

THE EFFECT OF INVESTING IN HIRING, HUMAN RESOURCE PLANNING, AND EMPLOYEE DEVELOPMENT ON LABOR PRODUCTIVITY: CASE OF LEBANON

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ABSTRACT

Purpose: This paper examines the factors that contribute towards enhancing Labor productivity. The importance of this study is that it covers a significant number of Lebanese Economic sectors with multiple explanatory variables.

Design/Methodology/Approach: Three main areas are studied, namely investing in human resources hiring, human resource planning, and employee development. Responses were received from 527 human resource managers or small businesses managers.

Findings: Results showed that there is a positive relationship between formal HR planning, formal evaluation of hiring policies, succession plans and labor productivity. However, results showed a negative relationship between formal planning, career path and labor productivity. On the other hand, there seems to be a negative relationship between skills selection test and aptitude selection test with labor productivity. Moreover, the number of candidates interviewed in a hiring process, is the most significant variable, whereas search firms are the least significant. The study found a positive relationship between promotion from within and labor productivity. On the other hand, there seems to be a negative relationship between training of employees and labor productivity. Moreover, the only significant result among the above three variables is promotion from within. After testing for each variable alone, testing for the overall significance proved that there is a positive relationship between some of the independent variables in the model with labor productivity.

Research Limitations/Implications: This is an exploratory study, and some of the Lebanese Economic sectors were poorly represented in the sample.

Practical Implications: This study helps Human resource managers make the right decisions in their businesses, because this study helps them know the factors that affect labor productivity.

Keywords: Labor Productivity, Human Resources, Hiring, Planning, Employee Development, Capital Intensity, Lebanon

Research type: Research paper.

INTRODUCTION

The organizational factor that is most likely to provide potential competitive advantage is human resources and how these resources are managed. The most effective organizations find unique ways to attract retain and motivate employees, a strategy that is hard to imitate. The success of an organization comes from managing people effectively and providing them with a safe working environment, the best opportunities and paths to advance. Human resource management is the utilization of individuals to achieve organizational objectives. Consequently, managers at every level must be concerned with human resource management. Five functional areas are associated with effective human resource management: Staffing, human resource development, compensation and benefits, safety and health, and employee and labor relations.

Staffing is the process through which an organization insures that it always has the proper number of employees with appropriate skills in the right jobs at the right time to achieve the organization's objectives. Staffing involves job analysis, human resource planning, recruitment and selection. All areas of staffing would be haphazard if the recruiter did not know the qualifications needed to perform the various jobs. Lacking up-to-date job descriptions and specifications, a firm would have to recruit and select employees for jobs without having clear guidelines; this practice could have disastrous consequences. Job analysis is conducted after the job has been designed, the worker has been trained and the job is being performed. Human resource planning involves matching the internal and external supply of people with job openings anticipated in the organization over a specified period of time. Because conditions in the external and internal environments can change quickly, the human resource planning process must be continuous. Changing conditions could affect the entire organization, thereby requiring extensive modification of forecasts. Planning, in general, enables managers to anticipate and prepare for changing conditions and human resource planning, in particular allows flexibility in the area of human resource management. Human Resource development is a major human resource management function that consists not only of training and development but also of individual career planning and development activities, organization development, and performance appraisal, an activity that emphasizes training and development needs. Training is designed to provide learners with the knowledge and skills needed for their present jobs. Development involves learning that goes beyond today's job; it has a more long term focus. Career planning is an ongoing process whereby an individual sets career goals and identifies the means to achieve them. This is a continuing and difficult process because the average person graduating from college today may face five to seven career changes in his working years. Career development: is a formal approach used by the organization to ensure that people with the proper qualifications and experiences are available when needed. Individual careers and organizational needs are not separate and distinct. Organizations should assist employees in career planning so the needs of both can be satisfied. Organization development is the planned process of improving an organization by developing its structures systems and processes to

improve effectiveness and achieving desired goals. Organizational development applies to an entire system such as a company or plant. Performance appraisal is a formal system or review and an evaluation of individual or team task performance. It affords employees the opportunity to capitalize on their strengths and overcome identified deficiencies, thereby helping them to become more satisfied and productive employees. Job specification information often proves beneficial in identifying training & development needs. If the specification suggests that the job requires a particular knowledge, skill or ability and the person filling the position does not possess all the qualifications required, training and development are probably in order. They should be directed at assisting workers in performing duties specified in their present job descriptions or preparing them for broader responsibilities. With regard to performance appraisal, employees should be evaluated in terms of how well they accomplish the duties specified in their job descriptions and any specific goals that may have been established. A manager who evaluated an employee on factors not clearly predetermined is left wide open to allegations of discrimination.

The question of what constitutes a fair days pay has plagued management, unions, and workers for a long time. A well-thought-out compensation system provides employees with adequate and equitable rewards for their contributions to meeting organizational goals. In the area of compensation, it is helpful to know the relative value of a particular job to the company before a dollar value is placed on it. From an internal perspective, the more significant its duties and responsibilities, the more the job is worth. Jobs that require greater knowledge, skills, and abilities should be worth more to the firm. For example, the relative value of a job calling for a master's degree normally would be higher than that of a job that requires a high school diploma.

Safety involves protecting employees from injuries caused by work-related accidents. Health refers to the employee's freedom from physical or emotional illness. These aspects of the job are important because employees who work in a safe environment and enjoy good health are more likely to be productive and yield long-term benefits to the organization. Information derived from job analysis is also valuable in identifying safety and health considerations. For example, employers are required to state whether a job is hazardous. The job description should reflect this condition. In addition, in certain hazardous jobs, workers may need specific information about the hazards in order to perform the jobs safely.

A business firm is required by law to recognize a union and bargain with it in a good faith if the firm's employees want the union to represent them. In the past, this relationship was an accepted way of life for many employers. But most firms today would like to have a union-free environment. When a labor union represents firm's employees, the human resource activity is often referred to as industrial relations which handle the job of collective bargaining.

Job analysis information is also important in employee and labor relations. When employees are considered for promotion, transfer, or demotion, the job description provides a standard for evaluation and comparison of talent. Regardless of whether the firm is unionized,

information obtained through job analysis can often lead to more objectives human resource decisions.

LITERATURE REVIEW

This paper tackles the way in which human resources function in organizational setting, and the effect of human resource functions on labor productivity. It is important to note that the study of the impact of human resource management on organizational performance contributed to a better understanding of human resource decisions in creating and sustaining organizational performance and a competitive advantage in order to demonstrate to senior managers that their human resource systems represent a largely untapped opportunity to improve firm performance. (Becker, Gerhart, 1996). The study was built upon a review of the cumulative literature of acute point estimates of the HR- firm performance. In studying the literature on this subject, it was noticed that HR decisions influence organizational performance in a way that they must either improve efficiency or contribute to revenue growth. However, the new interest in HR as a strategic lever that can have economically significant effects on a firm's bottom line aimed to shift the focus more toward value creation, which suggests that HR contributes directly to the implementation of firms' objectives. Still, the mechanisms by which HR decisions create and sustain value are not understood and complicated. In this respect, most studies suggest that an HR system can be a unique source of sustained competitive advantage especially when its components have high internal and external fit. These papers look directly at the impact of HR decisions on performance outcomes that have clear meaning and relevance to managers such as stock performance, productivity, profits, quality, and organizational survival. Finally, emphasis was placed on the fact that HR strategies that are deeply embedded in an organization are hard to imitate due to casual ambiguity and/or path dependency, policies are developed over time.

The study suggests that further work must be done regarding the relationship between a firm's HR system and the bottom line, since none of the studies thus far used business-unit-level outcomes indicating the difficulty of measuring performance at this level. It was also noted that a major disconnect exists between the literature review suggestions on what firms must do and what firms actually do. This can be explained by the fact that there should be a better communication between the academic and management communities so that research findings can have a greater influence on actual policy. Hence, since the choice of HR systems can have an economically significant effect on firm performance, HR managers must not ignore the importance of the strategic role of the HR function so that the function won't be left with traditional transaction and compliance activities and be forced to justify itself on a cost basis rather than being assessed based on value creation measurements, as the study concludes. Another study examined the role of strategic reference points in explaining the nature and consequences of human resource strategy (Bamberger, Fiegenbaum, 1996). This study examined how managers use strategic reference points or benchmarks to guide their strategic decision

making with regard to human resource issues and how these benchmarks can affect the performance-based consequences of such decisions. The study developed propositions regarding the likely configuration of such reference points and their impact on the nature of HR policies and practices, to explain how the management of strategic reference points fit and consensus can reduce the likelihood that HR policies and practices will have a negative effect on a firm's performance, and the implications of this issue organization wide. In this article, the theoretical underpinnings of benchmarking are explored by examining strategic reference points at both the organizational and sub organizational or system levels. Strategic reference points are the targets or benchmarks that managers use to evaluate choices, to make strategic decisions, and to signal to other key personnel their system wide or organizational priorities. The goal in this article is to show how the strategic reference point construct might allow researchers to integrate each of these elements into a comprehensive theory explaining managerial behavior and decision making in the development of HR systems and to use strategic reference point theory to enhance researchers' understanding of the occasionally contradictory findings regarding the link between HR policies and practices and a firm's performance. The paper begins by presenting a brief review of strategic reference points theory. Then, applying the concept at the system level, it discusses the nature and determination of the reference points relevant to the HR system, and it examines how the configuration of strategic reference points may influence HR managers' decisions to select more daring HR policies and practices over more conservative strategies, to finally describe how the management of strategic reference points fit and consensus can affect the likelihood that such strategies will have a negative effect on firm performance. The study found that in the context of strategic reference points theory, benchmarking in the HR system may be seen as much more than a new managerial tool. From an strategic reference point perspective, benchmarking is not so much an innovative managerial practice as it is a cognitive process underlying much of what researchers know about managerial strategic decision making, thus, managers are likely to adopt policies and practices that may be more daring or less daring in nature based on these benchmarks results; these policies and practices may, in turn, have a direct effect on a firm's overall performance. Under conditions of limited strategic reference points fit and consensus, the potential for the HR system to have a negative effect on a firm's performance may be heightened. Thus, by showing how managers establish system-level policies and practices on the basis of comparisons with internally, externally, and temporally based targets, the model provides a much needed link between strategy and policy at the firm level and implementation and practice at the system or sub organizational level. The study concludes that the HR strategic reference point model provides an additional means by which to move away from the more traditional, rational-economic foundations of HR management and toward a body of theory more solidly grounded on notions of cognition and micro-politics, and that a movement in this direction may help reduce the gap between HR theory and managerial practice. This article also reinforces recent efforts to move HR strategy research away from its prescriptive roots and toward description and analysis. Other studies showed the effect of human resource

management systems on economic performance and compared US and Japanese plants (Ichniowski, Shaw, 1999). The study elaborated on the effects of Japanese and U.S. human resource management practices on worker productivity, using personally collected data from 41 steel production lines, to develop models of the productivity of these lines; each line was toured by the experimenters with either an experienced engineer, area operations manager or superintendent. The study found that Japanese production lines employ a common system of HRM practices including: problem-solving teams, extensive orientation, training throughout employees' careers, extensive information sharing, rotation across jobs, employment security, and profit sharing. On the other hand, a majority of U.S. plants now have one or two features of this system of HRM practices, but only a minority has a comprehensive system of innovative work practices that parallels the full system of practices found among the Japanese manufacturers. In fact, the results revealed that the Japanese lines are significantly more productive than the U.S. lines. However, U.S. manufacturers that have adopted a full system of innovative HRM practices patterned after the Japanese system, achieve levels of productivity and quality equal to the performance of the Japanese manufacturers. This study's evidence helps reconcile conflicting views about the effectiveness of adopting Japanese-style worker involvement schemes in the United States. United States manufacturers that have adopted a definition of employee participation that extends only to problem-solving teams or information sharing do not see large improvements in productivity. However, U.S. manufacturers that adopt a broader definition of participation that mimics the full Japanese HRM system see substantial performance gains. Other studies examined two alternative views, universal and contingency views, of the human resources-performance relationship in manufacturing settings (Youndt, Snell, Dean, 1996). According to the contingency approach to strategic human resource management, if a firm's approach to competition depends on the talents or capabilities of employees, then HR practices would affect performance or else the connection between HR and performance would be minimal. On the other hand, the universal approach to strategic human resource management stated that human resource activities should have a high degree of internal consistency, such as having training and selection activities correlated with both productivity and firm performance. However, there are notable differences across the studies, as to what constitutes a "best practice". The study was based on data collected from a survey of 97 plants, the information was processed using regression analysis, studying the relationship between HR systems, manufacturing strategy, and multiple dimensions of operational performance such as customer alignment, machine efficiency and employee productivity. The analysis of results showed that the apparent main effect of human-capital-enhancing human resources on performance is a function of the performance obtained when firms link of human-capital-enhancing human resource systems with a quality manufacturing strategy as well as other manufacturing strategies that altogether moderated the HR-performance relationship.

However, the study could not conclude that there are strong universal or "best practice" approaches to human resource management. Instead, results were more supportive of a

contingency approach to human resource management. Further research examined the impact of workplace practices, information technology, and human capital investments on productivity, to get a better understanding of the effects of those variables on productivity (Black, Lynch, 2001). Using data from a unique nationally representative sample of businesses, they estimated an augmented Cobb-Douglas production function with both cross section and panel data covering the period of 1987-1993, using both within and GMM estimators. The study was able to examine these factors on a broader cross section of employees, unlike previous studies that have focused on one particular industry, product, or even firm. The study found that it is not whether an employer adopts a particular work practice or a TQM system per se that raises productivity, but rather how that work practice is actually implemented within the establishment that is associated with higher productivity. Results showed that unionized establishments that have adopted human resource practices that promote joint decision making coupled with incentive-based compensation have higher productivity than other similar nonunion plants, whereas unionized businesses that maintain more traditional labor management relations have lower productivity. Thus, allowing greater employee voice in decision making raises labor productivity. The results also showed that plant productivity is higher in businesses with more-educated workers or greater computer usage by non managerial employees and that having a profit sharing system also has a positive effect on productivity.

SAMPLING AND METHODOLOGY

The Sample

The sample consisted of 527 questionnaires which were circulated to different organizations in Lebanon across various regions, mainly to human resource managers or managers of small-sized firms that do not have a human resource department.

The questionnaire aimed at obtaining data related to year of establishment, legal form of the company, industry type, whether the business is a family business or not, job title of the person filling out the questionnaire, net sales, number of employees, employee productivity relative to competition, formal planning of the number and skills of employees, formal evaluation of hiring policies, existence of succession plans and career paths, number of candidates interviewed per position, sources of employment, selection tests used in recruitment, whether training programs exist and the number of trainings per year, whether the company invests in R&D, and the amount of the R&D expense, and the amount of total assets in the company.

Out of the 527 data sampled 280 (53 %) were family businesses, whereas 47 % were non-family businesses. Moreover, the legal forms of the companies are distributed as follows:

Legal Form	Number of Companies	% out of Total
Family Limited Partnership	35	6.64%
Holding	8	1.52%
No Answer	1	0.19%
Off-shore Company	7	1.33%
Other	26	4.93%
Partnership	25	4.74%
S.A.L.	149	28.27%
S.A.R.L.	174	33.02%
Sole Proprietorship	102	19.35%
TOTAL	527	100.00 %

The companies that were sampled ranged from very old to very recent. The following table gives a view of the years of establishment:

Year Established	Number of Companies	% out of Total
Before 1900	11	2.09%
Between 1901 and 1974	83	15.75%
Between 1975 and 1990	116	22.01%
Between 1991 and 2000	164	31.12%
2001 Until Current	126	23.91%
Not mentioned in the Survey	27	5.12%
TOTAL	527	100.00 %

As for the size of the companies in terms of the number of employees, the following table gives an insight about the data collected:

Range	Number of Employees	% out of Total
Less than 10	161	30.55%
Between 10 and 50	225	42.69%
Between 51 and 100	44	8.35%
Between 101 and 500	65	12.33%
Between 501 and 1000	16	3.04%
Above 1001	16	3.04%
TOTAL	527	100.00 %

The main aim of the study is to examine the factors that affect labor productivity. Investments in planning, hiring, and employee development are tested to measure their influence on labor productivity. The study was conducted by circulating questionnaires to firms in Lebanon. The data was collected by a team of graduate students at the Lebanese American University. The data was collected from different companies and firms belonging to diverse sectors in the Lebanese economy. According to the Lebanese Ministry of Economics and Trade, the breakdown of the GDP by sector is:

SECTOR	% of GDP
Agriculture	6.3
Energy and Water	1.5
Manufacturing	13.5
Construction	9.4
Transport and Communication	5.3
Housing	8.5
Market Services	22.6
Trade	21.3
Non-Market Services	11.6
TOTAL	100

In the questionnaire used in this study, the industry types were the following:

SECTOR
Agriculture
Construction
Finance
Insurance
Real estate
Manufacturing
Transportation and Communications
Wholesale and retail
Services
Other

In order to measure whether the sample of companies is a valid representation of the Lebanese Economy, the percentage per industry was measured and compared to the data provided by the Lebanese Ministry of Economy and Trade. However, the division of sectors was not all the same, therefore, a re-categorization of the sectors used in the questionnaire took place, in order to make them compatible with the data provided by the Lebanese Ministry of Economy and Trade. The re-categorizing is as follows:

SECTOR (AS PER QUESTIONNAIRE)	SECTOR (AS PER MINISTRY OF ECONOMY AND TRADE)
Agriculture	Agriculture
Construction	Construction
Finance	Trade
Services	Market Services
Real estate	Housing
Manufacturing	Manufacturing
Transportation and Communications	Transportation and Communications
Wholesale and retail	Trade
Insurance	Market Services
Other	Other

Accordingly, the following table shows the percentage distribution of the different sectors that the data collected represents versus the percentage of GDP:

SECTOR	DISTRIBUTION OF SAMPLE DATA	% DISTRIBUTION OF SAMPLE DATA	% of GDP
Agriculture	6	1.14	6.3
Energy and Water	0	0.00	1.5
Manufacturing	63	11.95	13.5
Construction	20	3.80	9.4
Transport and Communication	14	2.66	5.3
Housing	8	1.52	8.5
Market Services	194	36.81	22.6
Trade	195	37.00	21.3
Non-Market Services	0	0	11.6
Other	18	3.42	0
No Answer	9	1.71	0
TOTAL	527	100	100

First, the Agriculture sector of the data constitutes 1.14 % of the total sample collected. Whereby, the Lebanese Agriculture represents 6.3 % out of the total economy. This could be due to the fact that the data collection covered mainly the geographical areas of Mount Lebanon and few areas of Beirut; while the main agricultural firms are in the Bekaa region. Second, the energy

and water sector is not represented at all in this study. However, this is a relatively minor sector, only 1.5 % of the GDP. Third, manufacturing is very well represented in the data sample since it comprises 11.95 % of the data collected, whereby it also represents 13.5 % of the Lebanese Economy. Fourth, both construction and transportation and communication sectors were represented in the sample data, with a percentage almost half of that of the Lebanese Economy. Fifth, the housing sector represents 1.52 % of the data versus 8.5 % of the GDP. So, this sector is not very well represented in the sample. Sixth, both market services and trade form the heart of the sample data collected since they accumulate to 74 % of the total firms that filled out the questionnaire. These sectors are considerably the largest as well in the Lebanese Economy, with a cumulative percentage of 44 % out of the total GDP.

In general, the allocation of the data collected in the Lebanese Sectors of Economy are well distributed and not clustered in specific industry types.

Statistical Model and Definition of the Variables

The statistical tool used in this study is the SPSS version 15.0, based on the 95% confidence interval with $\alpha = 5\%$ being our tolerance level of type I error. A linear regression model is constructed whereby the dependent variable is Labor Productivity (measured by the total output “average net sales” divided by the total input “number of employees”), and the main explanatory variables in the model are: HR investment in planning, hiring, and development. However, each of these three independent variables is explained by more than one variable, as in the table below.

The main equation of the model constructed in the study is:

$$\text{Labor Productivity} = \beta_0 + \beta_i(\text{Investment in Planning}) + \beta_j(\text{Investment in Hiring}) + \beta_k(\text{Investment in Employee Development})$$

Substituting the labels of the above table in the model equation would yield:

$$\text{Labor Productivity} = \beta_0 + \beta_1*A.1 + \beta_2*A.2 + \beta_3*A.3 + \beta_4*A.4 + \beta_5*A.5 + \beta_6*B.1 + \beta_7*B.2 + \beta_8*B.3 + \beta_9*B.4 + \beta_{10}*B.5 + \beta_{11}*B.6 + \beta_{12}*B.7 + \beta_{13}*B.8 + \beta_{14}*B.9 + \beta_{15}*B.10 + \beta_{16}*B.11 + \beta_{17}*B.12 + \beta_{18}*C.1 + \beta_{19}*C.2 + \beta_{20}*C.3$$

	Independent Variable	Label
Investment in Planning	Formal planning for number of employees	A.1
	Formal planning of skills	A.2
	Formal Evaluation of hiring policies	A.3
	Succession plans	A.4
	Career path	A.5
Investment in Hiring	Number of candidates interviewed	B.1
	Recruitment Source: Employee Referrals (<i>Labeled as S1</i>)	B.2
	Recruitment Source: Graduate and undergraduate institutions (<i>Labeled as S2</i>)	B.3
	Recruitment Source: Search firms (<i>Labeled as S3</i>)	B.4
	Recruitment Source: Private and governmental employment agencies (<i>Labeled as S4</i>)	B.5
	Recruitment Source: Walk-ins (<i>Labeled as S5</i>)	B.6
	Recruitment Source: Newspaper advertisements (<i>Labeled as S6</i>)	B.7
	Recruitment Source: Internet advertisements (<i>Labeled as S7</i>)	B.8
	Selection Test: Skills	B.9
	Selection Test: Aptitude	B.10
	Selection Test: Behavioral	B.11
	Selection Test: Medical	B.12
Investment in Employee Development	Offer training for employees	C.1
	Promotion from within	C.2
	Number of annual formal training programs	C.3

Three different regression models are tested:

- 1) In the first model, the objective is to test the individual effect of **investment in planning** on **labor productivity**.
- 2) In the second model, the objective is to test the individual effect of **investment in hiring** on **labor productivity**.
- 3) In the second model, the objective is to test the individual effect of **investment in employee development** on **labor productivity**.

Measurements and Estimation Technique

Measurements for each of Labor Productivity, Investment in Planning, Investment in Hiring, and Investment in Employee Development are based on a number of factors. For instance concerning labor productivity, the measurement was done based on the company's net sales and the company's number of employees and whether the company's employee rate high as compared to competition. Concerning investment in planning, five distinct bases of investment in planning were used in this study. Whether the business unit formally plans for the number of

workers needed to run the business in the future, or whether the business formally plans for the skills needed to run the business in the future, or whether the human resource department formally evaluates its hiring policies on a regular basis and whether the company has succession plans, and is able to replace any individual worker when necessary, and whether the company provides its employees with a clear career path. Concerning investment in hiring, three distinct bases of investment in hiring were used in this study. The number of candidates interviewed on average for every employee hired, the recruitment source, and the selection tests. Three distinct bases show the indicators that measured Investment in Employee Development, and they are whether the company offers training to its employees, whether the company utilizes promotion from within as a primary method for filling vacancies, and whether the company offers formal training to employees.

This study uses a linear regression model to analyze the data. The data were transformed from the questionnaire to the SPSS by substituting the value “1” for “YES” and “2” for “NO”, whereby “0” was used to indicate “No answer”.

RESULTS

Descriptive Statistics

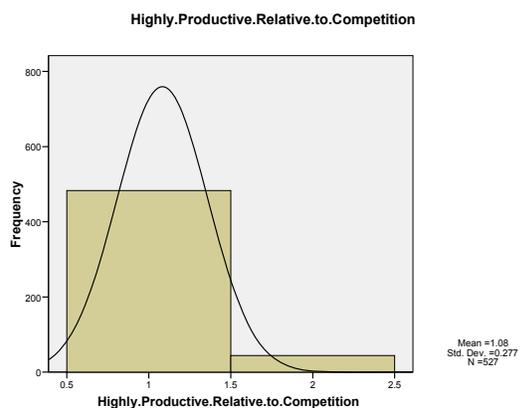
The following tables give the descriptive statistics of the following variables:

- Highly productive relative to competition
- Investment in R&D
- Expense of R&D
- Personal Opinion on whether investment in planning, hiring and employee development, affect labor productivity.

Statistics					
		Highly .Productive Relative. to Competition	Invest.RnD	Expense.RnD	HR.Invest. Effect.on.Labor Productivity
N	Valid	527	527	527	527
	Missing	0	0	0	0
Mean		1.08	1.59	.63	1.20
Std. Error of Mean		.012	.022	.040	.027
Median		1.00	2.00	.00	1.00
Mode		1	2	0	1
Std. Deviation		.277	.504	.917	.629
Variance		.077	.254	.841	.395
Range		1	2	4	3
Minimum		1	0	0	0
Maximum		2	2	4	3

Highly.Productive.Relative.to.Competition

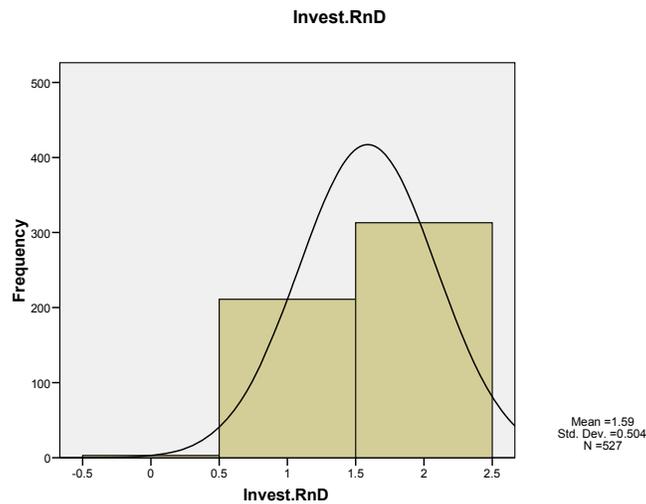
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	483	91.7	91.7	91.7
	NO	44	8.3	8.3	100.0
	Total	527	100.0	100.0	



The above statistics show that 91.7 % of the survey answered that their employees are highly productive relative to competition, which is a very good indication.

Invest.RnD

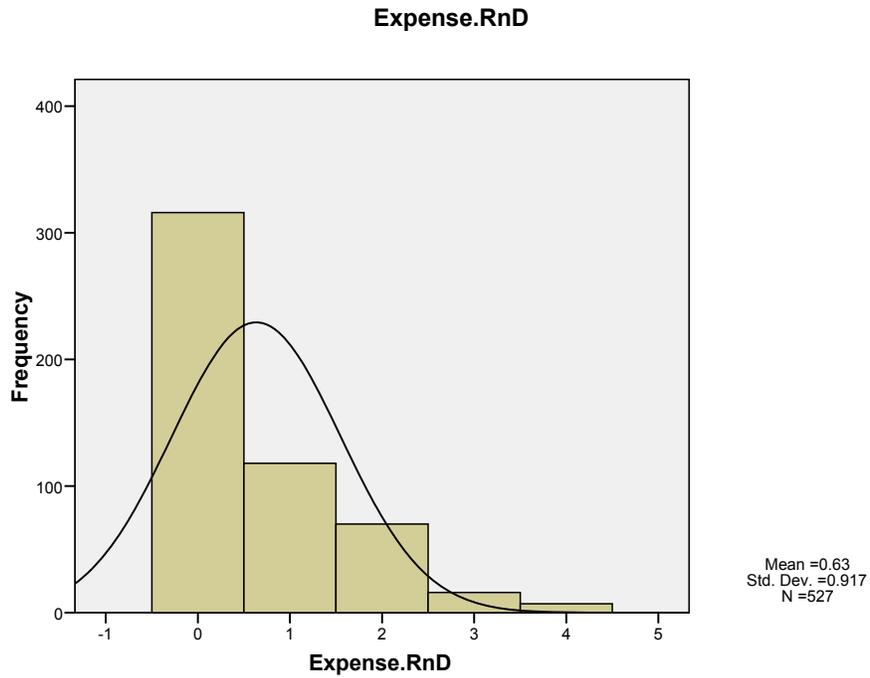
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	3	.6	.6	.6
	YES	211	40.0	40.0	40.6
	NO	313	59.4	59.4	100.0
	Total	527	100.0	100.0	



The above statistics show that only 40 % of the survey answered that their companies invest in Research and Development, whereby more than half of the firms affirmed that they do not invest in R&D at all. These results were expected since very few sectors of the Lebanese Economy consider investment in R&D.

Expense.RnD

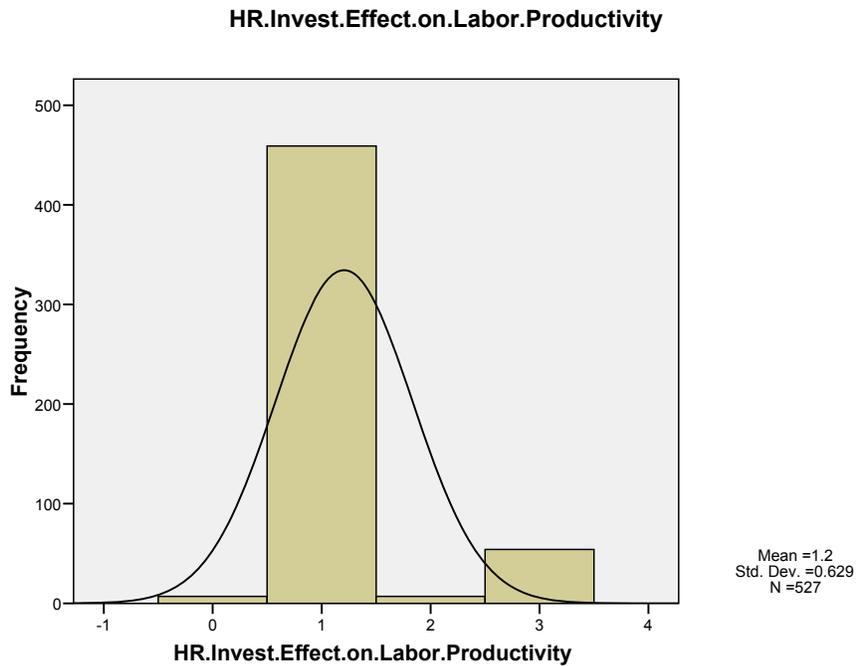
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No Answer	316	60.0	60.0	60.0
Less than 5 %	118	22.4	22.4	82.4
Between 5.1 % & 10 %	70	13.3	13.3	95.6
Between 10.1 % & 20 %	16	3.0	3.0	98.7
More than 20.1 %	7	1.3	1.3	100.0
Total	527	100.0	100.0	



The above statistics show that out of the 40 % that invest in R&D, the majority spend an amount equivalent to 5 % or less of their total assets on R&D.

HR.Invest.Effect.on.Labor.Productivity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	7	1.3	1.3	1.3
	Positively	459	87.1	87.1	88.4
	Negatively	7	1.3	1.3	89.8
	No Effect	54	10.2	10.2	100.0
	Total	527	100.0	100.0	



The above statistics give the results of the last question in the survey which indicates that 87.1 % affirm that there is a positive relationship between investing in human resource planning, hiring, employee development and labor productivity. Whereby, 1.3 % actually believes that there is a negative relationship between the variables stated and almost 10 % consider that there is no effect between investment in human resource and labor productivity.

Regression Results

The following two tables show the results for model 1:

Model 1 Summary									
Mode	R	R-Square	Adjusted R-Square	Std. Error of the Estimate	Change of Statistics				
					R-Square Change	F Change	df1	df2	Sig F Change
1	.129	.017	.006	248853.236	.017	1.584	5	467	.163

Coefficients of Model 1:

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	38240.471	51770.337		.739	.460
	Formal.Planning.No. of.Employees	10746.134	31628.553	.019	.340	.734
	Formal.Planning.Skills	-46486.5	35176.170	-.075	-1.322	.187
	Formal.Evaluation.Hiring.Policies	45938.510	26778.006	.090	1.716	.087
	Succession.Plans	41155.095	26456.556	.077	1.556	.120
	Career.Path	-30289.2	25309.273	-.060	-1.197	.232

a. Dependent Variable: Labor.Productivity

Model 1 shows that there is a positive relationship between formal planning of number of employees, to formal evaluation of hiring policies and succession plans with labor productivity. On the other hand, there seems to be a negative relationship between formal planning of skills and career path with labor productivity. Moreover, formal evaluation of hiring policies, formal planning of skills and succession plans are more significant than career path and formal planning of number of employees.

$R^2 = 1.7\%$ and the adjusted $R^2 = 0.6\% \Rightarrow$ which means that 0.6% of variation in Labor Productivity is explained by the regression model (Investment in Planning) after taking into consideration the degrees of freedom and the number of independent variables.

The following two tables show the results for model 2:

Model 2 Summary									
Model	R	R-Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig F Change
1	.129	.017	-.010	253091.365	.017	.636	12	451	.811

Coefficients of Model 2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-150592	218878.7		-.688	.492
	No.Candidates. Interviewed	863.092	683.118	.060	1.263	.207
	S1	15370.878	25547.107	.031	.602	.548
	S2	26592.430	28978.300	.048	.918	.359
	S3	1348.065	47808.626	.001	.028	.978
	S4	13268.511	58344.400	.011	.227	.820
	S5	29918.882	29116.190	.052	1.028	.305
	S6	-29099.8	27292.991	-.055	-1.066	.287
	S7	41721.372	52681.889	.038	.792	.429
	Selection.Test.Skills.Test	-8372.291	26321.612	-.016	-.318	.751
	Selection.Test.Aptitude. Test	-1194.310	32191.006	-.002	-.037	.970
	Selection.Test. Behavioral.Test	7820.584	25694.718	.015	.304	.761
	Selection.Test.Medical. Exam.Test	19733.744	38597.675	.026	.511	.609

a. Dependent Variable: Labor.Productivity

Model 2 shows that there is a positive relationship between the number of candidates interviewed, employee referrals (*labeled as S1*), graduate and undergraduate institutions (*labeled as S2*), search firms (*labeled as S3*), private and governmental employment agencies (*labeled as S4*), walk-ins (*labeled as S5*), internet advertisements (*labeled as S7*), behavioral selection test and medical selection test with labor productivity. On the other hand, there seems to be a negative relationship between newspaper advertisement (*labeled as S6*), skills selection test and aptitude selection test with labor productivity. Moreover, number of candidates interviewed is the most significant variable, whereas search firms (*labeled as S3*), is the least significant.

$R^2 = 1.7\%$ and the adjusted $R^2 = 1\% \Rightarrow$ which means that 1% of variation in Labor Productivity is explained by the regression model (Investment in Hiring), after taking into consideration, the degrees of freedom and the number of independent variables.

The following two tables show the results for model 3:

Model 3 Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig F Change
1	.093	.009	.002	252843.574	.009	1.328	3	453	.811

Coefficients of Model 3

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12257.358	44469.364		.276	.783
	Training.Employees	-1038.418	27577.693	-.002	-.038	.970
	Promotion.From.Within	46698.696	24179.628	.092	1.931	.054
	No.Formal.Trainings	-118.670	385.833	-.014	-.308	.759

a. Dependent Variable: Labor.Productivity

Model 3 shows that there is a positive relationship between promotions from within and labor productivity. On the other hand, there seems to be a negative relationship between training of employees and number of formal trainings with labor productivity. Moreover, the only significant result among the above three variables is promotion from within.

$R^2 = 0.9\%$ and the adjusted $R^2 = 0.2\%$ => which means that 0.2% of variation in Labor Productivity is explained by the regression model (Investment in Employee Development), after taking into consideration the degrees of freedom and the number of independent variables.

Contribution

This study is based on previous research by Koch and McGrath in the year 1996 that is conducted in the United States of America. However, the contribution of this study will be its implementation to the Lebanese market across various sectors. This is the only study conducted in Lebanon on the topic and considering the variables studied in the paper.

Significance

Today, Human Resource management is becoming more and more an imperative contemporary issue. The field of HR in Lebanon is relatively understudied. The importance of this study is that it covers a significant number of Lebanese Economic sectors with multiple explanatory variables.

DISCUSSION AND CONCLUSION

The study was conducted using a sample of 527 which is considered a good sample representing the Lebanese population; had the study covered a bigger sample size (population), it would have yielded better results. Moreover, the lack of statistical data in Lebanon made this study solely rely on questionnaires that might not be taken seriously by some respondents, and might have eventually led to biased results.

The study shows that there is a positive relationship between promotions from within and labor productivity. On the other hand, there seems to be a negative relationship between training of employees and number of formal trainings with labor productivity. Moreover, the only significant result among the above three variables is promotion from within.

This study contributes to considering the effect of participative leadership (which involves delegation, empowerment, and joint decision making) on employee motivation, loyalty, self-esteem, work attitudes (hence, on employee behavior as a whole), in organizations in Lebanon. The results that this paper came up with, clarify the nature of these relationships. In light of these results, and after testing for each variable alone, testing for the overall significance proved that there is a positive relationship between delegation, empowerment, joint decision making and employee behavior (measured by employee motivation, loyalty, self-esteem, and work attitudes). Delegation was the most statistically significant variable in this study.

In short, it can be clearly shown that participative leadership (particularly delegation) plays a crucial role in positively affecting the overall behavior of the employee in an organization in Lebanon.

Limitation of the Study

As previously discussed, some of the Lebanese Economic sectors were either not represented or poorly represented (example, Energy and water). In addition, when computing the Labor productivity in terms of the average net sales, quantitative figures were missing on the questionnaire. Instead, they were substituted by ranges and the average per range was computed when inputting the data to the SPSS. However, both the upper and the lowest brackets were not represented in terms of averages, but in terms of upper or lower boundaries correspondingly.

Recommendations

It is of great importance that thorough future research is conducted to reinforce Human Resource Management in Lebanon in particular and the Middle East in general. Moreover, the belief in the effect of investing in Human Resource that would lead to increase in Labor productivity should be more elaborated and examined. Thorough research is needed so that the study comes up with better, more accurate and more significant results.

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