



The Effect of Innovative Information Technology And Human Knowledge on The Financial Performance of Iraqi Banks: An Analytical Study

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Abstract- This research aims to demonstrate the role of innovative information technology provided through human ideas in the organization and measure its impact on financial performance (FP). The research applied to a sample of Iraqi banks operating in the Iraq Stock Exchange for the fiscal period (2018-2019-2020), besides calculating the number of financial outlays based on the number of innovations and information generated by human knowledge (HK) and assessing their effect on banks' financial results. Following the analysis, the study concludes that there is a strong association between interest in HK and the positive proposals they have submitted related to financial and banking innovations and transfer and electronic payment processes, improving the Bank's financial and administrative capabilities in the future.

Keyword: Innovative Information Technology, Human Knowledge, Financial Performance

I. INTRODUCTION

Many recent developments have taken place in most international banks' business environments, significantly increasing reliance on information systems in managing and organizing companies and developing human assets' expertise (fathi et al, 2014: 445-66). Despite this, most Iraqi banks still depend on traditional systems to construct HK and skills, increasing their financial burden and limiting their ability to keep up with innovations as quickly as possible relative to other businesses (2017: 7, Janette & Dimitris). Due to the obvious growing progress of banks and its use of information technology, as well as increased competition among banks and the willingness to provide the best banking services, many of them have turned to the method of transformation to innovation and the application of electronic governance, depending on the human expertise and knowledge provided by administrative staff working for them (2009: 6, Luigi & Tullio), also, to assess the information and innovation systems and the extent of their role in the development of banking operations (2003: 8, Raghuram & Miklós). FP is one of the most important metrics for determining the extent of a bank's ability to continue conducting business and one of the critical variables that users and financial analysts use to decide the business (Taliyang, 2008: 22). The relative importance of the relationship between HK and related innovative systems is highlighted by its apparent impact on improving bank FP, increasing organizational performance, and providing suitable solutions to address financial risks, resulting in a safe setting for the company (Bukh, 2003: 32).

II. THE CONCEPTUAL FRAMEWORK

Human knowledge is one of the essential items in banks, which impacts the entirety of their work. As it is directly related to providing strategic plans that address financial problems that require a great deal of importance for the following reasons (Ghen & Yuanxie, 2003: 3):

- Human knowledge helps in developing the processes of creativity and innovation in the company. It contributes to laying the foundations and appropriate plans that serve the company's goals in the long term.
- The information innovations provided by the human cadres increase the company's ability to increase developments in banking services; this contributes to increasing the share value in the financial markets.

- Provides appropriate opportunities for the company, which can enhance the competitive advantage and increase profitability. Given the importance of HK and its role in developing its work, the matter necessitated knowledge of its components, which the researchers differed in defining. However, the most common components among writers and researchers are the following (Hiras & Indri, 2012: 56):
- **Knowledge assets (technology):** These are the knowledge assets owned by the company, represented by technological designs and programs, cultural processes, and plans in the long term.
- **Human assets** are represented by the administrative, intellectual, and innovative experiences within its employees' minds and the proposals they present when problems occur.
- **Intellectual property:** is represented by intellectual assets acquired by the company as a result of previous operations, such as a bank merger, resulting in the acquisition of goodwill or a trademark for a specific product.
- **Social assets:** represented by social relations between the company's sales staff and customers, resulting in increased sales due to the way employees and customers interact.

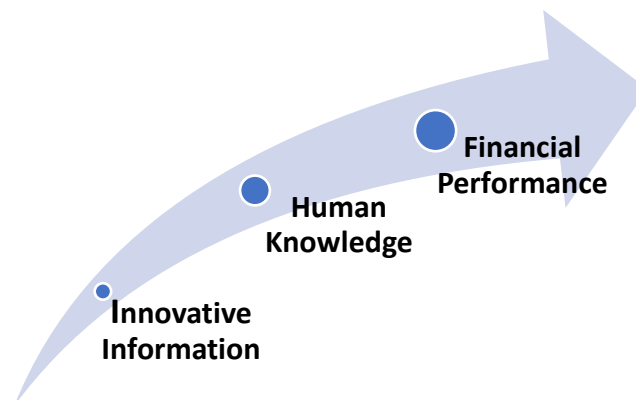
III. RESEARCH PLAN AND HYPOTHESES

The research aims mainly to determine the role of innovative information technology provided by HK on Iraqi banks' FP. Also, the research contains other sub-goals as follows:

- The research helps present the quality of modern innovations found in Iraqi banks and their FP impact.
- The research helps to understand the relationship between modern innovative systems and their role in developing human capabilities, helping develop banks' performance in providing banking services.
- The research helps present an analytical study to assess innovations in developing Iraqi banks' human capabilities.

The research focuses on achieving its goals through the components of human, structural, and technological knowledge that are compatible with each other to support the company's decisions and provide appropriate plans, which contribute to maintaining its competitive position. The importance of HK will determine the expenditures made on them and the measurement of Iraqi banks' FP, the research sample. The most critical variables that will be relied upon to implement the research model can clarify according to the following scheme (Kamath, 2015:16):

Figure 1. Search Form



IV. RESEARCH METHODOLOGY

According to the research objectives, the inductive approach addresses the theoretical side. In contrast, the analytical approach addresses the practical side by determining the number of innovations in the Iraqi banks' research sample using the content analysis model indicator (0-1), also determining the amount and

percentage of money invested by banks to improve HK skills. Likewise, the Bank's human capabilities will be measured using the annual sums of salaries and wages disbursed to workers. The differences in the sums of salaries and wages will also be known to reach modern innovations in developing HK and their impact on banks' FP, the research sample. The statistical program (SPSS) will find relationships between the volume of informational innovations (II) and HK and the percentages of increases in Iraqi banks' FP. The following tables represent the analysis and measurement processes and a description of the research sample.

Table 1. Description of the sample

No.	The banks	Date of Establishment	The nominal capital	Capital on the date of listing in the money market	The proportion of the private sector
1	Baghdad bank	1992	100 Million	5 Billion	%100
2	Al-Mansour Bank	1993	55 Million	55 Million	%100
3	Iraqi Investment Bank	.2005	100 Million	5 Billion	%100

V. RESULTS AND DISCUSSIONS

5.1 Measuring Innovations

A content analysis model (0,1) will quantify the number of II related to HK. As it will be given (1) when the innovation exists and (0) when it does not exist, which explains in the following table:

Table 2. Human Innovations results

Details	Baghdad bank			Al-Mansour Bank			Iraqi Investment Bank		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Goodwill	1	1	1	1	1	1	1	1	1
Trademark	0	0	1	0	0	0	1	0	0
Patented	1	1	0	1	1	1	0	0	1
Consulting	0	1	1	0	0	1	1	1	1
Total	2	3	3	2	2	3	3	2	3
Ratio %	%50	%75	%75	%50	%50	%75	%75	%50	%75

Table (2) shows the process of measuring the number of human innovations in Iraqi banks, the research sample. The goodwill is evident in all of the banks whose data examined, as is the lack of a trademark in most years. It is also noted that research or development consultations provide by banks have fluctuated over most years. In this regard, Baghdad Bank achieves a rate of (75 percent) over the years (2019 and 2020), as it is considered the best Bank in the presence of human innovations compared to the value that has achieved varying rates over the years.

5.2 Bank expenditure to improve HK

Table 3. Expenditures spent on developing HK (Amounts in Thousands)

Details	Baghdad bank			Al-Mansour Bank			Iraqi Investment Bank		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Research and development	321	320	320	210	220	215	260	250	262
Skills development	20	20	20	40	40	40	70	70	70
Incentive bonus	10	10	10	15	15	15	30	30	30

Ancestor employees	of	500	510	515	340	345	341	400	410	400
Total		851	860	865	605	620	611	760	760	762
Percentage expenditure on total HK	of	%10	%12	%15	%9	%8	%9	%13	%14	%14

Table (3) shows banks spending amounts on developing HK through development, training, and motivation processes. It is noted that the Baghdad Bank achieves its highest expenditure compared to the rest of the banks, as the proportion of the Bank's total expenditure is (10%). In the year (2018), (12%) in the year (2019), and (15%) in the year (2020), this indicates the Bank's desire to develop HK gradually. Moreover, stability during the years of the research.

5.3 Amounts spent on HK

Table 4. The size of salaries spent on HK (Amounts in Thousands)

Details	Baghdad bank			Al-Mansour Bank			Iraqi Investment Bank		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Cash salaries	4040	4500	4720	8510	8520	8610	7430	7460	7560
Additional salaries for workers	21	25	30	60	60	62	80	82	85
Compensation benefits	420	530	580	430	420	430	350	360	370
Total	4481	5055	5330	9000	9000	9102	7860	7902	8015
Percentage of spending on HK	%60	%65	%67	%50	%51	%52	%45	%48	%52

Table (4) shows the amount of money spent on regular and additional employee wages, showing interest banks in their human capital. Baghdad Bank achieves the highest spending rate of (60%) in (2018), (65%) in (2019) and (67%) in (2020) and thus has the highest spending and desire to develop HK. Bank spent (50%) in 2018 (51%) in 2019, and (52%) in 2020. In terms of Investment Bank, it achieved (45%) in 2018, (48%) in 2019, and (52%) in 2020. (2020) THE COMMUNICATION: (2020) The findings indicate a desire to improve their technical and human capabilities and rely on their human frameworks' innovations. They rely on developing FP. With that effect, the growth rate in human spending during the years (2018-2019-2020) will extract, as shown in the following table:

5.4 The expenditures growth rate for II and HK

Table 5. The growth rate of II and HK

Details	Baghdad bank			Al-Mansour Bank			Iraqi Investment Bank		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
The proportion of II	%50	%75	%75	%50	%50	%75	%75	%50	%75
The growth rate resulting from II	%25	%25	%0	%25	%0	%25	%25	%0	%25
The percentage of spending on developing HK	%10	%12	%15	%9	%8	%9	%13	%14	%14
The rate of growth in the development of HK	%2	%2	%5	%1	%1	%1	%3	%1	%0
The percentage of spending on HK	%60	%65	%67	%50	%51	%52	%45	%48	%52

The rate of growth in spending on HK %5 %5 %2 %1 %1 %1 %3 %3 %4

Table (5) shows the growth rate achieved during the years (2018-2019-2020) in banks, the research sample for the volume of spending on information innovation, and HK as the Bank of Baghdad achieves an incremental growth of (25%) for II by (5%) for the development of HK, and a rate (5%) for the volume of spending on human cadres. Al-Mansour Bank indicates (25%) of II, (1%) of developing HK, and (1%) of human cadres' spending volume. Also, the Investment Bank achieve (1%) incrementally for II, (1%) for the development of HK, and (1%) for the volume of spending on human cadres. Consequently, the Bank of Baghdad is the best in terms of interest in HK and benefit from the innovations provided through it in developing FP, which illustrate in the following table:

Table 6. Analysis of the FP of banks

Details	Baghdad bank			Al-Mansour Bank			Iraqi Investment Bank		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
ROA	2.65	2.70	3.75	0.55	0.57	0.60	0.05	0.06	0.07
ROI	1.27	0.79	0.91	1.06	1.03	1.13	3.02	3.01	3.04
EPS	2.47	2.24	0.21	2.8	2.12	0.11	0.08	0.09	0.01

Table (6) above shows the financial analysis ratios for the research sample for banks. Baghdad Bank achieves the highest FP, as it indicates (2.65) of return on assets (ROA) in (2018), (2.70) in (2019), and (3.75) in (2020). The result shows the impact of benefiting from II in developing HK, reflected in the Bank's FP. Furthermore, the other banks' FP varies over time, increasing or decreasing compared to the rest of the banks. In order to finally reach the goals of the research, statistical impact indicators will be extracted according to the program (SPSS) of the percentage of II and HK and their impact on FP, and as shown in the following table:

Table (7) statistical analysis, of II, HK, and the FP of Iraqi banks

Details	Indicators of statistical analysis		
	Baghdad bank	Al-Mansour Bank	Iraqi Investment Bank
Models	6	6	6
	(T) 3.525	3.977	4.974
	(F) 3.716	6.687	2.080
B	0.281	1.55	0.334
Correlate	0.812	0.738	0.922
sig	0.034	0.041	0.040

It is noted from the table (7) that there is a strong correlation between increasing reliance on II for HK of Iraqi banks, as the value of the correlation is (0.812) for the Baghdad Bank, (0.730) for Al Mansour Bank (0.922), for the Investment Bank, and with a moral level less than (5%). Also, the impact of Baghdad Bank's FP is (0.281), (1.55) for Al-Mansour Bank, and (0.334) for Investment Bank. The increased independence on the volume of II related to HK leads to increased FP by the coefficient (B) referred to in the above table.

VI. CONCLUSIONS

Through the analysis conducted by the researcher on the data of Iraqi banks, the research sample found that spending on HK is related to the size of II enjoyed by that knowledge and the extent of their impact on the activity of the Bank. Also, HK has a prominent role in developing banks' information capabilities to help them build their capabilities to contribute to their excellence. Also, the research reached a final result represented as follows:

- There is a correlation between the volume of II and Iraqi banks' HK, the research sample.

- The expenditure on HK is one of the most important indicators that can be relied upon in knowing the Bank's size of informational and technological innovations. The research also presented a proposal to Iraqi banks that represent:
- There is a need for Iraqi banks to focus on developing their intellectual and human to improve their FP contributed to their future goals.

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