



Information Operations in the Kuwaiti Corporate Sector: An Analysis

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ABSTRACT

Information operations in corporate companies are diverse. Preparation of information workers for these organizations requires an understanding of the spectrum, content and extent to which these activities are performed. Such a profiling needs to be embedded in a specific context, crucial for any intelligent analysis or application. This study was conducted in Kuwait, a typical example of six nations in the Arabian Peninsula. One of the top executives or managers from each of the 39 companies, which volunteered to participate in the study, was interviewed. Participant input was sought on a carefully designed instrument, containing 19 statements, covering the scatter of information operations. It was noted that most of these companies were engaged in a number of activities of determining user needs and collecting, organization, servicing, packaging, searching and retrieving information from formal and structured information sources. Against this backdrop, absence of any information unit or professional was quite significant. Little activity was also noted in the use of Web technology and Internet utilities. Another finding, worth the attention of the policymakers, was related to little activity in the organization, control and use of internal information sources of these companies.

INTRODUCTION

Information technology has influenced the operations of the corporate sector in all the areas of policy and decision making, financial management, production, marketing, advertising, sales, customer relations, and communication. Information has played the most pivotal role in the change process. Consequently, information operations have had a tremendous expansion in these organizations. We find a great deal of diversity in these applications, dependent on the contextual placement of a company, nature of its operations, availability of physical and technological infrastructure, economic conditions, human resources, and, most importantly, the insights and entrepreneurial attitudes of the executives. Since the information operations have expanded exponentially in the corporate sector, they have employed new breeds of information professionals with a variety of competencies. Again, the organizational provisions for information operations and the attendant policies and practices for employment of information professionals depend on the scope, breadth and depth of information operations. In any given context, it becomes vital to profile the information operations in order to be able to propose and develop any system of human resource development.

Context

A number of variables related to geographic locations, socio-cultural context, operational focus, size, and public policies cause innate variations in the information operations of the private sector in any region. Kuwait is a small state in the Arabian Peninsula, with a small population of .83 million natives, but having the second largest petroleum reserves that give it a distinct prominence in the world community. It has an expatriate population of 1.7 million. During the last 60 years, its economy has evolved from the pre-petroleum phase of sea-trade and small domestic market to its post-petroleum integration with the international systems of production and multinationals. The latest drive is toward free enterprise, possibly through now sets of legislation, tariff provisions, and trade regulations.

The corporate sector of the nation has been quite active during the last many decades. It is evident from the fact that the net contribution of this sector to the GDP grew from 27% in 1997 to 31% in 1999, registering a growth of about 15% in two years, quite an impressive performance. Some petro-chemical industries have also been developed. Consumer-oriented industries in the areas of food technology, construction and development, and communication have flourished, catering for the needs of the local and regional needs. The nation boasts of being one with the highest figure for per capita automobiles. It also has one of the strongest service sectors in financial

area, concentrated in banking, insurance and investments. The country has certain laws of import/export, investment and economic activity that favor the indigenous population. Many small and medium-sized enterprises have been in a rigorous competition for capturing the consumer market. This corporate sector is typical of other countries in the Arabian Peninsula; all sharing certain points. These countries have a small industrial base; the industrial sector is concentrated in areas related to petroleum and minerals; there is little research and development activity; and the focus is on the consumer-oriented products and services. The Arabian Gulf region, under its existing organizational framework of the Gulf Cooperation Council (GCC), has six member nations and Kuwaiti private sector typifies the overall corporate activity in the region. It is worth exploring how the Kuwaiti companies are managing their operations with regard to their use of IT, information systems, and resources and services.

Relevant Studies

A number of studies have addressed similar questions in diverse settings. Bergeron (1996) conducted an extensive review of literature on the subject and noted that information, like other organizational resources, needed to be managed to help organizations improve productivity, competitiveness, and overall performance. He focused on the concept of information resource management in both the public and private sectors. The British Library Research and Innovation Center was engaged in a comprehensive study to identify the current and emerging positions of information managers in banking, pharmaceutical and information provision industries. Stenson, Raddon and Abell (1999) conducted this study and they also profiled the skills and competencies needed for first and second jobs in these sectors. They also examined how far academic departments were including these skills in their academic programs and curricula.

Tchobanoff and Price (1993) examined the qualities needed in the library and information school managers to fill positions in corporate sector and key skills they expected to be included in the curricula. Rehman, Abu Baker and Majid (1997) came up with lists of competencies in different operational areas for the special library setting. Elkin (1998) examined the implications for the development of information professionals. She listed attitudinal attributes as well as those capabilities that were generally required of the future information navigators. Underwood (1997) listed core body knowledge for information technology professionals approved by the Australian Computer Society. Many of the listed items were quite relevant for application in the corporate sector. Joling (2000) also reviewed such competencies from a futuristic viewpoint and highlighted the trends and

dynamics in the information workplace. She also discussed the preparatory aspects of these professionals. Rehman and Ansari (2001) came up with lists of core and elective content for the preparation of professionals for degree programs of information studies. They also provided detailed analyses about the perceptions of educators for the coverage of different areas and topics in the formal degree programs of information studies.

PURPOSE

Most of the studies reviewed above have addressed the need of delineating the competencies that need to be developed among information professionals. In the first place, there is a need to profile the information operations and activities that are being performed in the corporate sector. Since the corporate sector of the Gulf countries located in the Arabian Peninsula has a peculiar context, a systematic examination of their information operations and activities would provide an understanding of the scatter and intensity of information work. These results will then lead to conceiving the human resource requirements for this sector and the multitude of capabilities that need to be developed among this workforce. Then it would also be worth considering who is providing education or training in this area, how adequate these opportunities are, and what needs to be done to meet the needs of the future workforce for this sector. This study was designed to address the first question that what information operations and activities are being performed in the Kuwaiti corporate sector and what is the extent of performance of these operations.

PROCEDURES

For this study, it was considered appropriate to identify companies that would represent the Kuwaiti corporate sector and collect data from them through a structured interview with one of the top executives of each of them, based on a carefully developed research instrument.

Selection of Companies

In order to identify companies as population of the study, the directory, *AlMisbar: The Who's Who of Kuwait in State and Business*, 4th ed. (Delta: Kuwait, 2000) was used. Selection criteria used were (a) minimum number of employees must be 50, (b) the minimum capital of the company must be one million Kuwaiti dinar, and (c) it should be willing to participate in the study. Based on the first two factors, a total of 70 companies were identified. They were faxed an initial request in which the purpose of the study was stated and it was explained that one of the top executives of the company would be interviewed for about 45 minutes in case they volunteer to participate in the study. Telephonic inquiries and personal contacts were used to extract responses. Subsequently, fifty-four of them (77%) consented to participate.

Later, at the time of conduct of interviews, 15 of the 54 companies (27.8%) were unable to work out a mutually convenient interview appointment and thus they could not participate in the study. Thirty-nine companies which actually participated in the study belonged to diverse sectors and the following breakdown provides an overall picture of the wide spectrum of the scatter:

Financial Institutions	
Investment	7
Banks	4
Insurance	2
Service Industry	
Hotel industry	4
Automobile	2
Pharmaceutical (import & sale)	2
Estate management	1
Warehousing	1
Travel	1
Communication	1

Financial information systems	1
Other Industries	
Construction and development	3
Petro-chemical	2
Food Technology	2
Other Industries	1
Business	
Conglomerates	3
Export/Import	1
Retail	1
Total	39

Research Instrument

Preparation of the research instrument was the most critical step. The intent was to have a brief, logical and well designed instrument that would elicit the needed data without causing strain on the interviewees. As a first step, based on an extensive review of literature and scanning of competency studies, an initial list of information activities in the corporate companies was prepared. Then these activities were organized by merging those that had an element of overlap, deleting those that were considered unnecessary or redundant, and combining a number of them so as to have a logical set of activities.

The draft was circulated among four faculty members, well versed with the design of survey instruments and the purpose of this study. They provided valuable input in removing a number of statements and making it a logically coherent and comprehensive instrument. Their comments were particularly helpful in removing jargon, having clarity, and bringing the total number of statements to nineteen.

Data Collection

It was decided that in order to maintain consistency and reliability in data collection, one of the two researchers would conduct all the interviews. Careful preparation was done for a standard treatment to the introductory remarks, providing explanations, and recording of responses.

At the initial stage of identification of participants, data about company phone, fax, email and the person to be interviewed had been recorded. The researcher chalked out a plan to complete all interviews within a time span of five weeks. Keeping all this in view, a faxed request for interview, together with a copy of the research instrument, was sent to each of the interviewees. They were assured of the use of information exclusively for research and about the anonymous treatment of their responses. It also contained the proposed date and time of interview. The interviewee was requested to scan the research instrument before the meeting and frame his/her opinion and also mark any areas that deserved explanation. It was specified that none of them was expected to have filled in the instrument before the interview. Telephonic follow-up was made for confirmation in majority of the cases. In quite a few cases, alternate date or time was proposed, around which the researcher had to work out the schedule. A number of interviewees were contacted many times, yet it was not feasible to conduct the interview due to their non-availability, bringing down the final number of participant organization to 39 as compared to 54 who had initially agreed to participate.

The mode of conduct of the interview was that the researcher would briefly describe the purpose and significance of the study. Both the researcher and interviewee had a copy of the instrument before them. The researcher would read out a statement and provide any explanation, if the interviewee wished so. Then the researcher would ask the interviewee to indicate the extent to which a particular activity was performed in the organization. The researcher would mark the response on the instrument she was holding.

Quite a few interviewees indicated that they would like to request their colleagues, responsible for certain operations in the company, join them for providing input related to certain activities. In one company, the interviewee invited two other such colleagues. In eight

companies, the interviewee was joined by one of his/her colleagues to frame judgment about company practices in specific areas. In one company, it was realized that its two units performed in an autonomous manner and could have different responses for specific statements. It was agreed that in order to ensure validity of responses, two individuals for the company would be interviewed separately, resulting in two responses from the same company. Consequently, we had a total of 40 responses from 39 companies, based on this interview exercise. Amount of time spent on an interview was timed and it was found that an average interview consumed 45-60 minutes.

RESULTS

Responses of the participants about the extent of performance for all the 19 activities, listed in the instrument, were tabulated for frequencies and percentages. These results are shown in Table 1 in the four categories of operations. These results provide a description of the overall situation of information operations in the 39 corporate companies of Kuwait.

Table 1: Information operations in Kuwaiti corporate companies (N=40)

Activity	None	Little	Moderate	Extensive
I Information Needs and Use, Resources and Services				
1. Obtaining and using information sources for organizational work such as research reports, periodicals, books, manuals, standards, databases, Internet sites, reference materials, etc.	0 0.0%	3 7.5%	16 40.0%	21 52.5%
2. Supplying information to users in your organization in appropriate report formats and media	0 0.0%	9 22.5%	11 27.5%	20 50.0%
3. Conducting competitive intelligence for your organization such as finding information about competitive companies and their products, forecasting activities, etc.	2 5.0%	4 10.0%	17 42.5%	17 42.5%
4. Locating information sources about your organization such as statistical data, technical reports, company archives, publications, etc.	2 5.0%	9 22.5%	13 32.5%	16 40.0%
5. Determining information needs of users from your organization such as research and development staff, professionals, executives, etc.	2 5.0%	11 27.5%	14 35.0%	13 32.5%
6. Organizing internal information (memos, reports, etc.) and external information and documents by using appropriate techniques such as indexing, filing, tagging, categorizing or classifying them	2 5.0%	16 40.0%	13 32.5%	9 22.5%
II Computing Activities: Hardware, Software, Networking and Data Security				
7. Configuring computer software needs of your organization and selection and purchase of packages; troubleshooting of operating systems and software	0/40 0.0%	2/40 5.0%	4/40 10.0%	34/40 85.0%
8. Configuring computing hardware requirements of your organization and their procurement, maintenance and troubleshooting	0 0.0%	0 0.0%	7 17.5%	33 82.5%
9. Developing a LAN or an Intranet for your organization such as setting up servers and client stations, physical planning, assigning IP addresses and rights of access to users	2/40 5.0%	5/40 12.5%	4/40 10.0%	29/40 72.5%
10. Using Internet directories and search engines for retrieving relevant information and documents for the needs of your organization	1/40 2.5%	5/40 12.5%	11/40 27.5%	23/40 57.5%

Table 1: (continued)

III Computing Activities: Database, Information Retrieval and Internet				
11. Developing databases for organizing company data by using systems such as Access, Oracle, etc.	6/40 15.0%	9/40 22.5%	6/40 15.0%	22/40 47.5%
12. Ensuring data security in your organization through encryption techniques, firewalls, disaster recovery strategies, etc.	4/40 10.0%	9/40 22.5%	10/40 25.0%	17/40 42.5%
13. Searching, retrieving and packaging information from databases, both external and internal	5/40 12.5%	10/40 25.0%	11/40 27.5%	14/40 35.0%
14. Designing Web pages and sites for your organization using languages and utilities	16/40 40.0%	12/40 30.0%	7/40 17.5%	5/40 12.5%
15. Using Internet utilities like Telnet, Listserv, bulletin boards, FTP, etc. for your organizational needs	18/40 45.0%	15/40 37.5%	3/40 7.5%	4/40 10.0%
IV Management Activities				
16. Planning strategically for your organization such as writing mission statements, goals and objectives, benchmarking, roadmaps, etc.	1/40 2.5%	5/40 12.5%	10/40 10.0%	24/40 60.0%
17. Preparing financial and costing reports for your organization using different computing utilities such as spreadsheets, etc.	1/40 2.5%	0/40 0.0%	3/40 7.5%	36/40 90.0%
18. Communicating with individuals and groups within and outside the organization by using verbal and non-verbal skills; application of communication/presentation skills in public relations, marketing, etc.	0/40 0.0%	3/40 7.5%	13/40 32.5%	24/40 60.0%
19. Training staff in information searching and use	9/40 22.5%	17/40 42.5%	4/40 10.0%	10/40 25.0%

INFORMATION NEEDS AND USE, RESOURCES AND SERVICES

The largest section of the instrument, consisting of 6 of the total 19 information activities, was related to information needs and use, resources and services. The activity that received the most extensive level of operation was *obtaining and using information sources for organizational work such as research reports, periodicals, books, manuals, standards, databases, Internet sites, reference reports, etc.* It was found that 92.5% of the organizations were performing the activity either at the extensive or moderate level. It clearly indicates that these organizations are by and large actively engaged in acquiring information from formal and structured information resources such as research reports, periodicals, etc. This crucial activity is central to the decision making process in any organization. The role of the information professional is critical in providing support service for such decision making and marketing initiatives.

The next activity in this area, performed extensively, was related to *supplying information to users in the organization in appropriate report formats and media*. It was found that 27.5 and 50 percent of the participant organizations had moderate and extensive levels of performance, respectively. This input indicates that the respondents had noted that a great deal of effort was made in preparing and packaging information in the form of reports for organizational purposes.

The next activity in this category was related to *conducting competitive intelligence for the organization such as finding information about competitive companies and their products, forecasting activities, etc.* Eighty-five percent of the respondents indicated that they were performing this activity either extensively or moderately; their opinion evenly split for the two levels. This is always considered to be a crucial activity in the corporate sector and companies use a variety of sophisticated means to conduct these operations. As was noted

from these findings, most companies are engaged in collection of performance data about the competitive organizations. Naturally, the means and mechanics for this activity are diverse and many organizations were not willing to divulge into details about their modes of performance. However, this activity is performed through informal channels, consistent with the cultural traditions.

The activity, ranked four in this group, was *locating information sources about the organization such as statistical data, technical reports, company archives, publications, etc.* Sixteen and 13 participants, with the respective percentages of 40% and 32.5%, perceived that they performed the activity extensively and moderately. These results have indicated that company data and reports are being actively sought and used by the majority of respondents. Company archives and technical data are among the vital primary resources and the extent of performance, evident from these responses, also indicates the same. This operation is normally the function of the section responsible for archives or documents. Many pertinent questions arise about the amount of time spent in the supply of such information and how does it affect the decision-making. There is also a growing trend of making the information center responsible for this type of information activity. About one fourth of the respondents reported that they performed this activity at a minimal level. It again raises a number of questions related to their level of awareness of the potential of this resource and their constraints in terms of resources, facilities and manpower. It also needs to be explored how these organizations are conducting this operation organizationally as well as administratively.

The fifth activity in this area was about *determining information needs of users from the organization such as research and development staff, professionals, executives, etc.* About one third of the respondents, in each of the two categories of extensive (32.5%) and moderate (35%), were found. It is understood that such an activity is performed effectively if there is an information professional responsible for its conduct. Also, since many of the Kuwaiti corporate companies do not have an industrial orientation, these are inactive in research and development, implying that they may not be actively engaged in it. It may not be surprising that perspectives of these respondents about assessment of information needs may not be in congruence with what is normally perceived by information professionals. This is quite well reflected in these results.

Last activity in this area was *organizing internal information (memos, reports, etc.) and external information and documents by using appropriate techniques such as indexing, filing, tagging, categorizing or classifying them.* Forty percent of the reported as having no or little activity. Another one third reported moderate level of activity and only 22.5% marked the extensive level. These results are somewhat unexpected, as informal resources of a company are expected to be vital for an organization. Almost each organization is engaged in this activity. However, it must be the mechanics of organizing these resources, as spelled out in the activities of indexing, tagging and classification that might have caused this lower level of performance in relative terms. The significance of this resource is undisputed and these results indicate that these organizations might be in a dire need of putting these records into a more effective system of organization and retrieval.

COMPUTING ACTIVITIES: HARDWARE, SOFTWARE, NETWORKING AND DATA SECURITY

Four statements in the instrument were related to computing skills. The activities selected were general in nature and it was expected that any organization in today's electronic environment would be typically engaged in some of these activities. The purpose was to ascertain which of these activities were performed most extensively in these organizations.

The activity that topped the list was *configuring computer software needs of the organization, selection and purchase of packages,*

troubleshooting of operating systems and software. It was found that 85% of the participant organizations were extensively engaged in this activity. Evidently, almost every corporate organization has to analyze the software needs and select, develop or purchase, and maintain these packages. It also implies that all these organizations need human resources, well equipped with the skills of system analysis and software selection and maintenance. Whatever operating system platforms are used in these organizations, these also need to be maintained by appropriate human resources.

The other activity in this category, receiving almost an identical emphasis in terms of extensive level of performance, was a logical counterpart of the activity covered in the preceding section. *Configuring hardware requirements of the organization and its procurement, maintenance and troubleshooting* was reported as being extensively performed by 82.5% of the participant organizations. There is no organization in this group that is not engaged in this activity moderately or extensively. In today's electronic setup, each organization needs extensive procurement and maintenance of this equipment. Further, it indicates that there is always a need for engaging a number of staff members to handle these jobs. While assessment of organizational needs and procurement of equipment are handled at executive or professional levels, maintenance and troubleshooting of hardware are normally performed by vocational and technical staff.

The third activity in this category was related to network configuration and setup. Again, quite expectedly, it was found that 72.5% of the participants reported extensive and 10% moderate levels of activity. It means that these organizations, by and large, are having networking activity for their operations. The statement of activity was *developing LAN or Intranet for organization such as setting up servers and client stations, physical planning, assigning IP addresses and rights of access to users.* Kuwait has a small geographic area and it would depend on the nature of operation of each of these organizations what type of network might be suitable for it. Use of Internet and Web tools by these organizations in the setting up of Intranets also needs further investigation.

One primary computing concern in any organization is related to data security and encryption. About two third of the organizations mentioned that these were extensively or moderately engaged in these activities whereas one third had little or no activity in this area. The activity statement was *ensuring data security in organization through encryption techniques, firewalls, and disaster recovery strategies, etc.* These responses have indicated that majority of organizations is clearly concerned about the vitality of data security. Those organizations that have no or little activity might not be having any open user interface and may be handling computer operations just for internal and administrative functions. These tasks would require highly sophisticated professionals both on the software and hardware fronts. Evidently, this activity will further gain importance as more organizations have public outlets through Internet or other telecommunication networks.

COMPUTING ACTIVITIES: DATABASE, INFORMATION RETRIEVAL AND INTERNET

This group of computing activities was composed of five statements related to database design, searching and retrieval, Web design, Internet utilities, and use of Internet for extracting information related to organizational needs. It means that three of these activities were related to Internet and its use.

The first activity, performed most heavily, was *Using Internet directories and search engines for retrieving relevant information and documents for the needs of organization.* It was found that 57.5 and 27.5 percent of the participants were performing this activity at extensive and moderate levels, respectively. That indicates widespread use of Internet in these organizations in different areas of administrative affairs, professional domains, policymaking, research and development, and marketing activities. It is quite pertinent to explore the

patterns of the use of Internet for different operations and by different levels of staff in these organizations. Internet has had a significant impact on the ways the information is accessed and transmitted in these organizations. It would be quite revealing if these trends and patterns of use were analyzed intensively in order to have an insight into the potential and actual use of the resource.

The next most extensively performed activity was *developing databases for organizing company data by using systems such as Access, Oracle, etc.* However, these data indicated that more than one third of the participant organizations were making little or no use of this facility in their work. Those reporting extensive or moderate levels of activity were respectively 47.5 and 15 percent of the respondents. Databases are the most crucial segment in any serious use of computing resource in organizational life. It was quite revealing to note that quite a sizeable number of these organizations were inactive in this area. This activity requires professionals for both the design and applications. A larger number of employees is however required for data entry, file maintenance and, report generation. An intensive examination of the nature of operations, use of different platforms, and engagement of staff deserve further investigation.

Databases are designed for efficient extraction of data through employment of effective retrieval strategies, the primary purpose of the database activity. The activity was *searching, retrieving and packaging information from databases, both external and internal.* About as many organizations as were seemingly inactive in the creation of databases, reported lack of activity for search and retrieval operations. Also, an identical number was noted for the cumulative percentage of extensive or moderate levels of activity. These findings are mutually corroborative for the two operations and were quite predictable along these lines.

The Internet-based activity of *designing the Web pages and sites for the organization using appropriate languages and utilities* was being undertaken by few organizations. Only 12.5 and 17.5 percent reported extensive or moderate activity. It means that 70% of them have little or no in-house activity in this area. Quite a number of interviewees indicated that they were outsourcing for Web design. A large number of organizations however indicated that there was little use of Internet for marketing and e-business functions. When we take into consideration the findings about the use of Internet utilities, it becomes quite apparent that these organizations have been making little use of Internet potential. The activity listed was *using Internet utilities like Telnet, Listserv, bulletin boards, FTP, etc. for organizational needs.* It was found that 82.5% of the participants were making little or no use of these utilities. It is well understood that these utilities are extensively used by organizations for both internal as well as external communications with their clientele, vendors, or external agencies with which they have any common stakes or operations. It is worth investigations to find out what factors are responsible for this nonuse of Internet.

MANAGEMENT ACTIVITIES

The component of the research instrument related to management activities, where information had a pivotal role, had four statements. These were related to planning, financial systems and reporting, communication, and staff development. The activity most extensively performed in these organizations was *preparing financial and costing reports for the organization using different computing utilities such as spreadsheets, etc.* Only one organization reported lack of activity in this area. Ninety percent of the respondents indicated that they had an extensive level of operation for financial reporting. In the management information, corporate companies have been using computers for financial forecasting, reporting and control ever since computers were introduced. The extent of activity in this area was therefore no surprise.

The next most extensively performed activity in this segment was *communicating with individuals and groups within and outside the organization by using verbal and non-verbal skills; application of*

communication/presentation skills in public relations, marketing, etc. Communication is central to the information process and it is no surprise that 92.5% of these organizations were performing this activity at extensive or moderate levels; a clear majority at the extensive level. It covers the crucial operations of marketing and public relations beside organizational communication. In these areas, information technology has been most extensively applied during the last many decades. It is worth exploring how the communication patterns and information flow are structured in these organizations. An insight into these aspects would help understand the information process of these organizations more befittingly.

The third most extensively performed activity in this area was *planning strategically for the organization such as writing mission statements, goals, and objectives, benchmarking, roadmaps, etc.* Sixty percent of organization marked extensive and another 10% moderate level of activity. Again, one organization reported no activity and five others perceived little activity. Strategic planning has become a hallmark of the modern management practice. Also, information application is considered central to the process of strategic planning. Against this hindsight, it could be expected that a higher level of activity would be found in these organizations. It seems that a number of organizations have yet not adopted strategic approach in any conscious effort of planning and decision-making.

The last activity in this segment was *training staff in information searching and use.* Indeed empowerment of staff in intelligent application of information technology and systems is crucial in the information operations of these organizations. Likewise, staff members also need to be continuously upgraded through formal and informal programs of training and development in order for them to be on the top of information operations. It was surprising to note that only one fourth of the participant companies had an extensive activity of staff development. Another 10% reported a moderate level. Majority of the participants had little or no staff development operation. It requires further investigation what might be the factors that these organizations are not active in the area. One possible explanation is that most of these organizations do not have any extensive in-house activity, but they use training opportunities provided by a number of external agencies. Yet, it is important to understand the human development policies, practices and initiatives of these organizations.

DISCUSSION

One of the most significant findings of this study is that majority of the Kuwaiti corporate companies is actively engaged in a number of information activities that are typically performed in the formal setting of an information center and require the services of qualified information professionals. Resource development, organization and use of media such as research reports, periodicals, books, manuals, standards, databases, Internet sites and reference reports is the most notable example of such an activity. Likewise, delivery of information in appropriate formats and media is considered to be a formal activity. Another activity performed in the setup of information centers is related to organization and use of company data and reports. Those who have formal training in information dynamics are considered to have the competence for determining user needs, another activity widely performed in these organizations. While a clear majority of organizations reported extensive conduct of these operations and services, none of them has formal information unit in their companies. It was also noted that none of them had any professional who had formal education and training in information studies. The researcher had noted through her discussion with the participants of the study that most of them were aware of the need and wished to take the initiative for engaging information managers with right credentials. It means that the local university needs to attend to this vital need of this sector.

Almost all the participants are using computers for their operations. They are all having manpower responsible for hardware and software functions. Use of computers varies from company to company, yet the need for professional and technical staff is obvious

across the board. In this area, there is a diversity of need; ranging from executive and professional positions to technical and secretarial jobs. These companies also need to commit for the continuous upgrading of the skills of their staff. There is a need to have an intensive look at the demand versus supply situation in all the areas of hardware and software and also to find out to what extent the local institutions are able to satisfy these requirements. It may also clarify the role of these companies in the training and development of the staff.

One finding was somewhat surprising that little activity was noted for indexing, filing, tagging, categorizing and classifying internal information of these companies. By using office automation and other techniques of database management and retrieval, it could be one of the most vital resources for these companies. There might be a need to create consciousness about the possibilities and opportunities in this area and also to the effect that what kind of personnel may facilitate reorganization of this resource.

The finding that a number of companies are not concerned about data security, encryption and firewalls might be attributed to the fact that these companies are not yet engaged in any activities of e-commerce and wider communication with markets and clientele through Internet. Another area with little activity was the design of Web pages. But it might be due to the fact that many of them are outsourcing for this purpose. One third of them are not doing any database and retrieval activities, a finding which is worth the attention. Use of Internet utilities is being done at a minimal level, quite contrary to the general perception about company needs. These activities are central to information operations. There is a need to look into the factors responsible for little use of these utilities. It needs to be ascertained whether it is due to absence of any real need, or lack of awareness about their potential and use, or it is due to the inability of these companies in recruiting adequate human resources for these tasks.

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