system manage costs in accurately, according to it the overhead costs arbitrary allocated to the related product services, but after introduction of ABC the process of indirect cost allocation transforms in a better trend, and assumes every product or services aren't use the same level of activities and resources. Thus, the changes improve our understanding as a management or accountants to determine which product or customer is profitable or less profitable as a result most realistic vision regarding strategy obtained and provide managers wide and most accurate cost information.

Information of product cost is a prerequisite to identify profitable product and better management of cost. Just when cost information available, managers know how to run tasks and manage works relating to produce products and provide services in distinctive perspectives. Contemporary business environment in both manufacturing and service sector characteristic too many overhead costs, product or service industry. The issues of indirect cost allocation were continued until the emergence of ABC. In a large extent idea of ABC identify a method of allocation

by which activities drive cost assessed by consuming organization resources (Adamu, 2010). In other interpretation it looks to find integrated association between indirect resources and activities consume resources, as explained by Hill, 1995 the ABC is to analysis the indirect cost incurred in a company and ascertain those prime activities that absorb those costs. Mainly activities represent cost drivers and used to apply overhead, predominately cost drivers are events connected with activities that absorb resources of the firm (Schoreder, 2000). Identify activities based on major cost drivers achieve accuracy in the estimation cost, as a result is to be valuable for management in circumstances of product pricing, product differentiation, reducing of indirect cost and continuous improvement (Maskell, 1991).

2.3 TDABC

Since the introduction of ABC in the 1980s become grown in distinctive sectors, at the same time many organizations have abandoned the ABC due to many reasons such as; high cost of implementation, IT inadequacy, lack of senior management commitment, and difficulties in linking cost drivers to individual procedures (Gosselin, 2006). After its application many flaws identified in the ABC and affects its usefulness to the enterprises, most firms think it was not easy to implement ABC and takes long period because of the complexity nature of activities to be performed (Kaplan & Anderson 2004). Then, recurrent need to make the system amend increase cost of the system and impossible to carried out re-interview of individuals involved in the activities (Kaplan & Anderson 2004), and finally it is inefficient to capture the complexity of the operation of many companies.

In respond to the criticisms encounter ABC, new version introduced by (Kaplan & Anderson 2004 and 2007), which is named TDABC and address limitations of the traditional ABC. TDABC considered an updated system of traditional and ABC system; predominately this system works on identification of unit cost, time unit and estimation of the time equations arriving at the average cost of resources and time required to carry out an activity. Mainly various different quantitative and qualitative time drivers have been employed by TDABC in corporation (Brimson, 2001; King 2001 and Monroy et al 2012). In the new vision complexity of cost calculation was overcome and makes easy implementation process in large and service economic units, and assessed as a revolutionary approach for determining cost (En-nhaili, Meddaoui & 2015; Meddaoui & Bouami, 2014). Proponents of the TDABC perceive the new approach eliminate time-consuming and amounts paid to interview which considered big issue to the traditional ABC implementation, in addition enable cost drivers to be calculated based on the practical capacity of the resources applied (Kaplan & Anderson 2007). In contract to the ABC system, TDABC is simplified in terms of practical application, simply it is calculated by identify cost rate and multiple to the time (Hennrikus et al 2012).

Nevertheless, Identifying costs according to the TDABC doesn't need look for activities to assign resources before allocation to the cost objects (Kaplan & Anderson, 2007), this progress simply allocation process and eliminate the needs to ask staffs to assign resources according to the activities. Based on the explanation given by Kaplan & Anderson 2004, there is difference between transactional and 'effort' cost drivers. According to the transactional cost drivers the number of times and activity is performed, such as set-ups, number of shipment, purchase order, customer order and maintenance works, etc. in this case fluctuation of resource consumed by activities likely to be occurred. For example set-up activity compare to other activity like customer order is more complex and great resources, as a result counting the number of times an activity is performed gives inaccurate estimate of the resources required to accomplish the work. Sector of service like healthcare, higher education, etc. perform diversified service that results of resource consumption with varying degree, thus better costing system have to use duration drives which consider the time needed to render each service. TDABC for service businesses provide better opportunity to manage time and related resources profitability.

Although, Kaplan & Anderson, 2004 explains core concept of ABC and ABCM are to measure organization capacity, by end TDABC system requires two estimates, first the unit cost of

supplying capacity and then the consumption of capacity by the activities the organization performs for products, services and customer.

2.4 TDABC in Service Industry

In accounting literature quite few studies explain role of ABC in service organizations than in manufacturing industry. Nature of service organization vary from one economic units to other, as a result indirect cost track to specified activity cost drivers vary with the quality or complexity of services. This makes the emergence of allocating issues over the activities for each service then resources consumed by each activity based on the cost drivers to arrive an accurate unit cost of service. According each of the Yeh et al, (1991) and Kekre & Srinivasan (1990), opening and widening firm's product line enhances corporates ability to compete in markets.

Usually service organization including universities offer variety of teaching opportunities such as new academic departments, professional and training courses etc. in order to satisfy their customers and finally increase company's ability to stay in global and competitive markets. This is the same as broadening product line which under normal circumstances should make the business profitable. While firms in case of expanding their businesses suffer from its cost advantage lose (Yeh et al 1991), TDABC as a new approach for cost management is a unique approach consider along with the variety of service render.

Theoretical Framework of Competitive Advantage

3.1 Components of Competitive Advantage

Mainly the terminology of competitive advantage refers to the company's potential ability to stay in the market position and continue to defense their position against their competitors. Usually via many techniques make strategy to implement its competitive plans, such as physical, technical and organizational capability. According to Weinstein, (2012) achievement of competitive advantage significantly associated to two main perspectives; the expected value of the customer and strength of the company to achieve excellence. Competitive advantage defined as an "an organizational capability to perform in one or many ways that competitors find difficult to reproduce now and in the future", (Kotler 1997). But according to Anik et al (2010), refers to the ability to meet the wants of customers and satisfy them, and meet employee's needs in the company and achieve higher return on investment for growth, further more to grow and reaching corporation goals and objectives. Or represent those reasons that have immediate or not directed association to the stability of the company in the markets (Baroto et al, 2012). To discover new, creative and innovative ways for producing goods or providing services, the competitive advantage represent a good instrument as works more effectively (Naliaka and Namusonge 2015). Ranjith (2016) defined as a strategy circulate the enterprises business approach, evolves its growth and development, and give the company a chance to produce and deliver services, goods and benefits to its customers that outperform its competitors and improving its reputation in the market. From above illustration of the concept of competitive advantage we conclude it isa set of dimensions or reasonable factors that extend and empower company to perform better than competitors by arrange the requirements and wants of diversified customers, which in a result impacts its stability in the market, market share, profitability and reputation etc.

However strategic management accounting have great role on achieving competitive advantage, as explained by Daru, (2016) different forms of cross-level models is a need when practitioners analysis competitive advantage. Theoretically many researchers highlighted significant association between a strategic management accounting on dimensions of competitive advantage in a positive trend, (Chenhall and Langfeild-Smith, 1998; Chiucchi, 2013; Hiller et al 2014; Hilton, 22008; Kaplan and Norton, 1996 and Roslender and Hart, 2002, etc.). They proposed strategic management accounting considers as a core origin of strategically orientated information for planning, decision making and control process that in turn improve feasibility of gaining competitive advantage. For example Hilton (2008) claimed strategic management accounting is a practical too that significantly assess and identify strategic competitive polices in gaining better performance and competitive advantage.

Achieving sustainable competitive advantage needs information of non-financial, external and future, to respond these requirements traditional management accounting proposed to be no further be a unique tool for gaining competitive advantage (McManus, 2013). It clams appropriate source for analyzing competitive position of the company after providing relevant information about markets, products, supplier, competitors and customers (Nixon and Burns, 2012). Despite that it provides internal orientation information connected to the resources of the organization and capabilities (Tayles et al 2017). Aguet et al argued it is essential to apply strategic management accounting by the enterprises to secure continuous sustainability in achieving competitive advantages.

3.2 The Relation between BSC with Competitive Advantage

New business environment that makes more businesses successful over last years, motivate organizations distinguish between organization performance and competitive advantages of the firms. Competitive advantage as a prime factor explains the highest organizational performance. According to the Gomes & Romao (2019), each of external and internal factors significantly relevance to the competitive advantage and also considered as a critical reasons for successful organization. The questions why still there are powerful businesses but have low level of return, usually explained by competitive advantage benefits. In competitive business environment according to the Porter (1985) the circulate factor that contribute to organizational performance is competitive advantage and enterprises should service customers systematically relative to the competition. Sustainable performance defined as core factor being sustained performance above normal returns (Peteraf, 1993).

There are many arguments about initiatives which claims work as competitive advantage resources, generating value from internal resources viewed to be as a source of prime performance (Barney, 2002). In addition papers of Rumelt (1984), Barney (1986), Amit and Schoemarker (1993) and Peteraf (1993) all have viewed corporate resources that give sustainable competitive advantage. Moreover intangible asset management such as property, knowledge, and skills of employees, customer retaining ability considered to be relevant for competitive advantage and long term financial success (Kaplan & Norton 1992, 1996, 2000). BSC as management system assist enterprises to implement initiative strategies and support reliable frameworks for fulfilling organizational performance.

Apart from tangible resources the BSC framework overcome the issues of measuring high performance and considered a good instrument than measures intangibles, thus all deficiencies of traditional performance measures have been solved. In addition to obtain competitive advantage firms need to pursue sustainable measures, toward this process there are great pressures (Hahnnet et al, 2015). On one side diversity of stakeholders actively force firms impose proactive sustainable practices (Delmas, 2001; Darnall et al 2010), and limited assets should allocated to the most urgent (Hart and Sharma 2004; Escobarand & Vredenburg, 2011). Then, there is needs to combine sustainability dimensions and transforms toward competitive advantage (Lucas, 2010), product differentiation (Bonifant et al, 1995) and finally cost reduction (Christmann, 20000 overall sustainability measures and practical implementations make notice external and internal issues and bear down company's perception and customer's needs (Kassinis and Vafeas 2006; Hart and Milstein 2003 and Spiller, 2000).

3.3 TDABC and Increase firms' Competitiveness

International markets and new business environments make necessary to update cost systems in order to increase competition of businesses by reducing production costs, reduction of cost enable firms to stay in markets powerfully and make them increase their market shares (Judeh et al 2011, Huang, 2016).advantage of TDABC for performance evaluation give firms success on achieving sustainability and continuity at work in line with changing environments (King, 2001; Govren-Mitka & Okreglicka, 2014).

Nevertheless many scholars pointed out optimal use of resources and put activities on work at right time certainly resulted in lower product cost, higher profitability, expand participation in the

markets and minimize product price (Al-Halabi, 2016; Govren-Mitka & Okreglicka, 2014). Ability to compete in global and quantity of production, improving productivity and reducing costs and prices (Abu-saada, 2014; Moorthy, Yacob, 2013), the ABC as a costing system is overcome diverse problems faced organizations such as time consumed calculation and time estimation for units of time drivers (Huabg, 2016; Gervais, et al 2010; Swenson & Ansari 2010 and Drury 2006).

Other studies on subject matter issue states application of TDABC reduce production cost and much better monitoring which usually managers are concerned about (garrison et al 2012 and Bahr, 2016). Specific characteristic of TDABCfound to be assist reduce cost and improve quality of services provided by the corporation, this outcome measures explain the necessity application of TDABC (Rozotocki, 2010; Rempel, 2015 and Monroy et al 2012).

2.1.2 TDABC and Competitive Advantage

Regardless type of the business sector and its environment the costing system considered to be a prominent factor that enables organizations sufficient capabilities to efficiently implement strategies and achieve specific goals. The ABC unable to provide high quality of cost data to satisfy needs the needs and wants of managers. Instead TDABC considered to be a unique costing system that maintain a simple ground of work that enable firm's accurately allocate cost of goods and services (Ozcan 2020). In context of the study benefits of TDABC explained to idle capacity cost calculation. Kaplan and Anderson 2007 demonstrate TDABC is a system that enables organizations to produce detailed information about production cost. In addition this costing system relies on time factor for assigning the resource cost.

Another study by Terungwa 2013 looks to the practical implementation of time-driven activity based costing in Nigeria, the service sector represent sample of research. And the researcher was wonder to explain performance in terms of profitability by TDABC application by using questionnaire and interviews. Study found in comparison to other costing systems the application of TDABC system provide detailed information on cost and profitability of customers and considered to be a unique costing instrument mostly in Nigeria. Also the scholar found more chance to analysis cost of operation by uses of TDABC. This result concludes managers can make use of time equations to assess time for activities related in providing a unite service.

Same study in service sector particularly within healthcare carried out by Tibor, et.al 2017 to understand how TDABC costing methodology improves efficiency. Result of the study shows this costing maintain an environment that enhance process of cost more accurately, the implementation of this system reduce non-value added phases and costs by 13%, staff time by 17%. And the saving time obtained due to system application paramountly employed to other operation more accurately such as enterograghic examination. These finding means successful outcome quite certain while could not be noticed previously.

There are many studies in sector of health care that explain the role of TDABC system on hospital and business unit. Another study by Ostadi, et.al 2019 specifies benefits of TDABC and viewed to be more accurate than traditional systems. With this connection more appropriate information related to those activities needed to quality services have been maintained in case of TDABC application, thus potential cost estimation quite accurate. Compared to other systems this developing costing system identifies unused capacity of the resources with more error. Cost of unused capacity derived using fuzzy logic and TDABC were 80% of cost derived using TDABC.

Consoli 2012 shows information communication technology within firms department generates efficiency, effectiveness, innovation, growth and competitiveness advantage. However, Ribadeneira, et.al 2019 explain role of TDABC approach in education sector of IT services, this study by proposing a methodology for collection process help to create costing model with TDABC, The collected information with ITIL enabiling department to manage its service performance.

Within industrial firms in Jordan by Al-halabi & Al-mnadheh 2017 role of TDABC on improving efficiency have been explored. In the methodology of the study 73 participants from 30 firm listed in Amman stock exchange were asked to gather

required data. Core result of the study determines that TDABC has the ability to benefit from technological developments on the basis of the activities charts and reflected on pricing decision making process in industrial operations. Finally study recommends the use of TDABC system enhance ability to reduce cost of products and increase corporate profitability. Also, one study by French, et.al 2013 use TDABC to measure the value of process improvement initiatives in service sector. The study aims to identify cost of performing a preoperative assessment while maintaining the quality of the assessment. Result of the study quantifies 33% reduction of time spent by patient, there by resulted 46% reduction of cost of providing care.

In addition the result found improvements of performance lead to number decrease of full time staff by 17 percent, and an increase in number of patients by 19% in the center without and impacts on service quality.

Nevertheless, integrated role of using lean production and TDABC in product-mix decision explained by Mohsin, et.al 2021 in battery Production Company in Iraq. Study concludes the proposed model establishes by principals of lean manufacturing and TDABC decrease a time and cost of production and significant reduction in idle production capacity by 26 percent in 2019. This result illustrates an efficient division of cost on goods due to the use of time spent as a cost factor for products and cost savings due to the lean manufacturing approach that reduces all additional costs an increase product-mix decisions. Moreover, study explains the integrated model in a great extent influence product-mix decisions.

Then, same subject matter study by Terungwa 2013 in Nigeria explore whether the application of TDABC in service economic units would improve its performance in terms of profitability. Concluded result show the application of TDABC system enable firms to collect more costing data and profitability of customers. Despite that, the role of TDABC on bank sector explained in Iraq by Al-Askary, et. al 2020 for the aim to measure the cost of bank service. Even though, study explains TDABC solve shortcomings of traditional ABC via introduction optimal time approach. In addition this system has related benefits in terms of less cost and fast and easy to use. Finally, it assists in identifying the cost rates based on the actual capacity to supply resources.

Result founds TDABC tremendously suffers from many spheres; such as lacks the potential ability to identify activities in the first implementation phase, particularly practical capacity costs rate, uniform capacity costs rate, managers time estimation for each activity, determination of unused capacity, as well as lack of data accuracy, and limitation of managerial decision makings. These conclusions made uncertain sound about usefulness application of TDABC. One study related to TDABC and its impacts on manufacturing environment carried out by Ganorkar, et.al 2019 this study explains the extent application of this model within small scale manufacturing industry. Result of the paper explains TDABC system provides accurate and relevant information to the management, which assist them in product analysis, improvement of operational, product differentiating in terms of profitability, and decision about proposed investments. These conclusions help firms to reduce cost of the product.

Finally, role of TDABC in service industries explained by Szychta, 2010, in this study previous works by others investigated to briefly consider the new version of ABC in the service industry. Result shows traditional ABC system is time and cost consuming which in cases makes it to be abandoned. But the new version of this model developed to be improving way of obtaining data on time required to perform the activities and the modification of activity cost calculation. Study implies TDABC facilitate and improve calculation of activity, service and customer costs in service and other enterprises. Moreover in contrast to TDABC system, the developed model because of their abilities to assign cost driver directly to objects make TDABC quite sustainable for application in service industry. This is because services activities usually measured based on the labor time assigned to a given activity.

2.1.3 Competitive advantage

From literature many factors have been explained the importance of sustainable competitive advantage. One study by Hasseb, et. al 2019 examines the role of social and technological

challenges in achieving a sustainable competitive advantage. To attain specified objectives by distributing 500 questionnaires within SMEs in Malaysia the first hand data was collected. Result of the study revealed social and technological challenges importantly evolved sustainable competitive advantage and sustainable business performance. Despite that, strategic alignment was stimulating the positive impacts of social and technological factors on sustainable competitive advantage.

More publication explains competitive advantage as important issue for the contemporary business environment. A theoretical review of the literature by Sousa, et. al 2010, interestingly search for the answer of "how can social responsibility strategies create competitive advantage". Result of the study found that social strategies that influence and are influenced by opportunities, resources, skills, corporative merits, and industry structure and stakeholders affect the association between social responsibility and competitive advantage. Model of the study also, proposed that formulation of social strategies stimulates competitive advantage; this inclusion is explained based on elements and adaption to societal expectations.

In temporary Global markets, economic units to maintain sustainable competition, it is important for them to depend on many tools, particularly strategic management models. With this regard, Ayvaz & Pehlivanli, 2011 investigated a practical research with the title "the use of time driven activity based costing and analytical hierarchy process method in the balanced scorecard implementation". Study identifies TDABC provide full and on time information while through analytical hierarchy process help to choose the best critical success factors in the favor or support strategic decision support. The BSC as a strategy management framework need help from other management vehicles and this before putting into practice they get benefit and able to provide an effective strategic decision support process.

In addition impact of strategic management accounting explained on the dimension of competitive advantage by Alamri, 2008. By employing data from management accountants and senior managers the research reached to the conclusion in Saudi industrial sector. Result explains practical implication of management accounting in strategic view point significantly affects the dimension of competitive advantage such as; cost, quality flexibility and delivery. There are other studies explain positive role of strategic management accounting on achieving competitive advantage (Hilton, 2008; Nixon and Burns 2012). Many factors from literature have been identified as sources and elements of competitive advantages. A study with this regard by Addae, 2013 entitled "total quality management (TQM); a source of competitive advantage". In Ghana in both service and manufacturing firm, via Reliance on first hand data by the researcher found in case of proper implemented (TQM) will be a source of sustained competitive advantage. In addition study concludes in case of testing and control of quality of manufacturing products, it is difficult to control the quality of services before delivery because of their intangible nature. Thus, improving culture of quality management properly will assist to achieve sustainable competitive advantage.

Table (1): The value of the Cronbach's Alpha coefficient for Item-Total Statistics

Time driven activity based cost	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1	236.5455	456.754	.182	.895
Q2	236.6212	454.222	.220	.894
Q3	236.7045	450.439	.296	.893
Q4	236.6061	450.912	.318	.893
Q5	236.6212	450.054	.306	.893
Q6	236.6742	455.366	.172	.895
Q7	236.6970	450.518	.277	.894
Q8	236.6515	453.313	.232	.894
Q9	236.5758	444.597	.427	.892
Q10	236.7121	446.481	.339	.893

Q11	236.7197	446.157	.370	.893
Q12	236.5682	448.873	.367	.893

Table (2): The value of the Cronbach's Alpha coefficient for Item-Total Statistics

Achieving customer satisfaction		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Cost	Q1	236.5758	448.078	.370	.893
	Q2	236.7045	445.370	.461	.892
	Q3	236.5227	452.770	.290	.894
	Q4	236.7727	446.360	.383	.892
Quality	Q1	236.6364	447.042	.374	.893
	Q2	236.6818	441.471	.456	.891
	Q3	236.5455	446.952	.418	.892
	Q4	236.6288	449.197	.346	.893
	Q5	236.5833	447.512	.356	.893
Time	Q1	236.6061	442.454	.498	.891
	Q2	236.6061	448.561	.349	.893
	Q3	236.6591	459.829	.077	.896
	Q4	236.5833	450.993	.304	.893
	Q5	236.5758	449.345	.336	.893
Innovation	Q1	236.6439	442.063	.474	.891
	Q2	236.6364	454.920	.196	.895
	Q3	236.6894	447.559	.340	.893
	Q4	236.5985	451.662	.271	.894

1- Time driven activity based cost:

In this section, the response of the respondents' opinions about the time driven activity based cost variable will be presented and analyzed according to the results of the analysis with the appropriate programs, and related to the means, standard deviations and Relative importance.

Table (3): Description of time driven activity based cost

Questions	Strongly Disagree	Disagree	Not Sure	Agree	strongly agree	Mean	S.D	RI	Level
	Fr.	Fr.	Fr.	Fr.	Fr.				
	%	%	%	%	%				
Z_1	0	9	9	53	66	4.28	0.86	85.69	V. High
	0.00	6.57	6.57	38.69	48.18				
Z_2	2	12	9	54	60	4.15	0.98	83.07	High
	1.46	8.76	6.57	39.42	43.80				
Z_3	3	10	12	53	59	4.13	1.00	82.63	High
	2.19	7.30	8.76	38.69	43.07				
Z_4	0	11	15	47	64	4.20	0.93	83.94	High
	0.00	8.03	10.95	34.31	46.72				
z_5	3	13	5	52	64	4.18	1.03	83.50	High
	2.19	9.49	3.65	37.96	46.72				
Z_6	4	13	10	47	63	4.11	1.08	82.19	High

	2.92	9.49	7.30	34.31	45.99				
Z7	4	11	11	47	64	4.14	1.06	82.77	High
	2.92	8.03	8.03	34.31	46.72				
Z8	2	10	14	46	65	4.18	0.99	83.65	High
	1.46	7.30	10.22	33.58	47.45				
Z9	2	13	6	44	72	4.25	1.01	84.96	V. High
	1.46	9.49	4.38	32.12	52.55				
Z10	4	15	12	40	66	4.09	1.13	81.75	High
	2.92	10.95	8.76	29.20	48.18				
Z11	3	16	7	48	63	4.11	1.08	82.19	High
	2.19	11.68	5.11	35.04	45.99				
Z12	1	8	14	46	68	4.26	0.92	85.11	V. High
	0.73	5.84	10.22	33.58	49.64				
Total	28	141	124	577	774	4.17	1.01	83.45	High
	1.70	8.58	7.54	35.10	47.08				

Note/ Weight average (mean) for 5point Likert scales: (1.0-1.79 : V. Low), (1.8-2.59 : Low), (2.6-3.39: moderate), (3.4-4.19: High), (4.2-5.0: v. High),
Fr: Frequency , S.D : stander deviation and RI : Relative important

It is clear from Table (3) that the total weighted arithmetic mean of the (time driven activity based cost) dimension reached (4.17), with standard deviation of (1.01), the relative importance amounted to (83.45%) with high level. The total arithmetic mean appeared greater than the hypothetical mean (3), which indicates that (time driven activity based cost) dimension approved by the organizations researched is good from the point of view of the research sample. In addition, the total percentage of people who responded with (Always) to (16.67%), who were (Often) by (24.70%), who were (Sometimes) (31.18%), who were (Rarely) by (15.55%) and who were (Never) by (11.90%).

However, it is clear from the table that question paragraph (X4) has obtained the highest percentage, as the weighted arithmetic mean is (3.62), S.D (1.21) and relative important (72.32%).

A. Cost:

While the question (X3) has achieved the lowest percentage, with mean (2.40), S.D (1.26) and relative important (48.10%), Some of the questions got higher percentages than others, as the weighted arithmetic mean values ranged (2.40- 3.62) which is a good and high percentage. This means that (time driven activity based cost) is important based on the respondents of the study sample.

2- Achieving competitive Advantage

In this section, the response of the respondents' opinions about the achieving competitive advantage: factors (Cost, Quality, Time and Innovation) variable will be presented and analyzed according to the results of the analysis with the appropriate programs, and related to the means, standard deviations and Relative importance.

Table (4): Description of cost

Questions	**Strongly Disagree**	**Disagree**	**Not Sure**	**Agree**	**strongly agree**	**Mean**	**S.D**	**RI**	**Level**
	Fr.	**Fr.**	**Fr.**	**Fr.**	**Fr.**				
	%	**%**	**%**	**%**	**%**				
Y_1	1	13	10	45	68	4.21	1.0	84.23	V. High

	0.73	9.49	7.30	32.85	49.64				
Y_2	0	13	11	59	54	4.12	0.9	82.48	High
	0.00	9.49	8.03	43.07	39.42				
Y_3	0	8	12	49	68	4.29	0.9	85.84	V. High
	0.00	5.84	8.76	35.77	49.64				
Y_4	4	13	10	57	53	4.04	1.1	80.73	High
	2.92	9.49	7.30	41.61	38.69				
Total	5	47	43	210	243	4.169	0.95	83.32	High
	0.91	8.58	7.85	38.32	44.34				

Note/ Weight average (mean) for 5point Likert scales: (1.0-1.79 : V. Low), (1.8-2.59 : Low), (2.6-3.39: moderate), (3.4-4.19: High), (4.2-5.0: v. High),
Fr: Frequency , S.D : stander deviation and RI : Relative important

It is clear from Table (4) that the total weighted arithmetic mean of the (cost) dimension reached (4.169), with standard deviation of (0.95), the relative importance amounted to (83.32%) with high level. The total arithmetic mean appeared greater than the hypothetical mean (3), which indicates that (cost) dimension approved by the organizations researched is good from the point of view of the research sample.

In addition, the total percentage of people who responded with (strongly agree) to (44.34%), who were (agree) by (38.32%), who were (Not Sure) (7.85%), who were (disagree) by (8.58%) and who were (strongly disagree) by (0.91%).

However, it is clear from the table that question paragraph (Y3) has obtained the highest percentage, as the weighted arithmetic mean is (4.29), S.D (0.9) and relative important (85.84%). While the question (Y4) has achieved the lowest percentage, with mean (4.04), S.D (1.1) and relative important (80.73%). Some of the questions got higher percentages than others, as the weighted arithmetic mean values ranged (4.04-4.29) which is a good and high percentage. This means that (cost) is important based on the respondents of the study sample.

B. Quality:

Table (5): Description of quality

Questions	**Strongly Disagree**	**Disagree**	**Not Sure**	**Agree**	**strongly agree**	**Mean**	**S.D**	**RI**	**Level**
	Fr.	**Fr.**	**Fr.**	**Fr.**	**Fr.**				
	%	**%**	**%**	**%**	**%**				
Y_1	1	16	9	46	65	4.15	1.0	83.07	High
	0.73	11.68	6.57	33.58	47.45				
Y_2	2	18	8	37	72	4.16	1.1	83.21	High
	1.46	13.14	5.84	27.01	52.55				
Y_3	2	8	7	54	66	4.27	0.9	85.40	V. High
	1.46	5.84	5.11	39.42	48.18				
Y_4	3	11	8	54	61	4.16	1.0	83.21	High
	2.19	8.03	5.84	39.42	44.53				
Y_5	0	18	4	43	72	4.23	1.0	84.67	V. High
	0.00	13.14	2.92	31.39	52.55				
Total	8	71	36	234	336	4.20	1.01	83.91	High

	1.17	10.36	5.26	34.16	49.05				

Note/ Weight average (mean) for 5point Likert scales: (1.0-1.79 : V. Low), (1.8-2.59 : Low), (2.6-3.39: moderate), (3.4-4.19: High), (4.2-5.0: v. High),
Fr: Frequency , S.D : stander deviation and RI : Relative important

It is clear from Table (5) that the total weighted arithmetic mean of the (quality) dimension reached (4.20), with standard deviation of (1.01), the relative importance amounted to (83.91%) with high level. The total arithmetic mean appeared greater than the hypothetical mean (3), which indicates that (quality) dimension approved by the organizations researched is good from the point of view of the research sample. In addition, the total percentage of people who responded with (strongly agree) to (49.05%), who were (agree) by (34.16%), who were (Not Sure) (5.26%), who were (disagree) by (10.36%) and who were (strongly disagree) by (1.17%).However, it is clear from the table that question paragraph (Y3) has obtained the highest percentage, as the weighted arithmetic mean is (4.27), S.D (0.9) and relative important (85.40%). While the question (Y1) has achieved the lowest percentage, with mean (4.15), S.D (1.0) and relative important (83.07%). Some of the questions got higher percentages than others, as the weighted arithmetic mean values ranged (4.15- 4.27) which is a good and high percentage. This means that (quality) is important based on the respondents of the study sample.

C. Time:

Table (6): Description of Time

Questions	Strongly Disagree	Disagree	Not Sure	Agree	strongly agree	Mean	S.D	RI	Level
	Fr.	Fr.	Fr.	Fr.	Fr.				
	%	%	%	%	%				
Y_1	2	13	7	51	64	4.18	1.0	83.65	High
	1.46	9.49	5.11	37.23	46.72				
Y_2	1	13	8	49	66	4.21	1.0	84.23	V. High
	0.73	9.49	5.84	35.77	48.18				
Y_3	3	12	3	59	60	4.18	1.0	83.50	High
	2.19	8.76	2.19	43.07	43.80				
Y_4	1	11	10	50	65	4.22	0.9	84.38	V. High
	0.73	8.03	7.30	36.50	47.45				
Y_5	1	12	8	46	70	4.26	1.0	85.11	V. High
	0.73	8.76	5.84	33.58	51.09				
Total	8	61	36	255	325	4.21	0.97	84.14	V. High
	1.17	8.91	5.26	37.23	47.45				

Note/ Weight average (mean) for 5point Likert scales: (1.0-1.79 : V. Low), (1.8-2.59 : Low), (2.6-3.39: moderate), (3.4-4.19: High), (4.2-5.0: v. High),
Fr: Frequency , S.D : stander deviation and RI : Relative important

It is clear from Table (6) that the total weighted arithmetic mean of the (Time) dimension reached (4.21), with standard deviation of (4.21), the relative importance amounted to (84.14%) with high level. The total arithmetic mean appeared greater than the hypothetical mean (3), which indicates that (Time) dimension approved by the organizations researched is good from the point of view of the research sample. In addition, the total percentage of people who responded with

(strongly agree) to (47.45%), who were (agree) by (37.23%), who were (Not Sure) (5.26%), who were (disagree) by (8.91%) and who were (strongly disagree) by (1.17%).However, it is clear from the table that question paragraph (Y5) has obtained the highest percentage, as the weighted arithmetic mean is (4.26), S.D (1.0) and relative important (85.11%). While the question (Y3) has achieved the lowest percentage, with mean (4.18), S.D (1.0) and relative important (83.50%). Some of the questions got higher percentages than others, as the weighted arithmetic mean values ranged (4.18-4.26) which is a good and high percentage. This means that (Time) is important based on the respondents of the study sample.

D. Innovation:

Table (7): Description of Innovation

Questions	Strongly Disagree	Disagree	Not Sure	Agree	strongly agree	Mean	S.D	RI	Level
	Fr.	Fr.	Fr.	Fr.	Fr.				
	%	%	%	%	%				
Y_1	3	12	10	45	67	4.18	1.0	83.50	High
	2.19	8.76	7.30	32.85	48.91				
Y_2	5	6	12	52	62	4.17	1.0	83.36	v. High
	3.65	4.38	8.76	37.96	45.26				
Y_3	3	15	9	46	64	4.12	1.1	82.34	High
	2.19	10.95	6.57	33.58	46.72				
Y_4	1	12	13	40	71	4.23	1.0	84.53	V.High
	0.73	8.76	9.49	29.20	51.82				
Total	12	45	44	183	264	4.17	1.03	83.43	High
	2.19	8.21	8.03	33.39	48.18				

Note/ Weight average (mean) for 5point Likert scales: (1.0-1.79 : V. Low), (1.8-2.59 : Low), (2.6-3.39: moderate), (3.4-4.19: High), (4.2-5.0: v. High),
Fr: Frequency , S.D : stander deviation and RI : Relative important

It is clear from Table (7) that the total weighted arithmetic mean of the (Innovation) dimension reached (4.17), with standard deviation of (1.03), the relative importance amounted to (83.43%) with high level. The total arithmetic mean appeared greater than the hypothetical mean (3), which indicates that (Innovation) dimension approved by the organizations researched is good from the point of view of the research sample. In addition, the total percentage of people who responded with (strongly agree) to (48.18%), who were (agree) by (33.39%), who were (Not Sure) (8.03%), who were (disagree) by (8.21%) and who were (strongly disagree) by (2.19%).However, it is clear from the table that question paragraph (Y4) has obtained the highest percentage, as the weighted arithmetic mean is (4.23), S.D (1.0) and relative important (84.53%). While the question (Y3) has achieved the lowest percentage, with mean (4.12), S.D (1.1) and relative important (82.34%). Some of the questions got higher percentages than others, as the weighted arithmetic mean values ranged (4.12- 4.23) which is a good and high percentage. This means that (Innovation) is important based on the respondents of the study sample.

Measurable items used to explain competitive advantages include statements from (to), thus concluded result shows importance of SBSC on Cost, Time, Quality, Innovation respectively. There are scholars explain beneficial roles of competitive advantage (porter 1985), to achieve this hearting factor it needs added value to customers, internal resource usage (Barney 2022). Despite that skills of employees or relationship with our customers are

considered as source of competitive advantage (Kaplan & Norten, 1996, 2000).

BSC as a modern management tool assumed competitive advantages are more perfectly obtained through value of intangible assets such as knowledge and skills of employees or customer relationship. Implementation of SBSC found to be motivate organization in terms of quality improvement (Aidemark & Funok 2009), customer service (kocakulah & Austill, 2007). Additionally, (Hansen and scholtegger ,2016) emphasizes BSC increase market share, production cost, and environmental perspective introduce likelihood of superior efficiency as a result obtain better competitive advantage (Amankwah – Amoahetal, 2018, Hart, 1995). More related to the environmental perspective (Montabon, sroufe & Narasimhan, 2007)emphasize through reduce of raw material consumption reduce cost and improve businesses reputation there are tremendous scholars also explain positive implications of social responsibility on firms financial performance which are strictly related to the cost, quality, time innovation (Orlitzky Schmidt & Rynes 2003) and Margolis & Walsh 2001).

A- Time driven activity-based costing (TDABC) and achieving competitive advantage (cost, time, quality, innovation) at Private Universities in the Kurdistan region

This paragraph includes identifying the nature of the correlations between (time driven activity-based costing (TDABC) and achieving competitive advantage (cost, time, quality, innovation) ,in the sense of verifying the first main hypothesis that states: There is a statistically significant correlation relation between the time driven activity-based costing (TDABC) and achieving competitive advantage (cost, time, quality, innovation) at Private Universities in the Kurdistan region

Table (8): A correlation between independent variables and dependent variable

Dependent variables	Time driven activity-based costing (TDABC)		
	Correlation	Sig.	Sample
Cost	0.552	0.000	137
Quality	0.637	0.000	137
Time	0.526	0.000	137
Innovation	0.522	0.000	137
Achieving customer satisfaction	0.624	0.000	137

*The level of significance at level 0.05

*There is a relationship between the statistical function between independents variables and dependent variable

Ho: There isn't a positive and significant correlation between the time driven activity-based costing (TDABC) and achieving competitive advantage (cost, time, quality, innovation)

H1: There is a positive and significant correlation between the time driven activity-based costing (TDABC) and achieving competitive advantage (cost, time, quality, innovation)

Based on the data from Table (8), it is noticed that the value of the correlation coefficient between (time driven activity-based costing (TDABC) and achieving competitive advantage at Private Universities in the Kurdistan region is equal to (0.624) at a significant level (0.05). Its value reached (0.000), and through comparing the significant value, we see that its value is less than (0.05), which means that there is a significant positive statistical correlation between (time driven activity-based costing (TDABC) and achieving competitive advantage). This indicates to the acceptance of **the main first hypothesis**, because a positive correlation between the (time driven activity-based costing (TDABC) and achieving competitive advantage). Then the first hypothesis is accepted

In the light of sub hypotheses of first hypothesis, Table (2) shows the results of the statistical analysis of the correlation relationships between the dimensions of dependent variable (cost, time, quality, innovation) and the independent variable separately as follows:

Ho: There isn't a positive and significant correlation between the time driven activity-based costing (TDABC) and achieving competitive advantage by cost at Private University in Kurdistan region
H1: There is a positive and significant correlation between the time driven activity-based costing (TDABC) and achieving competitive advantage by cost at Private University in Kurdistan region

It is noted from Table (8) that there is a positive statistically significant correlation between the (time driven activity-based costing (TDABC) and achieving competitive advantage by cost at Private University in Kurdistan region), which is equal to (0.552) and that the significance value is equal to (0.000) and it is less than (0.05). A positive and significant correlation between the (time driven activity-based costing (TDABC) and achieving competitive advantage by cost at Private University in Kurdistan region), in other words, it means accepting the alternative hypothesis and rejecting the null hypothesis.

Ho: There isn't a positive and significant correlation between the time driven activity-based costing (TDABC) and achieving competitive advantage by time at Private University in Kurdistan region
H1: There is a positive and significant correlation between the time driven activity-based costing (TDABC) and achieving competitive advantage by time at Private University in Kurdistan region

Table (8) shows that there is a statistically significant correlation between (time driven activity-based costing (TDABC) and achieving competitive advantage by time at Private University in Kurdistan region). Then, the value of the correlation coefficient between (time driven activity-based costing (TDABC) and achieving competitive advantage by time at Private University in Kurdistan region) is equal to (0.637) at a significant level (0.05), as it reached (0.000) and by comparing the significant value, we see that its value is less than (0.05), which means that it is a statistically function and that there is a relatively strong correlation between the independent variable on the research and the current dimension of the dependent variable, and this confirms the acceptance of second sub of the main first hypothesis. In other words, it means accepting the alternative hypothesis and rejecting the Null- hypothesis.

Ho: There isn't a positive and significant correlation between the time driven activity-based costing (TDABC) and achieving competitive advantage by quality at Private University in Kurdistan region
H1: There is a positive and significant correlation between the time driven activity-based costing (TDABC) and achieving competitive advantage by quality at Private University in Kurdistan region

Table (8) shows that the value of the correlation coefficient between (time driven activity-based costing (TDABC) and achieving competitive advantage by quality) is equal to (0.526) at a significant level (0.05) as it reached (0.000). We see that its value is less than (0.05), which means that it is a statistically function and that there is a relatively strong correlation between the (time driven activity-based costing (TDABC) and achieving competitive advantage by quality), and this confirms the acceptance of third sub of the main first hypothesis. In other words, acceptance of the alternative hypothesis and rejection of the Null-hypothesis

Ho: There isn't a positive and significant correlation the time driven activity-based costing (TDABC) and achieving competitive advantage by innovation at Private University in Kurdistan region
H1: There is a positive and significant correlation the time driven activity-based costing (TDABC) and achieving competitive advantage by innovation at Private University in Kurdistan region

Table (8) shows that there is a statistically significant correlation between (time driven activity-based costing (TDABC) and achieving competitive advantage by innovation at Private University in Kurdistan region). Then, the value of the correlation coefficient between (time driven activity-based costing (TDABC) and achieving competitive advantage by innovation) is equal to (0.522) at a significant level (0.05), as it reached (0.000) and by comparing the significant value, we

see that its value is less than (0.05), which means that it is a statistically function and that there is a relatively strong correlation between the (time driven activity-based costing (TDABC) and achieving competitive advantage by innovation), and this confirms the acceptance of fourth sub of the main first hypothesis. In other words, it means accepting the alternative hypothesis and rejecting the Null- hypothesis.

A. **The impact the Time driven activity based cost on achieving competitive advantage by cost at Private Universities in the Kurdistan region**

Table (9): Regression analysis between a Time driven activity based cost and achieving competitive advantage by cost

Model	Coefficients				Model Summary			ANOVA Table	
	Unstandardized Coefficients		T Test	Sig	R	R^2	Adj.(R^2)	F Test	Sig.
	B	Std.Error							
Constant	1.402	0.361	3.881	0.000	0.552	0.305	0.299	59.138	0.000
Time driven activity based cost	0.662	0.086	7.69	0.000					

Ho: There isn't a significant impact of applying the Time driven activity based cost on achieving competitive advantage by cost at Private Universities in the Kurdistan region
H1: There is a significant impact of applying the Time driven activity based cost on achieving competitive advantage by cost at Private Universities in the Kurdistan region

The data from table (9) indicates that the regression model predicts the dependent variable significantly well. This indicates the statistical significance of the regression model that was run. Here, the (p-value) was (0.000) which is less than 0.05, and indicates that, the regression model statistically significantly predicts the outcome variable (it is a good fit for the data).
This means that the method is possible to be used to analyze this data and this indicates acceptance of the alternative hypothesis. R^2 value indicates how much of the total variation in the dependent variable (**achieving competitive advantage by cost**), can be explained by the independent variable (**Time driven activity based cost**). In addition, R Square for this study is (0.305). In this case, 30.5% can be explained, which is very large.
In other words, this indicates that (30.5%) of the variance of (**achieving competitive advantage by cost**) has been explored in (**Time driven activity based cost**), this illustrates that only (30.5%) of factors affect (**achieving competitive advantage by cost**) in (**Time driven activity based cost**) and the other variables (69.5%) are due to random error. Therefore, all the data from table (27) indicated to the acceptance of **the main hypothesis** which stated that "**Time driven activity based cost** has a positive effect on **achieving competitive advantage by cost**".

B. **The impact the Time driven activity based cost on achieving competitive advantage by time at Private Universities in the Kurdistan region**

Table (10): Regression analysis between a Time driven activity based cost and achieving competitive advantage by time

Model	Coefficients				Model Summary			ANOVA Table	
	Unstandardized Coefficients		T Test	Sig	R	R^2	Adj.(R^2)	F Test	Sig.
	B	Std.Error							
Constant	0.911	0.341	2.759	0.007	0.637	0.406	0.401	92.116	0.000
Time driven activity based cost	0.78	0.081	9.598	0.000					

Ho: There isn't a significant impact of applying the Time driven activity based cost in achieving competitive advantage by time at Private Universities in the Kurdistan region

H1: There is a significant impact of applying the Time driven activity based cost in achieving competitive advantage by time at Private Universities in the Kurdistan region

The data from table (10) indicates that the regression model predicts the dependent variable significantly well. This indicates the statistical significance of the regression model that was run. Here, the (p-value) was (0.000) which is less than 0.05, and indicates that, the regression model statistically significantly predicts the outcome variable (it is a good fit for the data).

This means that the method is possible to be used to analyze this data and this indicates acceptance of the alternative hypothesis. R^2 value indicates how much of the total variation in the dependent variable (**achieving competitive advantage by time**), can be explained by the independent variable (**Time driven activity based cost**). In addition, R Square for this study is (0.406). In this case, 40.6% can be explained, which is very large.

In other words, this indicates that (40.6%) of the variance of (**achieving competitive advantage by time**) has been explored in (**Time driven activity based cost**), this illustrates that only (40.6%) of factors affect (**achieving competitive advantage by time**) in (**Time driven activity based cost**) and the other variables (59.4%) are due to random error. Therefore, all the data from table (28) indicated to the acceptance of **the main hypothesis** which stated that "**Time driven activity based cost** has a positive effect on **achieving competitive advantage by time**".

C. The impact the Time driven activity based cost on achieving competitive advantage by quality at Private Universities in the Kurdistan region

Table (11): Regression analysis between a Time driven activity based cost and achieving competitive advantage by quality

Model	Coefficients				Model Summary			ANOVA Table	
	Unstandardized Coefficients		T Test	Sig	R	R^2	Adj.(R^2)	F Test	Sig.
	B	Std.Error							
Constant	1.847	0.33	5.591	0.000	0.526	0.276	0.271	51.552	0.000
Time driven activity based cost	0.566	0.79	7.18	0.000					

Ho: There isn't a significant impact of applying the Time driven activity based cost in achieving competitive advantage by quality at Private Universities in the Kurdistan region

H1: There is a significant impact of applying the Time driven activity based cost in achieving competitive advantage by quality at Private Universities in the Kurdistan region

The data from table (11) indicates that the regression model predicts the dependent variable significantly well. This indicates the statistical significance of the regression model that was run. Here, the (p-value) was (0.000) which is less than 0.05, and indicates that, the regression model statistically significantly predicts the outcome variable (it is a good fit for the data).

This means that the method is possible to be used to analyze this data and this indicates acceptance of the alternative hypothesis. R^2 value indicates how much of the total variation in the dependent variable (**achieving competitive advantage by quality**), can be explained by the independent variable (**Time driven activity based cost**). In addition, R Square for this study is (0.276). In this case, 27.6% can be explained, which is very large.

In other words, this indicates that (27.6%) of the variance of (**achieving competitive advantage by quality**) has been explored in (**Time driven activity based cost**), this illustrates that only (27.6%) of factors affect (**achieving competitive advantage by quality**) in (**Time driven activity based cost**) and the other variables (72.4%) are due to random error. Therefore, all the data from table (29) indicated to the acceptance of **the main hypothesis** which stated that "**Time driven activity based cost** has a positive effect on **achieving competitive advantage by quality**".

D. The impact the Time driven activity based cost on achieving competitive advantage by innovation at Private Universities in the Kurdistan region

Table (12): Regression analysis between a Time driven activity based cost and achieving competitive advantage by innovation

Model	Coefficients				Model Summary			ANOVA Table	
	Unstandardized Coefficients		T Test	Sig	R	R^2	Adj.(R^2)	F Test	Sig.
	B	Std.Error							
Constant	1.553	0.37	4.2	0.000	0.522	0.273	0.268	50.673	0.000
Time driven activity based cost	0.628	0.088	7.118	0.000					

Ho: There isn't a significant impact of applying the Time driven activity based cost in achieving competitive advantage by innovation at Private Universities in the Kurdistan region

H1: There is a significant impact of applying the Time driven activity based cost in achieving competitive advantage by innovation at Private Universities in the Kurdistan region

The data from table (12) indicates that the regression model predicts the dependent variable significantly well. This indicates the statistical significance of the regression model that was run. Here, the (p-value) was (0.000) which is less than 0.05, and indicates that, the regression model statistically significantly predicts the outcome variable (it is a good fit for the data).

This means that the method is possible to be used to analyze this data and this indicates acceptance of the alternative hypothesis. R^2 value indicates how much of the total variation in the dependent variable (**achieving competitive advantage by innovation**), can be explained by the independent variable (**Time driven activity based cost**). In addition, R Square for this study is (0.273). In this case, 27.3% can be explained, which is very large.

In other words, this indicates that (27.3%) of the variance of (**achieving competitive advantage by innovation**) has been explored in (**Time driven activity based cost**), this illustrates that only (27.3%) of factors affect (**achieving competitive advantage by innovation**) in (**Time driven activity based cost**) and the other variables (62.7%) are due to random error. Therefore, all the data from table (30) indicated to the acceptance of **the main hypothesis** which stated that "**Time driven activity based cost** has a positive effect on **achieving competitive advantage by innovation**".

Result

(Cost, quality, time, innovation)

Analyses of the responds from research sample shows high importance of TDABC to the selected components of competitive advantage. This is critically justifiable in distinctive perspectives, regarding to the impacts of TDABC on costs, TDABC as costing systems plays important role to the distinctive businesses or economic units to determine accurate cost of services and products, for instance Ganork ar, et al (2019) identifies implication of TDABC implicates cost of products, in other words cost information of this system

more accurate than cost information compiled from traditional systems.

More over, model of TDABC is quite accurate for service economic units than its implementation within manufacturing companies. Positive advantage of this costing system to the businesses cost quite a lot, in hotel service businesses application of TDABC provides more data on cost and profitability (Ter Ungwa 2013).

On the other hand, TDABC implicates the time needed to perform services; this is commonly works through providing detailed distribution of time in different sub-activities. further, it provides more information about time allocated to different sup activities, this assist management to control and reduce required time for the different action and activities.

Quality of services and products in current business environment highly connected to the business ability to compete with the competitors, thus provide services consume business resources, since resources hare related costs, the TDABC enable economic units to easier. Determine the cost of scare resources. Also, identification wasn't of the activities most probably achieved through valuable information produced by TDABC costing tools. Hence, the system identifies the service cost of each activity was consistent with the actual use of resources at the economic units.

1. Time factor as selected measure to businesses competitive advantages, also positively implicated by application of TDABC system, time as single cost driver promote efficient allocation of the resources, thereby turns to customer satisfaction. This allow to enhance a process to better identify the cost of providing education services and reduce overall time the student was in the campus and successfully reduced the overall time without adding on incremental specific services (Ostadi, etal 2019 and Tibor,et al 2017)
2. In literature, there are publication shows short comes of traditional cost methods for example each of (Innes, 1999, Baird, et al 2004) explains in accurate allocation of indirect cost to the various services tends to overstate unit cost of high value services and under estimate the cost of low volume services. In conclusion finding is consistent with the result of other papers such as, (Kaplan cooper 1998, Cooper 1995 and cooper and Kaplan 1992). Nevertheless, TDABC through accurate identification of unused capacity control costs and organizations achieve more detailed costing information than out data costing tools. This results consistent with the finding of Ostadi, etal 2019) with shows positive impacts of TDABC on detecting unused capacity. Even though, few researches shows positive more impact of TDABC on high education sector, but on the other hand, there was many articles addressed the importance of using this method in service activities (Gujral etal 2010: Bayati, etal 2015: Janati, etal 2017 and Jarid, et al 2016.
3. The quality of services usually improved as more and detailed information provided through new costing approaches regarding distinctive activities of specific services.

Conclusion

In this paper, we have explains the implementation of TDABC in a higher education sector businesses. This model depicted to be appropriate for private university and institutions, involving tremendous components with complex time drivers.

TDABC model accurately assign overhead to specific services which enhance managers decision regarding elements of competitive advantages. The implementation of TDABC reduce costs of the services compared to the traditional system, this is commonly due to single cost driver for each activity, which improve allocation of indirect costs, also, clear identification of activities that do not add value to the services reduce probable costs as well.

Also, information released from this costing system help managers to find a venue of how make rational pricing decision, strategic decision, capacity utilization reducing waste and actual resource utilization.

Based on the result, it is noticed private university and institution in the Kurdistan region to achieve higher competitive advantage must implement this costing system due to its significant positive statistical correlation with the competitive advantage (cost, quality, time, innovation). This improves the rejection of stated null hypothesis and acceptance of research hypothesis which states there is positive statistical association

between TDABC and dependent factors of competitive advantage.

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