Role of Information Literacy Services in Moulding Developing Countries into Knowledge Based Economies: A case of Migrant Workers in Qatar

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Abstract:

This paper aims to understand the importance of libraries for inclusive knowledge-based development of a country. The focus is to understand the role of information literacy and to highlight where the working population needs it most, for a developing economy to become a knowledge-based economy. To this end, the case of immigrant manual laborers within Qatar's working sector are identified as the focus group. A combination of qualitative and deductive approach is undertaken. A broad literature review encompassing concepts significant for arguing for need of information literacy of manual laborers for knowledge economic development and, likewise, realization of this need by aspiring knowledge economies for an inclusive economic development, serves to highlight gaps in theory and practice of librarianship and information literacy in a non-academic context. A basic yet comprehensive statistical survey through random sampling method was carried out to gather primary data. The elaborate questionnaire helped in two-fold assessment of firstly, situation of information literacy services of libraries and secondly their needs demanded by manual workers in context of knowledge-based economic development. Survey findings indicated inequitable levels of emphasis of libraries and their services towards knowledge-economic development and suggests recommendations for libraries as mediating institutions. The Middle-Eastern hydrocarbon-rich country's aspiration of becoming a knowledge-based economy with a recently progressing library and information culture on one hand, and its major migrant working population on the other is a novel case study. The inter-disciplinary nature of this research is useful to kindle understanding of information literacy amongst marginalized groups in other Asia-Oceania nations aspiring to become knowledge-based societies or countries in an all-inclusive way.

Keywords: Information Literacy (IL), Knowledge Based Economy (KBE), Development, Immigrant Laborers, Life-long Learning.

Introduction

In the age of information technology, information literacy (IL) demands a larger presence. This study assesses the need of libraries and IL by Qatar's immigrant low-skilled workers involved in infrastructural development and miscellaneous jobs. The complex connection of library and industry for growth of intellectual capital for country's socio-economic development is usually unheard.

This study asserts for library's IL services as agency of human-capital development through life-long learning and knowledge enhancement of immigrant unskilled workforce, making them independent and creative communities. It aims to highlight the gap of information literacy needs of laborers in developing countries, like Qatar and their aim of developing into a knowledge based economy and means of bridging the gap. It discusses significance of IL in public and work context unlike the usual academic discourse.

The specific aim is to understand the role of IL towards economic development driven by best practices of information and knowledge of the workforce, specifically manual labor. The general aim is to highlight the role of libraries in a country's inclusive socio-economic development. Qatar's interesting case of shifting from a hydrocarbon economy of rapid infrastructural development towards knowledge economy path, is a brief but valuable insight of connection between IL theory and practice in a non-academic and general context in light of economic and learning theories.

Although themes of knowledge-economic development, information literacy and librarianship are each multi-faceted, this study focusses on possibilities of creating a knowledgeable workforce, bringing out a succinct understanding of interrelation between information literacy, manual laborers, industry growth and practical well-being of society.

Information Literacy & Workplaces

IFLA standards hold IL and life-long learning to be important for individuals, organizations and nations in today's information-centric world. IL is key for socio-economic development through inculcating sustainable learning habits of self-motivation, independence, self-actualization through willingness to learn, curiosity and positive critical thinking.

IFLA's general IL standards for all educative purposes can be used universally by different kinds of libraries. Nevertheless, a pressing need for specific IL standards for professional environments and different target groups is felt for corporate or public libraries. Researcher Lau, explains IL is usually integrated in academic content for universities (2006, 8). Weiner too highlights the inadequate literature on IL for work compared to academics and quotes Lloyd on need for specialized work-place IL standards as academic ones prove ineffective. Based on previous studies, he stresses information needs and seeking behavior varies from academia as work involves complexity, practicality, open-ended tasks with primary data needing customized skills. The question of whose responsibility it is to outline non-academic IL standards remains and Weiner aptly questions the unresolved responsibility of teaching IL at workplaces. A common assumption at workplaces is of the workforce having basic IL knowledge from K-12 and University reflecting purely academic and limited presence of IL. Lloyd explains that mostly workplaces are content with transferring academic IL skills. This raises questions about workers directly absorbed into the job market without formal/ higher

education or where IL is not prioritized at K-12/ university for specific learning outcomes. In such circumstances, foundations of IL for migrating workers in foreign countries becomes crucial. These highlight gaps in 'workplace' IL theory and practice.

According to Leininger (2012), internet and information overload makes IL skills necessary for intelligent and ethical use by all. Talisayon et al. explain technology and IT skills are insufficient without critical thinking, independent problem solving, updating information skills, teamwork and independent work. The International Commission on Education highlights that 21st CE skilled labor must learn to become and do, apart from just reading and writing. The ADB report highlights the need for workplaces to become ongoing teaching and learning places to meet demands of skilled labor and avoid workers being lost to rapid changes. Complementary growth in IT and IL together result in holistic development.

A qualitative approach of study using theoretical underpinnings of economic rationalism and constructivist learning theory help reflect IL role in developing individual's critical-thinking and decision-making abilities pedagogically and to maximize economic advantage for knowledge-based economic development.

Pedagogical theorists, Dewey, Bruner, and Slavin, emphasize cognitive theory's expansive learning through experience, enquiry, reflective thinking, cooperative learning and having control on the learning process. Phenomenography, a learner-centric theory encourages learning through expanding exposure to limited and complex information understanding through seeking and using information in different situations through variant patterns of IL. Talisayon et al. remark that risk handling, independent and lifelong learning are not part of traditional learning. This is important to consider as manual workers mostly come from traditional set-ups. Lau quotes McGregor who emphasizes thinking as key factor of learning (pp 37-38). This gap can be filled by adult literacy through intermediaries. Binde & Matsuura explain adult literacy is not just vocational training but life-long learning, reactivating individuals through awareness, freedom of mind and self-construction which are important for development.

The World Literacy Foundation (WLF) highlights evident functional illiteracy among workers where one is able to read and write but not apply the knowledge to anybody's benefit. Despite the emphasis on information skills, there is not much adult IL with only K - university education in MENA region.

IL's two important roles are of developing skills and learning capacities for informed individuals and secondly developing work-based courses to impart sustainable learning. Hepworth and Walton explain IL skills blended work builds information fluency and a greater sense of citizenship. However, the WLF cautions that new methods of thinking and learning create conflict unless made the culture-context. Therefore, a country should keenly develop its IL services.

UNESCO states education should be the basis of better technology, computerization and economic growth. There is direct relation between literacy rates and improving socio-economic conditions, whereas poor literacy and thinking incapacities raise socio-economic costs.

According to Talisayon et al. (2007), libraries are development catalysts through access, supplying, storing and building a culture of information and knowledge, which require strong

corporate cooperation.

Knowledge-based economy

Knowledge-economic development is high output of technically advanced service sector and industries through knowledge creation. Binde & Matsuura explain life-long learning increases economic and occupational returns through human development benefits. However, Charles Leadbeater determines knowledge-driven economy as where knowledge benefits all sectors and not just high-tech industries (in Brinkley, 4). Thompson (in Weiner, 8) says IL skills are crucial for small and large businesses' positive results.

The OECD states knowledge is more important than any other natural resource and calls for better indicators to reflect diffusion of knowledge and information technologies in different sectors (Brinkley). Bryson (2001) elaborates that knowledge culture, innovation and information renewal are key knowledge-economy elements. Secker and Coonan (2012), too highlight that UNESCO emphasizes that the role of information and digital skills are at the heart of a successful society and economy. According to Bryson, knowledge economy is central for knowledge society but emphasis on effects of knowledge distribution as much on knowledge creation is necessary. According to economic-productivity theory, technology supported by institutional practices maximizes gains. Libraries are institutions that can mend this gap in the knowledge channel.

The ADB report marks tapping tacit knowledge for socio-economic solutions will reduce pressure on insufficient physical infrastructure. A broader sustainable development model includes simultaneous growth of economic, social and natural capital complementing each other. The World Bank also emphasizes education, innovation and building networks for human capital which develops other capital. Dhiman and Hemant exemplify the Singapore National Library Board's successful case of adopting knowledge management system to provide life-long learning programs at regional, community and specialized levels.

According to the Qatar National Vision, economic development should be diverse and competent delivering quality living for all people and be sustainable for the future. It aspires to become a knowledge economy through innovation, education, public service, entrepreneurship, for a socially and economically advanced society.

Talisayon et al. asserted that the transformation of developing economies to knowledge economies is important to reduce gaps with developed economies. Brinkley states the KE concept remains mostly subjective with less visible actual results. Professor Amartya Sen, regarding measuring education and development irrespective of economic parameters, theorized inclusive and integrative policies addressing all sections including minorities, disabled, migrants, as important (Binde and Matsuura).

Giju et al also explain knowledge management as strategy within organization that adds value or builds cognitive capacities, experiences and abilities of each employee.

Libraries

Lauren Smith at the CILIP conference 2016 was concerned about poverty and digital exclusion with growing technology, stressing that public libraries needed escalating IL

services for people without university experience. Binde and Matsuura say all libraries should provide life-long learning for all learners not just in an academic setting. Skov quoted Khilathau that besides space, infrastructure and providing answers, public libraries' role includes establishing formal and informal learning environments and knowledge systems for target groups through collaborating with stakeholders. Chaudhry (2010) evaluates libraries for immense potential to form KBEs through their social networks and communities, however libraries have not grown at the same pace as KM and KE. He emphasizes the importance of facilitating knowledge at all levels for success in all spheres of economy and society. In the ADB report National Innovation System highlights the significance of linking the role of intermediaries like research centers but libraries are not associated with this importance. Bryson opines that libraries' role of knowledge management is key to forming knowledge economies. Dhiman and Hemant (2009) explain that the broader linking role of libraries deals with human resources, innovation and information dissemination through providing information access and use.

Migrant workers
As per Trading Economics, the Qatari population 2016-2020 is 2.36 million that changes daily by average 230 immigrants. The Gulf Times reported in 2010 that the Qatar labor force comprised 94% expats due to the construction boom. The Middle East Eye Agency reported Qatar is home to 1.4 million laborers. The article "*Qatar opens Labor city…*" shows 60% of the Qatari population lives in labor camps with many infrastructural facilities but mention of intellectual communities of practice is missing (RT QuestionMore, 2015 Nov. 2). The Arab region has a skilled labor deficiency. Although Qatar has skilled labor, demands are ill-matched. The Qatar Foundation report on mandatory standards for migrant workers, showed low skilled migrant workers remained disadvantaged due to low awareness levels. The Qatari Literacy Ratio shows 97.7% of the adult population can read and write (CountryMetres). Sonam highlights that the 2014 Qatar population statistics show: Indian population highest – 23.58%, Nepalese - 17.3%, then Qataris 12.3% followed by other nationalities.

Methodology

A qualitative and deductive two-fold research approach, a case study and basic statistical analysis helps understand the experience of immigrant laborers regarding various aspects of information. The case study is aimed to understand the phenomenon of IL for target group within the realm of librarianship, while the simple random sample helps build primary data across important aspects of IL. All within the target group have an equal chance selection through simple random sampling. The constructivist approach of deducing a case study with primary data through literature reviewed is assumed to balance theory and objectivity of the study.

Data Collection
Primary data was collected by a basic but comprehensive questionnaire to assess need, access, use and status of information literacies and libraries by immigrant population in Qatar. It reflects immigrant laborers demand of IL skills and the need for developing country to emphasize this role of libraries.

Survey Design
The questionnaire was a paper-based list of 35 questions. For convenience, participants were surveyed by the researcher with an assistant for neutrality. Questions were a mix of close-

ended and straight forward queries of basic facts or simple subjective responses to reflect preference. Excessive subjectivity and double-barreled questions were avoided for discomforts of time or confidentiality of respondents and to maintain objectivity. The questionnaire was arranged categorically from basic questions to slightly complex. Maintaining ethical considerations of confidentiality, the survey was anonymous.

The main questionnaire was in English and had 6 translated versions in Arabic, Bengali, Hindi, Nepalese, Sinhala and Urdu for the diverse immigrant labor population. Participants were informed of the purpose, use, and time-consumption of the survey. They were free to enquire or withdraw from the survey. Written and informed consent was taken from everyone. The primary data was collected over 2 weeks on construction sites, university buildings, offices, public spaces like recreation centers, gyms, food courts, parks and parking lots. Assistance with reading out the questionnaire and noting exact responses was provided.

Justification of Adopted Data Collection Method
The questionnaire method was felt best suited for a sample representation of the target population for IL services and a balanced statistical and subjective overview. The survey was not aimed at perfect representation but at cross-section for initiating further research in this direction. It is understandable that advanced methods considering changing socio-cultural environment and progress in library industry can yield more accurate results. This collection method was the fastest and surest way to obtain sample estimates of primary information from a diverse population dispersed in Qatar. According to Cook and Farmer (2001), qualitative research can help understand human experience which is the motive of the study. Also, Yin's description of qualitative case studies, to study the focus group for understanding a phenomenon within a specific context using various data sources and perspectives also matches the study's aim.

Sample and Sampling Strategy
A random diverse sample of participants was taken, both female and male migrant workers from different countries involved in varied professions.

Data Input
The responses were separately, simultaneously entered using excel spreadsheet and personally assessed by the researcher. The data analysis was a two-step process. The first step was to serially analyze data received for every question. The second step was to interpret data within each category in light of literature reviewed.

Results and Analysis
The survey had 35 questions in 9 meaningful categories for purposeful assessment. A seamless arrangement of questionnaire without indicating categories to respondents was to avoid confusion and affecting responses. The sample size was 22 participants with a 100% response rate.

Survey questions and findings

Findings are presented in tables as whole numbers and rounded-off percentages.

I Basic information
 1. What is your profession?

Profession	No. of respondents
Gardeners	4
Security Guards	4
Drivers	3
Cleaners	2
Car –Washers	2
House-Keepers	2
Office Tea-boy	1
Salon Receptionist	1
House-keeping Supervisor	1
Construction-site laborer	1
Electrician	1

2. What is your nationality?

Nationality	% of the Sample Population
Nepal	36 %
Sri Lanka	23%
Philippines	14%
India	9%
Egypt	9%
Bangladesh	9%

3. What is your gender?
   Male - 18
   Female- 4

4. What is your Educational Qualification?

Education level Options	% of the Sample Population
Home-schooled	0
Primary-school	14%
High school	41 %
Completed School	27%
Diploma	14%
Bachelors	4%
Post-graduate	0

5. What is your first language?

First Language	% of the Sample Population
Nepali	32%
Sinhala	14%
Phillipino/ Tagaluk	14%

Tamil	9%
Bengali	9%
Arabic	9%
Malayalam	9%
Hindi	9%
Maithili	4%

6. What is your Age?

Age Group	% of the Sample Population
18-22 years	18%
23-30 years	36%
31-40 years	32%
40 + years	14%

II Information Needs and Information Devices

7. Do you own any electronic devices?

Electronic Device	% of the sample population
Smartphone	46%
Mobile phone with Internet Access	21%
Computer/ Laptop	11%
Ipad/ Tablets	4%
Others (mostly regular cellular phone without internet access/ smart phone)	14%
None	4%

8. Assessing expertise of device use

Do you know..	Yes	No	Somewhat
How to connect to the internet	54%	22%	22%
Hardware & Software of the device	22%	27%	50%
Its different features	41%	23%	36%

9. What do you use it for?

Usage of device	No. of respondents
Local & International News	10
Online Transactions	2
Storing Data	8
Internet News, articles and books	8
Social Network- Facebook, Whatsapp	12
Entertainment-Movies, Radio	11
Work- Email, job related	2

10. How often do you use internet for information?

How often do you use internet for information	Response % of the Sample population
Always	14%
Sometimes	45%
Rare use	41%

11. How do you access internet?

Options	No. of respondents
Home Internet	4
Library	0
Internet Café	0
Others	10
No Internet	5
Community Wi-fi	9

12. If you have a question, where do you first seek information to answer it?

Options	No of respondents
TV	0
Radio	0
Magazine	0
Newspaper	1
Internet	2
Work Place	3
Family Members / Friends	16

13. Which for you is the most reliable source of information? (Respondents were allowed to choose more than 1 option)

Most Reliable Source of Information	No. of Respondents
Personal Judgment	1
TV	3
Radio	1
Magazine	0
Newspaper	2
Internet	5
Workplace	6
Family Member	13

14. Access to enough information on banking process, Qatari laws, immigration rules, computer use, medical & health Information, educational opportunities, career related counselling, cultural and social information, recreational options or others?

Access to Information on..	Yes	No
Banking Process	0	22
Country Laws	2	20
Immigration Rules	2	20

Computer Use	3	19
Medical Health & Information	5	17
Educational Opportunities	3	19
Career Related Counselling	0	22
Cultural & Social Information	3	19
Recreation	0	22

III Information Literacy / Skills Program

15. Are you able to identify an authentic piece of information from a non-authentic one?

Ability to Identify Authentic & Non-authentic source of Information	Response rate
Yes	29%
No	21%
Somewhat	50%

16. Are you satisfied with your skills to find and understand information related to Government laws and rules, work and personal skills, and learning development?

Questions related to self-ability & Confidence	Yes	No	Maybe
Government Laws & Rules	23%	45%	32%
Work & personal skills	32%	27%	40%
Learning Development	28%	36%	36%

17. Do you feel you need to train so you can keep updated with changing technologies?

Options	Response rate
Yes	70%
No	22%
Unsure	8%

18. have you taken any educative programs here in Qatar?

Educative Programs in Qatar	Number of participants
Financial Training	0
Disaster Management	1
Fire Drills	4
First Aid	3

English Language Education	1
Computer Education	0
Health Education	2
Other	4
None of the above	13

19. If yes, where was the program taken?
One-time training was received by 9 persons of the surveyed population mostly those engaged in community service such as salons, security guards, tea-boys etc.

20. Is it easy for you to differentiate between a government document and a non-government document?
60 % to 40 % ratio of Yes to No

21. Do you know when you need information and are able to locate it on your own?

Answer to the question	Response rate
Yes	18%
No	32%
Sometimes	50%

Reflects low capacity and confidence levels a migrant worker feels about information and their need of IL

22. Do you know any specific websites aimed for employees in your field for information related to your work?
82% negative response and 18 % positive.

23. Would you prefer a formal setup that provides expert information services, conducts educative programs and that can help with most of your information needs?
82% 'Yes' and 18% were a 'No'.

IV Leisure

24. How much free time do you get in a week?
Mostly 8 hours of work per day. Some with free hours during the day desired constructive utilization of their time and all responded on utilizing weekends for learning activities.

25. How do you utilize your free time? (Respondents were allowed to choose more than 1 option)

Options	No. of responses
Resting	13
Family & friends	8
Pursuing a hobby	4
Cultural Centers/ Places of learning (Museums etc.)	0
Others	7

'Others' - mostly specified sports.

V Life-long learning

26. Do you feel it is important to continue to learn throughout your life time?

Answer	Response %
Yes	63%
No	23%
Maybe	14%

27. Are you part of any community circles or associations where you have any kind of learning opportunity?

40% Yes and 60% No signifying lack of communities of practice.

28. Do you think if you are better informed generally you will be able to guide and help others like family, friends, community and the country?

77% agreed 22% replied No.

VI Qatar related

29. For how many years have you worked in Qatar?

Range of years	Response Rate
Less than a year	36%
1 to 5 years	46%
5 + years	18%

30. In Qatar…

Questions	Response
do you feel well informed about the happenings of Qatar?	Yes 68% No 32%
knowing more would help you make better decisions	Yes 68% No 32%
do you feel the need to learn the Arabic language?	Yes 55% No 45%
Do you feel the need to learn about Qatar's culture?	Yes 60% No 40%
Do you know about Qatar National Vision 2030?	Yes 22% No 77%

VII Reading/ learning

31. Would you like it if you could get literature in your language on different themes

Options	No. of respondents
Leisure	0
Sports	5
Stories/ Fiction/ Novels	0

General Knowledge	8
Work Related	7
Faith	4
All of the above	3
None of the above	5
Other	2

VIII Work Environment in Qatar

32. Please choose if you find this to be true while working in Qatar.

You are required to use more skills than you initially came with
There is a difference in the application of skills that you used in your home country and those you use here

Respondents reported using more skills than they possessed and using different techniques and applications because of different environment of a country Qatar.
Reflects supporting agencies like libraries are needed that mitigate transition/change process and provide orientation to this population.

33. Were you given a formal orientation on the lifestyle of Qatar and its rules and laws as part of joining your work in Qatar?
73% of respondents did not receive any orientation prior to or upon arrival. 27% received only work orientation upon joining work.
No formal sessions on life and whereabouts for the immigrant workers

IX Library

34. Have you ever used a library before?

Options of responses	Response rate
Yes, I regularly go to the library	5%
I know what a library is but have never used services of one.	77%
If taught how to use a library's services & resources, I would you like to go to a library	
Not interested in a library	18%

Responses of second and third options were merged as all respondents opted for both options together showing their need of IL services.

35. What services would you like a library to offer?
Responses varied from computer training programs, internet access to learning languages English & Arabic.

Discussion

The survey aimed at unpacking the existing state of information services, its need by migrant labor, Qatar's required level of information infrastructure, and how IL can bridge this gap for a knowledge-based economy.

Basic information shows migrant workers' gender, ethnicity, age, education and professions suggesting flexibility and diversity needed for well-suited IL services for immigrant population. There are higher younger to middle-aged workers, of which 72% have basic to university education showing favorable education levels. Talisayon et al. and the CMI report Qatar is relatively better off than most Asian developing countries as educated workers are more receptive to IL trainings - computer, language, etc.

Next, participants have ample information devices (smartphones) but relative insufficient and inconsistent access to the internet through cellular or facility internet. Awareness of device's functions, hardware, software, internet sources and spaces are minimal. Also, findings show high use of social media and lower internet use for other information purposes. Social media may be an excellent community platform but is not the best source for all reliable news and information. Also maximum respondents indicated family as primary reliable information source reflecting lack of institutional help for information needs of workers.

The survey suggests libraries as intermediaries can increase the productive utilization of information for aware, independent, value-adding workers through efficiency and creativity. A library can impart information services and skills for information needs, basic research, device usage etc. in matters of finance, law, technical, educational, medical, and careers for workers and cut dependence on social media. This is important for both migrating individuals and host governments.

59% of respondents are inexperienced in formal training, the survey indicated lower general work training, specialized information classes or computer-based learning (and if any, they were only weekly). Official communication through e-mail, organizational information websites/portals in manual jobs is missing. All participants positively responded to life-long learning and technological awareness that it is in line with 'methodological skills' of independent and life-long learning, coping with risk and change (Talisayon et al. 12). Negative responses for life-learning may be attributed to doubtful perception of adult-learning and learning restricted to K-12. Absence of understanding of cultural or learning centers and realization of the need felt by the respondents in due course of answering the questionnaire was evident.

The recurrent response for Qatar's National Vision (QNV) question was Qatar FIFA 2022. This showed awareness about the game due to publicity or through worksites, campaign or general excitement. A proposition is if libraries similarly campaign for QNV development goals through IL in expat-worker communities, it could possibly be a step towards an informed knowledge society as awareness can help workers understand a country's developmental goals and streamline their efforts towards it.

According to the survey, respondents unanimously desired acquiring skills and necessary information for work and leisure. However, despite large labor population, professional development communities of practice are negligible. Brusle's (2010) case study on migrant workers shows limited space-access, freedom, and community segregation hinders active

urban life participation. While Wenger et al. (2002) state healthy practices like communities of practice are key for successful organization and global knowledge economy through recognizing talent. This established practice improves employee turnover and work productivity.

The Qatar National Library website has a list of 10 Qatar libraries in the categories of government, public and special libraries, situated in different areas of Doha and other cities, or pertaining to different specialties and needs. Details like limited opening hours and lower language diversity of collection of public libraries are observed. The list also shows that almost none of the special libraries are open to the public, not even medical or music libraries that may be useful to any community. Although QNL's presence may be at educational and research institutes it is not evidently felt at worksites. From the point of view of immigrant workers and general public, the key issue of accessibility, time and location can be rethought and overhauled, and correct current information regarding access on websites can be displayed.

Study challenges included insufficient previous research on immigrant manual workers' needs of IL and libraries for economic development, specifically in the Asian context, despite high labor migration in the developing world.
Although the elaborate survey was time-consuming, it investigated the role of IL in-depth enquiring different details. The multifaceted research of this focus group highlighted the need of further finer understanding of IL to catalyze knowledge-based human capital development.

Recommendations and Conclusion
The survey discussion suggests pointers that libraries may consider for creating an inclusive, aware and knowledge society. Providing an information support-system for advancement to those in need contributes to equitable development of countries. According to Talisayon, information infrastructure is as essential for the knowledge age as physical infrastructure for the industrial age (18). Osman of Peninsula reported Qatar plans, establishing 1500 computer halls at labor camps. While R&D, IT and higher education are high investments, mention of intermediary institutions like 'libraries' is omitted. Brinkley highlights that ICT development shouldn't be the only focus and value-addition through knowledge creation must be done for all levels and not only higher skilled knowledge workers. A knowledge driven economy should be "all pervasive" (Charles Leadbeater in Brinkley). Moore (2002), emphasizes knowledge is most effectively utilized when reflected in all sorts of economic activity.

According to the OECD report on KBE, there are 3 types of knowledge: knowing what, why and how to deal with access which intermediary institutions provide. 'Who' is higher order tacit knowledge embedded within the socio-cultural context. This explains knowledge at different levels can be achieved if access at all levels is made easy. This underscores the role of libraries and IL services as links to knowledge access at all levels.

Broader implications include effective technology with well-informed workers results in ICT developed knowledge economy where most technically advanced sectors further require adept workers thus complementing growth of both will lead to technically advanced worksites. Small or large populated Asia-Oceania countries with expatriate workers or native mass manpower can chart a sustainable KBE development path with knowledgeable human capital. Peripheral implications include fulfillment of corporate social responsibility by large organizations in collaboration with library industry. Integrated library services for manual workers on worksites and also off-site on social-media, website portals, electronic

applications in customized languages for out-reach, helps develop communities of practice while reaching everyone equally. Lau explains, a constructivist learning through group work and social exchanges better serve building knowledge than isolated training. *Marhaba* reported Qatar Petroleum's 'Reach Out to Asia' collaboration for adult English literacy for low-skilled migrant workers but it is important that IL service initiatives be integrated into labor networks and form communities of practice.

As a starting point, this study frames questions for further research. It probes lack of in-depth research on IL in public libraries and for public domain which national libraries can explore. It questions equitable availability of IL literature and services for developing different professions at ground-level just as the many existing medical/nursing-related IL researches. Professional IL and related social dynamics can be studied through more theoretical lenses. Weiner quotes Lloyd on the need for developing working models of workforce information literacy. It also calls to review the role of IL for other educationally marginalized cases of farmers, slum-dwellers, refugees. Libraries and work IL will increase the presence of libraries and make up for the missed past learning of the workers. The World Bank Education Strategy advised that culturally appropriate reading material in both developing and developed countries helps establish literacy (Adams and Van der Gaag, 2011) as also seen in the survey where respondents wanted reading material in their respective languages.

1.4 million laborers, 60 % of Qatar's population build infrastructure, provide blue and pink collar services yet avenues for their constructive and sustainable development are few. For Qatari National Vision 2030, the goal of becoming a knowledge economy, establishing connection with the labor-force is crucial. Consequently, reprioritizing role of linking agencies to inclusively contribute through knowledge management, developing independent learning and thinking, both native and expatriate, capable of creatively and responsibly working at all levels will be beneficial. Investment in IL initiatives for temporary immigrant workers will not impede growth, in-fact equitable implementation can undo lagged growth to help sustain the host country. UNESCO's webpage on the Arab world stresses the value of intangible infrastructure not physical infrastructure for KBE. The QNB Capital CEO identifies quality human resources as key for moving from a predominantly hydrocarbon to a knowledge economy prioritizing services sector to infrastructure. The economic gains through investing in hired labor will be more than off-set. The cost benefit analysis will show better results.

Suggestions of bridging gaps as seen through the study's survey, will work at an individual's level (phenomenography), learning to learn independently through evaluative thinking and at a macro level to identify and deal with information needs through changing technology and socio-cultural economic affects. Researching expansive and inclusive role of libraries to transform communities, society and an economy, is in conjunction with the theme of smart libraries for a tolerant and inclusive society.

To conclude, all findings reflect avenues where libraries may actually and virtually develop services to reach the manual labor worker diaspora in Qatar by providing information resources, space, and IL facilities. As the importance of labor is realized, providing information products like ICT facilities must be coupled with IL services. This calls for the governments to emphasize the role of libraries in their mandates and the libraries to actively respond to the needs through services. This paper researches and points to the practical areas where libraries can be instrumental in contributing towards a knowledge economy which the QNV mentions it hopes to achieve but by providing to all its citizens. These based on

constructivist and socio-cultural approach help promote 'learning to learn' among individuals. Self-reliant individuals with increased online transactions and work communication, can push the country on the knowledge trajectory and economic growth through increased individual autonomy and answerability. As per the broad literature reviewed and the accompanying survey, libraries' IL service can evidently contribute towards knowledge society and economy. Libraries in Qatar through IL services can bring inclusive development. It is deduced from the case study that manual labor also have information needs on and off work and IL can help immigrant working population through cultural and professional environment sensitization and libraries can be practical mediators for achieving National Visions or development policies through spreading literacy and awareness. A smart approach by the libraries will be solidarity with immigrant manual labor population of the workforce through addressing their information needs for work and leisure making the society more inclusive. That can positively affect the society and economy.

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