

CHAPTER 5
DIGITAL LIBRARIES INITIATIVES: ANALYSIS OF PERCEIVED
CONDITIONS FOR FUTURE GROWTH

5.1 Introduction

This chapter elaborates on the findings based on qualitative data gathering techniques, obtained through interview sessions with 38 libraries nationwide (9 academic libraries, 22 special libraries, 6 state/public libraries and 1 national library). The structured interviews were conducted through a pre-determined questionnaire consisting of 12 questions. The purpose, other than to answer the research objectives, was to help the researcher to get first hand information in understanding the subject better and an attempt to gauge the actual progresses and phenomena or changes that were happening at their respective libraries. Most importantly would be to supplement the quantitative data and particularly to solicit their opinions on the perceived conditions for digital library future growth. The total of 38 respondents interviewed were all heads of libraries that belong to the information professionals group.

The interview sessions were inclusive of a preliminary interview with a senior librarian from MDC and a concluding interview with the Director of the *PERDANA* Service Division of the National Library of Malaysia. From these interviews and meetings with the library heads, the researcher could feel the gap of the degree of digital library initiatives between Malaysia and the western countries. Through observations done during the interview sessions, it could be said that Malaysian libraries had not changed much physically, where book shelves still predominates and circulation of print collections had not been much affected. This was quite contradictory because according to Pack and

Pemberton (1999), some traditional library services such as circulation and the use of CD-ROMs had declined. The qualitative data were discussed according to the ten themes that had emerged in the study. The sentences in italics were some of the verbatim statements from the respondents, whom had been coded as R 1 – R 38. The details of the responses from the interview sessions were given in Appendix G.

5.2 Thematic Analysis of Responses

5.2.1 Theme 1: Digital library planning

The planning of the national digital library initiatives is directly under the *PERDANA* Service Division of the National Library of Malaysia, established in April 2007 with the sole objective to spearhead national digital library initiatives, through content development, digital services and Project Management Office. Even though the division had just been established, but it needed to be re-structured by adding and recruiting more technical staff to help accelerate the necessary ground works for a more coherent national digital library planning. R 38, a senior national librarian was hoping that with more staff, promotional activities could be planned to create more public and national awareness among the Malaysian publics as she said *“With this new independent division, the development of PERDANA should be more focused especially in terms of project implementation plan”*.

Prior to the establishment of the *PERDANA* Service Division, digital library initiatives were under the Malaysia Division as one of its unit activities. This had resulted in the lack of focus and concentration because as a small unit under a bigger

division, the importance of it was not greatly felt as the activities were limited, having to share resources and staff with other units in the same division.

The extent of the national digital library initiatives spearheaded by the National Library of Malaysia is reflective through its website (<http://www.pnm.gov.my/>) and also *MyLib*'s website (<http://www.mylib.com.my>). All the respondents had heard and knew about the *PERDANA* project as the national digital library program but there seemed to be some dissatisfaction because not every library had been involved in it. It seemed also that information about *PERDANA* was not widely circulated and disseminated, as commented by a senior academic medical librarian R 4 *“That we are in the dark, not getting the true picture of its planning, implementation and progress. Not much has been written about it either and the only way to know PERDANA would be to surf PNM's or MyLib's websites”*. Another senior academic librarian R 28 even suggested that *“A newsletter on Malaysian digital library initiatives be published to keep everybody informed on the latest digital library developments that are happening within Malaysian libraries”*

As of September 2008, six hundred thousand pages (600,000) of digital information had been created through information surrogates, mostly local items and those that were already out of copyright. The National Library of Malaysia had also started the digitization of some of the Malay manuscripts collections which was outsourced to the private sector. For born digital materials, a total of 35 projects had been completed but some were not yet accessible online. At present, it had commissioned a private vendor to develop a search engine to be used as a gateway to coordinate digital contents. This was part of the project to digitize the *Katalog Induk*

Kebangsaan (KIK) or the National Union Catalog (<http://kik.pnm.my>) which would be launched in December 2008 if everything went as planned. According to a senior national librarian R 38, the change of leadership at the National Library of Malaysia's top management level had to some extent affect Malaysian national digital library planning.

However *PERDANA* project was not without problems. R 38 attributed these to *"The lack of coordination on the part of the National Library and the absence of a dedicated team make planning very difficult"*. Even the newly formed *PERDANA* Service Division had been understaffed. According to the implementation strategy of *PERDANA*, the years 2006 – 2010 would be the continuation of the past projects. The researcher was informed that they were now working with MCMC (Malaysian Communications and Multimedia Commission) for another phase of the national digital library project, actually an extension of the *PERDANA* Project that would run concurrently with the *MyLib* Project that had been operational since 2000. Called the U-Library (Ubiquitous library) project and planned to be launched in December 2008. This initial project would see the National Library of Malaysia eventually being networked with all Malaysian public libraries.

As for future planning, R 38 felt *"That it will be better if the PERDANA Service Division be placed under the jurisdiction of MCMC, so that it will be directly be part of the ICT component of the National Broadband Plan of the MCMC, to help with the problems of ICT infrastructure"*.

At institutional level, almost all the librarians interviewed were in the mid of planning 'something' with respect to digital library initiatives, ranging from preparing a

digital library proposal, requesting for more professional staff to cater for digitization works, getting special budget for digitization projects, acquiring more PCs and extending the Internet Corner, creating and buying an integrated library system, upgrading existing library system, buying a scanner to digitize the newspapers collections, selecting publications to be digitized, digitizing some of the organizations publications in an attempt to create institutional memories, expanding the contents of their websites, establishing and enhancing related website linkages, expanding the digital reference service, working on user education and some were designing online promotional activities to disseminate new digital services. A branch of a foreign college library need not plan anything as R 12 mentioned that *“The planning is done by the head quarter’s main library and its main concern is to provide services only”*.

The lack of solid substance from Malaysian libraries’ digital library future plans derived from both methods of data collections further consolidated the fact that Malaysian libraries were in need of a strong guidance and leadership to take them further into greater height in digital library development. Future plans for digital library development seemed to co-relate with some of the digital library related problems and this was where the need for an independent body or a leading agency on digital library that could provide the much needed leadership role. Another senior academic librarian R 35 was lamenting *“As long as libraries plan individually, the development of digital library will be slow and resource sharing will also be affected”*.

The librarians agreed that one of the most important aspects of digital library planning would be the establishment of a digital library project management team, to ensure the smooth implementation of the project from the beginning until completion.

They strongly felt that this could be achieved through the establishment of an independent body or a leading agency on digital library where the different types of libraries, archives and museums would form one national team and collaboratively working on various digital library initiatives projects. By working together under the monitoring of the so called independent body, every organization would be able to contribute whatever expertise that they might have and different teams (technical and project teams) would work on different aspects of the digital library projects.

However majority of the respondents had only themselves and their own library staff as the digital library team, with some help from the parents' organization's IT unit. They had to do everything on their own (planning and implementation, at the same time running the libraries) and libraries with skeleton staff, would find it extremely difficult. A special librarian R 7 said *"I have to do everything from acquisition to service. In between I also have to plan digitization works"*. An academic librarian in the east coast R 15 said *"If we are part of the national digital library program, things would have been easier"*. A special librarian in the PM's department R 13 was saying *"I have to do not only library works but also be involved in some of the ministry's activities"*. The researcher could infer that the main problems as far as planning was concerned was lack of staff and that they did not know where to turn to for advice or to get help, what more if they were not part of the national digital library program spearheaded by the National Library of Malaysia.

Planners of digital library development were required to have deep understanding and knowledge on the subject matter. A senior academic medical librarian R 4 commented *"That digital library planning should be part of the KM"*

(Knowledge Management)”. As had been elaborated in the literature review, digital library development was a complex subject. There were several facets that made up the entire process gathered from the literature review. Some of these were selection and digitization process, interoperability, intellectual property rights, upload and download of digital resources, telecommunications requirement, digital scanning, cabling, and metadata for electronic resources, importing and exporting of data, digital identifiers, digital object architecture, archival procedures and digital preservation techniques. These were some of the areas that they were still trying to master and many of them had been self taught, learning as they went along, and some got help from the IT Unit of their respective organizations. Surfing and learning from foreign digital library websites had been the main sources of getting new ideas and keeping themselves informed and abreast of the latest trends, as a public librarian in KL, R 16 was telling “*One thing that I must do every day will be to surf foreign libraries’ websites to get some ideas*”. Generally somehow they realized that Malaysian libraries must be prepared to adopt the digital change and must be heading towards that direction sooner or later.

It was clear that Malaysian libraries were left much on their own to plan for their respective digital library initiatives. They had been doing it independently and external support had been minimal unless they had been involved in the national digital library project initiated by the National Library of Malaysia. It seemed that only some had it planned as part of their periodic strategic planning effort. Nineteen respondents had included digital library planning as part of their strategic planning effort and as a senior academic medical librarian R 4 said “*Don’t be surprise some libraries do not have strategic plan*”, while R 30, a special librarian in the linguistic area said “*Most*

important is to include digital library in the strategic planning to ensure a continuous long term planning, and with a continuous midterm reviews, so that any loopholes can be rectified. A five year strategic plan would be most appropriate". From whatever that they had gone through in the initial stage, majority of the respondents agreed that a digital library initiative could not be done without a proper and coherent planning covering the many essential aspects of digital library development to ensure its success. And again they were hoping that an independent body be created to streamline planning at national level where they could be part of the teams and learn more about digital library projects, information surrogation and how to best create born digital materials.

As far as digital library planning was concerned, the respondents who happened to be all information professionals strongly felt that libraries of all types should be headed by professional librarians and not by the non-professionals. *"Does not matter what type of library – public, branch or village libraries, council or even statutory bodies, must be headed by a professional librarian"*, said a senior academic librarian R 37. *"It's high time that libraries be headed by professional librarian and not just a library assistant or a senior library assistant"*, was another opinion from a special librarian dealing with antiquities R 22. They unanimously agreed that for the profession to be respected, looked upon and listened to, professional librarians must be at the forefront to undertake proper planning of digital library initiatives.

The respondents were asked about digital library initiatives, digitization works and digital library projects that had been planned or anything that was in the pipeline. Their answers could be summarized into three major components i.e. subscription to e-journals or commercial online databases, information surrogates and the development of

websites. Many were of the opinion that what really matters would be to provide online services and remote access together with transforming organizations' publications into digital form for access and preservation purposes. To most of them, digital library development centered upon these three main activities other than the creation of a centralized Cyber Corner or IT Corner or Internet Corner where online services through websites/homepages were made available.

Malaysian libraries were blessed with good management support and they were supportive of digital library initiatives but it was up to the librarians to initiate it and made the first move. Librarians were expected to do the planning and put forward any proposal with regards to it. Their expectations were high but it happened at times that *"They sent directives to set up digital library immediately within a very short period, say three months, which is quite impossible to execute"*, as experienced and told by a special legal librarian R 3.

Digitization projects required technical expertise as much as content expertise. At times the librarians had to do something that they were not very sure of, as commented by a special librarian of national productivity R 24 *"I just do not know where to begin"*. Supported by another special librarian dealing with antiquities R 22 *"I wish there is a central body overseeing this matter that I can turn to for help"*. Another respondent, also a special librarian dealing with foreign relations R 10 said *"It has been the same people, in the library doing everything from A-Z"*. When suggested that they should be turning to the National Library of Malaysia for any kind of assistance, it had been always the same kind of responses such as voiced out by these respondents: R 25 a state librarian *"That PNM too have its own digital library problems"*. From a public

library R 16 *“I do not know exactly what the status of PERDANA is now”*. Another state librarian R 26 *“Do you think PNM can help?”*. R 37 a senior academic librarian *“Do they have the expertise and technical know-how?”*. Special librarian from the PM’s department R 13 *“Can they spare their staff to help us?”*. A special private librarian R 17 *“My library is not part of PNM’s digital program”* and a senior academic medical librarian R 4 *“I am not so sure whether they have the so called digital advisory service”*.

5.2.2 Theme 2: Barriers to digital library development

Digital library was a new area to many of the respondents interviewed and the fact that they were still learning the trade and taking initial steps in planning digital library initiatives. Some were in the early planning stage, many turned to surfing the Internet to see foreign digital library initiatives, very few did turning occasionally to the National Library of Malaysia for some kind of guidance and contemplating what would be the best possible way to approach the matter. One state library on the east coast at the time of visit was in the mid of developing their own library system and was having the problem of the system not running, and until then, the researcher was made to understand that digitization project was not yet in their vocabulary.

R1, a special librarian from Putra Jaya highlighted three main problems that would pose as a major stumbling block to the national digital library plan. *“The first is the different level of digital library progress that Malaysian libraries are in, where some are still without library system; secondly they do not know where to begin and thirdly no expertise”*. Further examining on the subject matter, R 1 elaborated *“That it will be difficult to streamline a national library project where the level of progress,*

understanding of the concept and knowledge on digital library is still minimal among the librarians". He was gearing at the fact that digital library planning required a higher level of managerial skills and the absence of which could have an adverse effect. The researcher tend to agree with this statement because in the course of the interview sessions, it could be felt that digital library awareness among librarians was good but full understanding of what made up digital library was still at basic level. Even the acronym DLIs (digital library initiatives) was a term that they were not fully aware of. Many of them picked up and learned about the many facets of digital library and digitization on their own through readings, surfing digital library websites and networking. In fact some of them had not heard of the software *Greenstone*.

Digital library development was technology dependent and as such the importance of technical expertise must not be overlooked. It would be almost impossible to venture into digital library set up without the assistance of technical expertise and this had been the problem that was severely lacking. That's why R 1 felt the urgent need for the librarians *"To be trained and exposed first"* before embarking on digitization works. Being exposed to the subject matter would allow the librarians to venture into it in a more organized manner and they would know where to look for information and relevant assistance. *"As it is now, libraries have to some extent depend on IT people, from the Computer Unit to get technical support"*, R 1 added.

The other barrier that had been voiced out was insufficient funding as there had been no real significant increase in library budget across the board to specifically cater for the coming of the digital age as compared to the western digital library initiatives. It had been rather constant except for special projects where a budget had been asked from

the previous year budget allocation. Budget is indeed an important success factor as seen from the literature review. This was something that was difficult to get and even if they got some provision it had always been insufficient. That's why in many cases the digitization program would have to be staggered for a number of years.

"I think the main problem when embarking on digital library, still, money is the problem", commented a special broadcasting librarian R 34. *"Budget has always been tight",* said another special antiquities librarian R 22. *"Librarians must be able to see where is the opportunity, how to put up the request and grab any opportunities that comes",* said a senior academic medical librarian R 4. *"There has been some small increase but not particularly big and outstanding,* said a special librarian R 10. *"Must really work hard to get extra budget",* suggested a state librarian in the east coast R 33. Budgets for digital library would have to be specially requested for, back up with a strong working paper or proposal for the considerations of the top management. Approval might be obtained at times years after the submission date. As commented by a special legal librarian R 3 *"At times we get full amount but it all depends. There has been a case where only half is approved from the total amount requested".* *"The provision of budget should be given priority and made available to the tune of enabling libraries to install library systems, to carry out digitization works and to enable the subscription and renewal of online databases",* said a senior academic medical librarian R 4.

Even though private sponsorship was rampant and had been very common in the western countries particularly in the US and UK but it was not yet a norm in Malaysia. Therefore some form of mechanism should be thought of and worked out to encourage

the participation and involvement of the private sectors in sponsoring digital library projects. R 28 a senior academic librarian in Bangi was of the opinion that *“Steps must be sought to encourage more private sectors to get involved in the sponsoring or funding of digital library projects such as through tax exemption”*. Supported by a special photo librarian R 29 *“We need more money to do digitization works”* and according to a public librarian in KL R 16 *“Even a simple scanner to digitize newspapers costs more than RM200, 000 and if there is more money, then we can plan on a bigger scale”*. A senior academic librarian R 35 thought that *“Government should consider increasing budget for libraries as we now entering the cyber era”*. A special librarian from the PM’s Department R 13 said *“What can be done with RM100, 000? Can’t even buy a decent scanner”*.

As an attempt to provide access to digital materials, the subscription of e-journals took quite a portion of library’s annual budget. For libraries having branches, the provision of access to these different sites would cost more as they had to get more user licenses. *“But normally vendor gives only four concurrent user license. If you want more there will be extra charge”* said R 9 a special librarian. Though they realized that this could not be avoided as it did serve the purpose of providing online services but they were skeptical about the full utilization of such services. Unless the e-journals were fully utilized, the high subscriptions would be wasted because they did not have as yet any kind of monitoring system. As of the interview time, only one academic library had created a monitoring system for e-resources.

As from the discussions, it was generally accepted by the librarians that academic libraries were financially much better because of the importance to support

learning and research. *“Unlike academic libraries where the budgets reached the million brackets, many of the special libraries do not have this kind of privileges”*, said a special librarian dealing with agriculture R 20. Special library getting a budget above one million was a rare case but one of them managed to secure RM1.7 million, only to be shared with five other agency libraries under the same ministry. Another special library that was in the mid of preparing a digital library proposal was given only RM15, 000 for that particular year. There had been a case where budget for digital library project had been approved but excluding the maintenance budget as explained by a special information librarian R 31 *“We seem to have overlooked on the matter and is also partly due to unfamiliarity with digitization works”*. As a result the project had to be put on hold until the following year when a fresh budget was asked. There was also a case where a private university library that had subscribed to almost 100 e-journal titles but after two years, it was reduced to only eight titles, due to budget constraints.

Some state libraries were doing better than the others. But one of the state libraries in the east coast was getting a zero budget in that particular year, so there was nothing much that could be done on digital library initiatives but as the state librarian R 33 mentioned, *“I am fully aware of its emergence and am preparing towards that development when financial standing improves”*. Not only digitization budget was limited but another state library at the time of visit was still occupying a wood, single storey colonial building and the state librarian R 26 was still hoping when she said *“I still hope that the plan to build a new library building which has been postponed three times will soon materialized”*. Her main priority was to get the long overdue new library building and then the planning for digitization would come next.

There had been a general feeling of consensus that library development had not been given enough preferences, attention and priorities by the authorities, as R 9, a special librarian was saying *“Whenever there is a budget cut, library will be the first to feel the cut”*. Another comment of similar nature but posed as a question by senior academic librarian R 37 *“Why libraries in Malaysia have always been given the lowest priorities, libraries not important”*? A state librarian R 26 said *“That the biggest stumbling block is to get management support or management backing in terms of money to start a project”*. As such they were hoping that this kind of attitude would change for the better and libraries be treated as they deserved to be. *“As such an increase in budget under the periodic Malaysia Plan can be requested before a good national proposal or memorandum on digital library development”*, suggested by a senior academic librarian R 36.

They wanted the government to pump in more budgets to help create more digital library initiatives, not only at national but also at the international level. As could be seen from Table 6.1 (Chapter 6), funding was indeed important and the availability of it from both the government and the private sectors did help accelerate digital library initiatives to a greater height. There seemed to be a general agreement that if the government could make digital library initiatives as national agenda and the library community made a huge impact on the importance of digital library to the community, made it seen and felt at all levels, presumably more private donors might be interested to co-sponsor. Digital library was actually more than just information surrogates and in Malaysia the subject of digital library initiatives had not yet very well received by the public at large, as noted by a national librarian R 38 also *“That there should be budget*

increase, to support more digital library initiatives and at the same time this would increase citizens' awareness". As a result, the National Library of Malaysia was trying its best to work with several other strategic partners. Previously it had worked with MDC, MIMOS, state libraries, HP (Malaysia) and a selected schools and special libraries. However according to R 38 *"From 2007 onwards we have been working collaboratively with MCMC (Malaysian Communications and Multimedia Commission) for the U-Library project, another new adventure of the national digital library project".* The fact that the National Library of Malaysia had been transferred from one ministry to another was also not a good indication.

From the overall interview sessions, it seemed that there was a total dependency on the government for digital library initiatives funding. It was essential therefore to explore new avenues for funding, particularly since initial investment in digital library initiatives was high, as was maintenance. Grant from private sources such as foundations was unheard of. Except for Hospital Universiti Kebangsaan Malaysia's Medical Virtual Library, that was financially supported by Lim Goh Tong Foundation for an initial grant of RM 2 million for the initial set up and subsequently RM 50,000/year for maintenance. Unfortunately the researcher was informed that the maintenance budget was stopped in December 2008 by the foundation's new management team. *"So we have to look up elsewhere for fresh financial assistance or a new funding from other sources and this is a real challenge"*, was R 4, a senior academic medical librarian concluding remark.

Institute of Malays Studies, Universiti Kebangsaan Malaysia had also secured a research grant of RM500, 000 for its *Malaycivilization.com* from the Ministry of

Science, Technology and Environment under the Demonstrator Application Grant Scheme (DAGS) and the International Islamic Digital Library Project under the helm of the National Library of Malaysia was sponsored by the Organization of Islamic Countries (OIC) for RM 20 million. As could be seen from the literature review, budget was one of the contributing success factors needed for digital library initiatives. This was where a well informed, well trained, well exposed and knowledgeable library heads play a very important role in getting the proper budget needed for digitization works as R 4 was suggesting *“We must think how to generate income for digital library works”*.

Many of the librarians agreed that generally there had been good management support. However this did not guarantee that budget for digitization would be granted once asked. As a special legal librarian R 3 puts it *“At times the biggest stumbling block is to get back up in terms of financial support”*. *“A librarian will have really to prove that we too do contribute to the well being of an organization”*, said R 4, a senior academic medical librarian. There had been cases where proposals were rejected, put on hold or deferred to the following year or whenever budget was available. They too agreed that for a more aggressive digital library development, the government must fully support and allocate more fund, as emphasized by a senior national librarian R 38 that *“Soliciting funds for national digital library initiatives is one of the problems faced”*.

The over dependence on the National Library of Malaysia would slows developmental growth and based on this situation, many of the respondents were of the opinion that it was very crucial for the government to strengthen the National Library of Malaysia’s role by allocating much bigger digital library fund and concentrating more on training for expertise. As commented by an academic librarian R 5 *“If the*

government wants to make PNM as the stronghold for digital library initiatives, then pour in sufficient money, enough for all, for many local and international projects”. Therefore collectively they perceived that budget increase was indeed important for digital future growth, as proposed by 28 respondents or 74%.

Not only that, they also strongly felt that the government should consider seriously the formation of a leading agency or a special commission that could spearhead Malaysian digital library initiatives. They were not objecting to receiving assistance from MIMOS as an example but *“A more dedicated central agency that solely focus on digital library projects is what we need”*, said a senior academic librarian R 37. She was implying that a leading agency with one central function would be better to streamline national digital library planning and projects. *“At least there will more professional librarians involved, more ideas, more expertise, more digital library plans/initiatives/projects and may be easier to get money from the government if we work collectively”*, she added.

This was where the role of a leading agency on digital library development, as had been voiced several times throughout the interview sessions, was much needed where additional grants could collectively be asked and tabled. With extra funding, new national information infrastructure, digital library training and other human resource aspect could be improved. Increase in funding would enable the proposed independent body to establish digital library research center and to have more digital library projects, expand information surrogating to include more materials and help in the production of born digital materials and share the subscription of leased databases, most probably through a consortia. The establishment of an independent body or a leading agency as

had been voiced out several times during the interview sessions was perceived to be one of the conditions for digital library future growth, as proposed by 32 respondents or 84%.

Another barrier was concerned with human resource or staffing which had not been much affected in anticipation of libraries moving into the digital era. Digital library projects were initiated and planned by the same number of library staff. This was consolidated by the quantitative finding on digital library related problems, whereby one of the problems identified was that digitization works had to be done with existing staff. In some occasions, the only librarian was responsible for the overall digital library planning, from the inception of ideas until its implementation without the help from a centralized independent body that could give some form of advisory service. A special librarian R 29 responded *“We have to do almost everything, planning till the end”*. When asked about getting help from the National Library of Malaysia, a few of the respondents R3, R 10 and R 37 as if were saying in the same tone that *“They have their own kinds of problems with Perdana/MyLib, how would they cater to our individual needs or problems”*. Later it was found that even the newly established PERDANA Service Division of the National Library of Malaysia was in fact small with a skeleton staff.

To help solved staff shortage, many of the libraries had been doing some form of internal structural re-organization, with a lot of staff mobilization and re-organization of functions to cater for the new digital based service and operations. Libraries that had more than one professional librarians would normally appoint one of the librarians to handle digitization works and thus the division of task was clear and the dependence on

the IT Unit of the parent's organizations was not so heavy. For libraries with only one professional librarian, this would be difficult, as they had to do practically everything from acquisition, processing, cataloging to servicing, including planning for digitization works and therefore technical assistance from the IT Unit of the parent's organizations was much more needed. In one instant, a scanner purchased for the purpose of digitization could be used only three times a week due to lack of staff. The materials were selected and ready to be scanned but if the staff was to do it full time than it would affect counter duties. Therefore, occasionally they would have to get technical assistance from the IT Unit of the parent's organizations.

Planning digital library initiatives was time consuming as it involved many technical and non-technical aspects such as the acquisition of digital technology, the setting up of a proper telecommunication system, scanning, selection procedures, materials cleaning prior to digitization works, and the creation of related digital library policies. Besides the provision of normal library services, the same staff would have to plan for digital library projects at the same time. R 36 was suggesting that the problem of staff and technical expertise be solved through digital library collaborative works which would be more effective if administered by one central or leading agency. A senior academic librarian R 36 said *"Then division of work will become clearer. One team will tackle technical aspect; another team does the digital library planning or thinks of what projects to do"*.

On that note and from the previous remarks, the researcher was made to understand that they wished to see the establishment of a leading agency that would further explore the possibilities of planning many more national digital library initiatives

with all types of libraries, archives, museums and publishers working together as a national digital library team. They were giving example that besides the national archive, there were also archives that belong to many other organizations. As for museums, there were also the military, science and corporate museums. As was suggested earlier, the national digital library team could function under smaller teams, each handling different aspects of the digital library initiatives. When there would be a pool of expertise working under the same umbrella, collaboratively, then some of the critical digital library aspects could be tackled coherently such as digital library policy and blueprint, intellectual property right, digital infrastructure and ICT training. The respondents were stressing on the importance of the leading agency's capabilities to offer not only advisory but also supervisory and some legal functions.

There were some libraries that had planned to ask for a staff increase, especially when directive for digitization project suddenly came from the top management and wanted it to be done within three months. As a special legal librarian R 3 said *"I just do not know how to do it within three months, with no budget, staff and equipment. I think I will have to set up a special committee and get other units to be involved"*. Public and state libraries too were facing staff problems as some of their support staff were on contract basis. In these circumstances staff morale was rather low and this made planning even more difficult. As one state librarian R 19 said, *"Some of these staff have worked for more than five years, but still under contract. It's hard to ask them to work extra"*.

As had been identified from the quantitative method, human resource related problems were one of the problems faced (74%) in relation to digital library

development, especially when digitization project would have to be done based on the existing staff. Therefore they strongly felt that the human resource factor, in terms of the number of professional librarians should be increased and ICT training enhanced. As suggested by a senior academic librarian R 37 “*We need young blood IT savvy librarians to move things faster*”.

5.2.3 Theme 3: Lack of understanding on digital library concept

As had been discussed under 5.10.3 Barriers to Digital Library Development, digital library awareness was good but full understanding of the concept of digital library was still at basic level. During the discussions it seemed that many of them were not yet familiar with certain concepts like open access repository, digital library architecture, interoperability, unique persistent identifier (handle system), virtual unification of information resources and information surrogate. Even the acronym DLIs (Digital Library Initiatives) was a term that some of them were not fully aware of. Many of them picked up and learned on their own through readings, surfing and networking to get acquainted with the subject matter. They wished that they could learn, be exposed, get more training and equip themselves and at least understand all these new technical digital library jargons so that they would be more prepared for the digital world.

Since digital library environment was a new phenomenon in Malaysia, it was of prime important to give the librarians digital library exposures, which many of them agreed, that would lead to a deeper understanding of what digital library was all about. This at least could help them in the initial planning stage. R1 a special librarian strongly felt that there would be a heavy dependent on the National Library of Malaysia for

support and guidance in the initial stage of digitization projects as many of the libraries, especially those in the Common User Scheme were not yet exposed to the digital library world. To some extent some did not know where to begin. He further reiterated “*That’s why it is very important for the National Library of Malaysia to strengthen and consolidate understanding of the concept of digital library among all libraries prior to project implementation*”. He also suggested “*A strong solid foundation on the subject matter is of extreme important so that they know what to expect from the National Library and vice versa*”. He was gearing at the fact that the library community should at least be at some level of know how to ensure the success of the digital library projects. He was skeptical about involving some of the libraries especially when the libraries had a shortage of staff and worse still when there was no professional librarian in charge. The importance of understanding the concept of digital library was crucial as noted by a senior academic librarian in Bangi R 28 that “*We must keep up to date with digital library knowledge*”.

As an example, some librarians did not have a clear understanding on the topic of accessibility against ownership. Since libraries were public funded, definitely users would like to have and use the information that libraries had purchased or subscribed. In a digital environment, libraries might end up with visibly nothing after spending huge amount of money for subscription at the end of the subscription period or with termination of the user license. So if the digital library policy warranted that no back issues was required, than e-subscription would not pose any problem in the future. This was where some of the respondents failed to understand. Responding to the questions of ownership, some of the respondents were quite skeptical. They were not sure what

would happen to the concept of a library as the custodian of recorded knowledge. This was due to the fact that under the digital library concept, where the provision of access was much more important than acquisition, libraries would not grow by the number of materials acquired, but rather the number of databases subscribed. And ownership prevails as long as subscription would be paid. In actual words, there would be no physical growth. Collection development would also be at stake. As it turned out the respondents had not given much thought about the impact of subscriptions against the ownership of materials. They need to have a precisely spelt objective and policy of digital resources to support whatever their decisions might be. It seemed they had not given much thought about the seriousness of the question of ownership. To them what really matters *“Is to give online services and the subscription to e-journals has proven as the easiest way to do it”*, said R 32, a special librarian dealing with trade and industry.

Based on the above discussions, most of the respondents therefore agreed that libraries must not resort to only online database subscriptions when planning for digital library initiatives. They should also be exploring and doing more on local content development to ensure ownership would be assured. The proposed independent body should take up this matter when planning for more national digital library initiatives, incorporating a lot more local contents from the participating museum and archives. Therefore librarians should weigh, consider and scrutinize fairly and carefully between the questions of global access vs. ownership. Depending on the set objectives, they realized that libraries were supposed to be growing organizations, which grew slowly and steadily over time, notably in terms of library holdings. Many of them were not very

sure of the new features of the new library type (precisely digital type) but they were certain that many of the old concepts would have to give way to the new ones. As a special information librarian R 31 said “*We must follow the trend*”, which the researcher had interpreted to be adopting the digital library concept.

The great advantage of digital library through the intensification of resource sharing had not been really observed by the Malaysian libraries. The American Memory Project of the Library of Congress is open to all. No pre-registration is required as it is in the public domain. But for the *Portal ILMU* of the Ministry of Information library, a big portion of the digitized items were placed in the private domain. They had digitized some of the best photographs of the Malaysian history, but access had been limited. Digital library concept necessitates that resource sharing be truly observed and that public domain type should be given priority.

5.2.4 Theme 4: National support systems

The success of Malaysian digital library initiatives needed a lot more impetus and support from all sectors, both public and private as stressed by a senior national librarian R 38 that “*It has to be made as a big national agenda, with support from many sectors and of course public awareness must be created*”. National platforms across the board, conducive for such development must be in place to expedite digital library planning and development. As the national library, she realized that it would be an uphill task to meet the library community’s expectations. Things were made more difficult when digital library development had not yet taken a center stage and Malaysian digital library initiatives had not gone beyond the local boundaries, as R 38

proposed *“The whole idea is to increase public awareness in order to gain national support”*. The masses must be made to be aware of the wave of digital library development in Malaysia and this definitely could not be done by the National Library of Malaysia alone.

That’s why she strongly felt *“That everybody in the community must be mobilized to trigger more digital library news or events thus creating more public and national awareness”*. Nevertheless they were doing all they could within their means to spearhead digital library development in Malaysia, even though she felt that the hybrid type would suits the Malaysian environment better.

Almost all (89% or 32 respondents) were throwing the idea of having a central leading agency or an independent body that would coordinate and bring together those relevant organizations under one administration in order to solve the problems of leadership, collaboration, over dependence on the National Library of Malaysia for digital library initiatives and for a more coherent and widespread national digital library planning. They were of the opinion that the leading agency would be at the forefront between the library community and the government.

The above proposal could be observed through some of the following statements: R 35 a senior academic librarian *“If only there is a national referral center on digital library, or a central body, or a commission, say at a university or in a particular ministry or department, than we know where to turn to”*. R 28, also a senior academic librarian suggested *“May be there is a need to form a digital library body or a new commission that can look into this matter as a whole and really work towards digital library, no any other library services, except digital library”*. Clarifying further

on the matter, she was suggesting that if the government could set up a central agency on digital library, then planning would be more focused such as *“The division of responsibilities between the technical and digital project team”*. Meanwhile a special librarian R 11 thought *“That the proposed national commission would supposedly be an independent body performing advisory, intermediary and development functions”*. A state librarian R 27 suggested that *“The main committee members would comprise representatives from the National Library, the National Archive and the National Museum, MIMOS, MDC (Multimedia Development Corporation), MCMC (Malaysian Communications and Multimedia Commission) and a representative from the Treasury”*. *“A digital library commission would be more focused, team members can be delegated to do digital library projects and other teams to concentrate on say more technical nature of work”* said another state librarian R 19. After probing further the researcher could sense that what was really lacking was the presence of a central body that could provide some form of leadership, guidance and advisory service on how to go about setting up a digital library, to which many of them agreed when asked during member checking process. *“We really need a body to help us in the planning, implementation, technical knowhow, metadata, in fact anything that relate to it (digital library). At least we know where to turn to for help if we are stuck”* said a senior academic librarian R 36.

They strongly felt that there was a need for a specific, focused and well represented national committee in the form of a commission or a leading agency or an independent body to bring about a more defined, well charted and guided digital library development in Malaysia. The aim of the leading agency that could be summed up from

the discussions with the respondents was to bring all the related information agencies/organizations (Libraries, archives, museums and publishers) administratively under one umbrella and the creation of a specific organization chart that would reflect the work flow of digital library initiatives collectively as a coherent whole. They foresee the final outcome in the production of knowledge portals, the contents of which should be representative of all participating member organizations.

The whole idea of an independent body was to enable every aspect of digital library planning be streamlined, to achieve one common national goal as manifested by these statements: A senior academic librarian R 37 "*At least the problem of technical expertise can be solved*"; Another senior academic librarian R 28 "*More digital library initiatives can be planned between participating members and the subscriptions of leased databases can be shared through consortia*"; A state librarian R 27 "*When there is a main body, digital policy matters can be tackled collectively in a stronger manner and a committee on blueprint can be set up*"; R 28 "*Make it a big national agenda and enforce the establishment of a central agency that focus solely on national digital library initiatives*"; A state librarian R 33 was of the opinion "*That PNM has started some initiatives, but not very effective because of its other pressing national library and information functions*".

In addition, they all knew that the National Library of Malaysia's digital library initiatives projects were on a selective basis in terms of participating libraries. This was also one of the quantitative finding whereby only 11% of the respondents were involved with the *PERDANA* project. Majority of the librarians were hoping that the National Library of Malaysia should play a bigger role in initiating digital library initiatives and

making it known to the whole library community whatever their plans were. Even though some were not part of the *PERDANA* Project but they wished to be informed as voiced by a senior academic medical librarian R 4 *“To be in the know on anything that is related to the national digital library initiatives”*.

Universities were expected to play important supportive roles as proposed by a senior academic librarian R 35 *“Digital library research can be done by universities”*. Supported by a senior academic librarian R 5 *“I think our universities should be proactive. Like overseas. They are doing a lot of digital library research”*. Centers for digital library research had helped in accelerating digital library developments in foreign countries as described in the literature review. Therefore Malaysian libraries should consider seriously in establishing strategic alliances with the local universities for digital library research works. R 5 suggested that *“PNM should initiate and team up with local universities especially those offering higher degrees in LIS (Library and Information Science) to do digital library research”*. Other suggestions were: A special librarian of science and technology R 18 *“MIMOS is noted for its early involvement in digital library planning and should spearhead the idea with a few of the local universities that are offering the study in Library Science”*; R 35 a senior academic librarian *“Strategic partnership with the local universities by any organizations or between the universities may pave the way for advance digital library research”*; a senior academic librarian R 28 *“Or the government may give grant and commissioned a university for example, to undertake digital library research and the Ministry of Science may also initiate the project through for example MIMOS and may call experts from various organizations”*.

As such nineteen respondents (50%) were expressing their high hopes that any university offering a course in LIS should spearhead the idea of establishing a digital library research center. They could see the potential that with the establishment of such center, many more digital library initiatives would be thought of and implemented, besides bringing a pool of digital library expertise on one platform. This was also perceived as one of the conditions for digital library future growth.

The increase usage of e-book and e-journals prompted the respondents to think that supports from publishers were also important as one of the mechanism or platform to help national digital library growth. R 5 suggested *“That even our publishers must be proactive in producing more e-materials. Big publishers like DBP must be able to do something”*. *“University presses too can have a digital project. They can start by digitizing the academic books. At least start first. Than the others like government printing or commercial publishers will follow suit”*, said R 28 a senior academic librarian. They felt that e-publishing had an indirect impact to substantiate information surrogations that had mostly been done by Malaysian libraries under their digitization programs. The same opinion was shared by a senior special librarian R 30 who said *“Publishers have to reciprocate as Malaysian libraries are undergoing a paradigm shift in providing digital materials and services, they must start somewhere, and at least start the ball rolling, then interests in e-books will increase slowly”*. An academic/college librarian R 12 shared the same opinion because *“e-books are making fast appearance and is gaining momentum. By the time the present IT savvy generation reaches maturity, e-book will be the main medium of learning and teaching”*.

As per discussed, *Dewan Bahasa dan Pustaka*, being the biggest publisher in the country might want to collaborate with any other publishers to further substantiate digital library development from e-publishing perspective. Instead of selling the hard copy, libraries might purchase the born digital titles. At least libraries do not have to subscribe and they could own the digital materials under the outright purchase agreement. This might sound too futuristic but e-books had been sold in many instances in the western countries. Not only DBP, they thought that even university presses, commercial publishers and government bodies like ministries and departments should be thinking along this line by producing their annual reports or any other publications in digital form as mentioned by a special trade and industry librarian R 32 *“That government departments and ministries should be involved in producing born digital materials, and forget about printed government reports”*. Thus publishers had a strong reason to be part of the national digital library initiatives program and some of the respondents were of the opinion that they should be also be part of the proposed independent body/national commission on national digital library development. Subsequently a separate policy might be needed so that their business would not be affected and publishers would not regard digital library as a threat. As a matter of fact, publishers and e-publishing was one of the perceived factors for digital library growth as proposed by 17 respondents (45%).

External supports for digital library initiatives might come from either the National Library of Malaysia, or parents’ organizations IT Unit or information related agencies such as MIMOS, Multimedia Development Corporation, Malaysian Communications and Multimedia Commission (MCMC), state governments, universities, ministries, foundations, associations and the private sector. Twenty six of the respondents

(68%) were of the opinion that there had been some form of dependency on the National Library of Malaysia for digital library initiatives especially for libraries with small or no budget for digitization program. The same point of over dependence on the National Library of Malaysia had also been raised earlier as one of the barriers to digital library development. They were hoping and expecting more extensive projects on a much wider scale on a continuous basis from the National Library of Malaysia. Multimedia Development Corporation (MDC) at one time had a close ties with the National Library of Malaysia during the initial stage of the *PERDANA* Project. This has discontinued. It has now working in collaboration with Malaysian Communications and Multimedia Commission (MCMC).

An IT savvy community would generally be a good supportive element for national digital library growth. One way of achieving this would be through the utilization of the *Schools' Resource Centers*, i.e. by introducing and enforcing the use of digital library facilities at the primary education level, specifically utilizing the schools' resource centers as proposed by a special information librarian R 31 "*The education system can start introducing digital library from early age so that learning will be fun*". An academic librarian R 15 suggested that "*Schools through the Smart School Project are the best avenue to introduce pupils to the Internet world*". R 5 thought that "*School Resource Centers can play a significant role in becoming the test bed for online learning and teaching and in determining that digital library concepts are well accepted when the primary and secondary students head on to the tertiary level*". R 25 a state librarian who had organized a lot of children's programs said "*There are so many websites that are*

educational based, therefore it is never too early to introduce web based learning from standard one”.

The Smart School Project as per discussed was indeed a good start but the main component was not the school resource centers. The emphasis was more on developing teaching modules to be used in schools’ laboratories. As a senior academic librarian R 37 commented *“The Smart School Project should be re-aligned to include the School Resource Centers as the center of IT activities”*. Supported by another senior academic librarian R 28 *“The digital teaching module should supplement the e- School Resource Centers to make learning more enjoyable, besides exposing digital library environment at the very early age”*. *“The Ministry of Education may include computer literacy courses at primary level so that school computer laboratories will be used to the fullest and the Educational Technology Division can help design the module”*, added R 35, also a senior academic librarian. Early exposures would definitely create extensive awareness and would lead them to adopt e-learning mode and use digital library facilities more easily in the tertiary education level. There were many avenues for the school children to widen their learning scope through digital libraries and the Internet. Besides turning to *Portal Pendidikan Utusan*, they too might surf the *International Children Digital Library* to read e-books from other countries. In one of the discussions during the member checking process, it seemed that *Universiti Utara Malaysia* had contributed to some of the local contents to that website. The Smart School Project, through e-schools resource centers, being one of the flagships of Malaysia Multimedia Super Corridor, had great potential to be the initial platform to support digital library development in Malaysia in the long run. It

was seen as one of the perceived growth conditions for digital library development as proposed by 20 respondents or 53%.

5.2.5 Theme 5: Human resource and Digital library / ICT training

Human resource and digital library/ICT training had been significantly stressed, highlighted and discussed at length and was perceived by many of the respondents as an important factor to be reckoned with if digital library developments were to go further. Firstly they were of the opinion that library heads should be in the category of information professional, with at least a degree in Library and Information Science. The quantitative data had revealed that there were heads of libraries with diploma, STPM and SPM qualifications. They too felt that human resource management for libraries should be improved for all categories i.e. professional and supporting staff, including the need for IT personnel that was even more crucial for the planning and execution of digital library projects. As senior academic librarian R 28 said *“Semi professional remains as supportive staff and libraries headed by non-professionals should be something of the past if digital library planning were to go further”*. R 38, a senior national librarian supported this by saying *“That human resource management, digital library process management and realignment were indeed important”*. Lack of IT personnel (64%) and digitization projects had to be done with existing staff (74%) were among the quantitative findings. Therefore the need to consolidate the human resource aspect of librarianship was not baseless and this should be done together with the reinforcement of digital library and ICT training. Many respondents agreed that

repackaging of digital library training to include more technical stuff, instead of only word processing and application software requires top priority.

For the success of the national digital library plans and programs, R 1 a special librarian suggested three fundamental aspects that should be given prior attention. These were *“The widest possible exposures, training and the availability of technical assistance. And it will be good if the National Library of Malaysia can develop the expertise among them first, before extending it to others”*. R 38 a senior national librarian admitted that *“There is a serious lacking in digital library expertise and long term training or courses on digital library are almost nil”*. She further reiterated that digital library training, support from policy makers and standards governance were of equal important. In most cases, they had to engage in self- learning, self taught, self- exposure and taking own initiatives to learn and explore the Internet and surfing the many foreign digital library initiatives available on the web. This was a very difficult situation when knowledge on digital library was not equivalent to what you were expected to do.

The above opinions supported the quantitative finding on the lack of IT personnel as one of the most crucial problems faced by Malaysian libraries. A senior academic medical librarian R 4 said *“Equip our self with the knowledge, go talk to people, visit digital libraries”*. Added a special librarian R 18 *“Ask if you don’t understand as it is risky if there is money but there is no technical support”*. R 24 also a special librarian positively said *“Move forward, should never remain static and stagnant”*. R 35 a senior academic librarian felt that *“Training, courses and exposures should be the pre-requisite to enable librarians to internalize the concepts, elements and*

dimensions of digital library development". R 27 a state librarian wanted librarians *"To be IT savvy"* and made a cautioned statement *"Don't let IT people take over everything"*, while a senior academic librarian R 37 warned *"Don't just depend on the computer science people"*. *"Learn the trade and equip our self with the necessary skills"*, said R 4 again and R 20, a special librarian asked *"How can we start something that we are not sure of?"* *"So training is in fact important and how to start a digital project without technical knowhow?"* reiterated a senior national librarian R 38 pertaining to the same matter.

The development of digital library that is absolutely technology dependent made it even more important that librarians be constantly trained as R 4 a senior academic librarian concluded *"Always ready to train and re-train, learn and to re-learn"*. To facilitate changes, a state librarian R 19 was of the opinion *"That librarians must have a new mind set, with positive attitude, be pro-active and embrace digital technology"*. R 4 added *"Read extensively, get exposure especially at international level, observe what others are doing and dare to take the first bold initiative"*. As an academic librarian R 15 suggested *"Digital library and ICT training, and digital library exposure that are so scarce must be immediately addressed, especially training on content management and content development, database management system, information system development and telecommunication and networking"*. He felt that these were extremely important to help reduced the dependency on the parent organizations' IT Unit for technical support. A senior academic librarian R 36 supported the idea and added *"Training is also important to widen librarians' knowledge and levels of understanding, to keep abreast of the latest trend of digital library development and to equip our self with the latest*

technological advancement". She was of the opinion that with knowledge, they would be able to venture and initiate more digital library initiatives on their own and not only doing information surrogates and e-subscriptions. It would also help released them from having to be too dependent on external bodies such as the national library or the computer experts, as summed up by R 13 a special librarian and R 27 a state librarian respectively "*Training is all what we need*". "*If we have the money but no technical knowhow, still no point*". "*There is an urgent need for IT savvy librarians*", commented R 36 as she stressed again on the importance of ICT and digital library training. The same comment was earlier proposed by R 27 who wanted librarians "*To be IT savvy*".

The above statements were a manifestation of the need for digital library training. The library heads seemed to be still in the learning process and formal courses on digital library had been very minimal. Many of them had been self taught and they had learned a lot from surfing foreign digital library websites. The only kind of training that they could get was from the vendor for any library systems that they had purchased. They had been some communications with their peer group, but since everybody was at the same level of development, so not much could be discussed and learned on digital library initiatives. As a result there had been heavy dependence on the parents' organizations IT Unit and these were mainly the computer science experts that at times it was difficult to get them to understand the library science jargons or the specific needs of a library.

From the interviews it was found that some of them didn't realize the availability of the free *Greenstone* digital library software that could be acquired to help started digital library initiative and that *DSpace*, another open source repository system was

also available for use for free and that it had been widely used by many organizations in the western digital library initiatives. They might have heard or read but unsure of its usage and application. That's why they strongly felt the urgent need for a body such as the National Library of Malaysia or a special commission or an independent body to design a comprehensive training module for Malaysian librarians in anticipation of the influx of more online and digital library services in the future. *"If only there is a national commission that acts as a national referral center, planning, training and initiating a digital library project will be much easier"*, said R 28 a senior academic librarian.

Acquiring the necessary IT skill was extremely crucial for all librarians as all respondents seemed to fully agree. Technological knowhow would determine the future of the profession. Since libraries and librarians would no longer serve as intermediaries between information and users in the digital environment, so librarians must possess some extra skill to remain competitive. Domination of the field must be maintained and this could be achieved through full involvement, both in the creation and dissemination of digital information through cyber space. The importance of training was further intensified by the quantitative finding whereby 96% of the library heads were of the opinion that librarians must embrace technology and not leave everything to the computer science professionals. As senior academic medical librarian R 4 had stressed again *"Visits to digital library establishments, local and abroad must be intensified to explore, experience and learn new skills"*.

As had been discovered, digital library training was scarce and limited other than those sporadically organized by the National Library of Malaysia. They had to be on the

lookout for any relevant courses, mostly locally and would attend if permission was granted and that budget permits. Courses on web site creation and design would be most welcomed to begin with so that they could improve on their websites. They were hoping that more exposures, courses and assistance (technical and non-technical) on digital library and digitization would be made available by the relevant authorities. Even though many of the courses were more inclined towards computer science or technical in nature but they wouldn't mind learning if that would substantiate their understanding and skills. What they needed most was guidance on how to go about starting a digital library project, answering the questions of what, where, who and how.

As had been discussed earlier under barriers to digital library development, many of the respondents agreed that the most fundamental aspect to strengthen Malaysian digital library initiatives would be through extensive exposure, acquiring the necessary and related knowledge/skills and undergoing digital library training to enable them to know how to go about developing digital library. The importance of digital library training was regarded as critically important on which the success of digital library initiatives would depend on. Many of the respondents saw the need that this aspect be immediately addressed because it would lessen the over dependence on the computer experts and the IT Unit of the parents organizations. As such human resource and digital library training of librarians was perceived to be one of the conditions for digital library future growth, proposed by 25 respondents or 66%.

5.2.6 Theme 6: National collaboration

Collaborations and cooperation in the western digital library initiatives had been very significant as been proven from the literature review. Their digital library initiatives were done not by one but several organizations that could be libraries, archives, museums, universities, ministries, departments, councils, associations and foundations, and they collaborated not only within the country but also internationally between different countries. It had been one of the most crucial success factors that had enabled western digital library initiatives to become very international, fulfilling the concept of virtual reunification of digital resources and had enabled global resource sharing to the fullest.

However from the interview sessions it was found that Malaysian libraries were doing digitization works mostly independently. Each library was doing on its own without the effort to get together and worked as a team. There was an absolute absent of a pulling factor where they could turn to for help or get some form of advice from a central agency or an independent body before embarking on any digital library initiatives. The situation was such that they would plan it, initiate it, get it started and try to solve any problems that might occur in the course of implementation. They realized that the National Library of Malaysia too was facing some kinds of problems with the *PERDANA* project but many strongly felt that digital library problems could be solved through collaborative efforts.

The three known national collaborative projects are the *PERDANA* project and *MyLib*, spearheaded by the National Library of Malaysia and *MyUniNet* Portal, initiated by Malaysian University Libraries and National Library Network (PERPUN). What could have possibly been the underlying factors that Malaysian libraries prefer to work independently? Attitude and subject knowledge were among the factors. R 30 a special

linguistic librarian said *“The involvement and collaboration of all types of information centers are very important”*. R 4, a senior medical librarian was critical when she said *“Malaysian librarians must really open up and we cannot be thinking anymore that your library is your library and my library is my library”*. R 28 a senior academic librarian was saying *“We need to adopt a paradigm shift. A stronger and more effective digital library consortium might bring the library heads to more national collaborative efforts, possibly through the formation of a central agency. A stronger and bigger consortium is badly needed in times of budget cut”*. R 31 a special information librarian added *“Digital library environment necessitates that we must be willing to share the resources more openly”*. A senior academic medical librarian R 4 again stressed that *“We must unite to get more budget and sponsors”*. R 30 a special librarian reminded *“Never forget the publishers; they too have a role to play to help push digital library development”*.

When posed with the question, most of the respondents were unable to reason out why our national information agencies – the National Library, the National Archive and the National Museum were not together working on digitizing the richness of the Malaysian cultural heritage. R 4 said *“I am puzzle as to why the three (national library, archive and museum) cannot just have one big project together”*, followed by R10 a special librarian *“Why can’t they worked as a national digital library team?”* Many respondents were hoping that the three national information agencies be able to work on something big, as commented by R 22 a special librarian *“They possess some of our best and unique cultural heritage and this is what the world wants to see virtually”*, and she also suggested that *“A truly national digital library project will be possible if the three can work together”*. Supported by R 34 a special broadcasting librarian *“A one*

stop centre of knowledge portal on various subjects or disciplines can be produced if libraries or archives or museums can combine resources, not only for information surrogates but also born digital materials”.

Elaborating further on the proposed knowledge portal, the respondent was suggesting that multidisciplinary knowledge portals could be created if many libraries together with any other information centers combined their efforts, with the possibilities of sharing resources to be digitized, sharing technical expertise, sharing digital library software and hardware, so that the development of digital objects would be faster and truly national in character. According to her the best to cooperate would be through the so called independent body on digital library.

The minimal digital collaborative efforts had resulted in the over dependence on the National Library of Malaysia that was voiced out by 26 respondents (68%) and had caused some limitations as to the scope of digital library initiatives that had been carried out. Since digital libraries had been planned independently, so the results had been very much small localized projects and international digital library project was not yet in the pipe line. None of the respondents has had any plans of going beyond the local boundary. As a result of the above scenario, the development of local digital contents or born digital materials had been on a minimal scale but as R 22 a special librarian voiced out *“That more local content should be digitized as we are rich in our cultural heritage but not being done. The Arkib, PNM and Museum should work this out, as they possess some of our best historical and cultural heritage”*. Supported by R 5 a senior academic librarian *“Archive and Museum, plus the National Library must come to a round table conference and work things out how to collaborate in national digitization projects.*

Digitization will enable Batu Bersurat or Hikayat Hang Tuah (listed in the UNESCO's Memory of the World Register), Mahsuri, pictures of Mulu Park or Portuguese Village in Malacca be scanned and the images put online”.

Again there were unspoken wishes to see that Malaysian three most important national information agencies should work together as the national digital library team. As a matter of fact, many of them had voiced out more than once of the need for the three national information agencies to work together in spearheading more digital library initiatives at a national scale. Together with the formation of a leading agency, that had also been voiced out, they thought these would bring libraries of all types, archives and museums to more truly collaborative efforts that would result in the creation of more digital initiatives or knowledge portals in a wider multidisciplinary areas. *“When everybody is under one umbrella, than planning will be much easier. A lot more digital library initiatives can be planned, and since there will be more people involved, we can break up into teams”*, said R 35 a senior academic librarian. Further elaborating on this he was suggesting that since there would be more personnel in the proposed leading agency, then each team could be assigned to do different kinds of jobs which could either be technical or digital library project team.

The librarians, being at the forefront of library development in Malaysia, were seemed to be trying their best to bring about the changes with respect to online services and universal access and to participate more in resource sharing but these would not be successful unless there was a mutual agreement within the peer group. Mind set needed to change as well. Everybody must be opened and working on the same mechanism and platform to turn a national digital library project a success. *“The concept of my*

collection / your collection or my library / your library in a digital world is no longer applicable”, commented R 4, a senior academic medical librarian. Supported by R 35 also a senior academic librarian “That’s why there must be an independent body to act as the head or to lead and bringing all those related – libraries, archives and museum to be under one umbrella or under one administration to streamline national digital library planning. Then it will solve many problems”. According to R 37 another senior academic librarian “When everybody collaborates, there will be more ideas and more digital library initiatives”.

A senior national librarian R 38 too agreed that collaboration was in fact a major problem, *“Because Malaysian libraries have not really ‘open up’ for resource sharing in the true sense of the word”*. The channel to collaborate in developing truly shared digital library initiative was not yet opened. She strongly felt that digital local content development would be more easily achievable through national collaboration. According to R 4 again with respect to this matter *“Each library wanted to claim that this digital library initiative belongs to my library or sometimes their digital contents are not accessible through the public domain”*. That’s why she felt *“That the fundamental success of any digital library initiative would be collaboration and cooperation”*. It seemed that many of the respondents agreed that the National Library of Malaysia had laid the foundation for digital library cooperation but had been selective in terms of libraries’ participation, and as a result some libraries were left out. Therefore, cooperation and collaboration at all levels especially those that dealt directly with information were seemed to be of great importance if digital library developments were to go further.

From the overall discussions, the researcher could feel their burning desire to see our national information agencies to work together in much bigger digital library projects. Another of their main concern was to see a body well represented by all the three but very important national information agencies, as discussed earlier. They wished to see more cooperation between the national information agencies (national library, national museum and national archive), especially in developing national digital heritage repository and multidisciplinary knowledge portals. They were also hoping on these agencies to formulate national digital library initiatives, where it could be considered as a one stop center for Malaysian e - national heritage or Malaysian heritage portal. Librarians would then be able to adopt a new function i.e. as the creator of digital local content information especially those particularly unique and bearing historical importance.

This would be a good opportunity for librarians to contribute to the dissemination of national heritage information to the world at large. And majority seemed to agree that this would add some value to the profession itself. Therefore collaboration among libraries and particularly among the national information agencies had been proposed as one of the perceived conditions for digital library future growth by 22 respondents or 58%.

5.2.7 Theme 7: Digital library policy, Legal framework and Blueprint

Despite the fact that digital library development was a new phenomenon in Malaysia but the respondents realized that relevant national digital library policy and services should first be in placed to serve as guidelines and reference, with the

objectives to provide a more coherent, collaborative and unified approach towards digitization works. More importantly to help accelerate the national digital library planning and implementation at a much wider scale. According to a special legal librarian R 6 *“Digital policy is crucial”* and R 35 a senior academic librarian shared the same opinion that *“These national policies are of extreme important to lay the foundation and directions as to where we are heading”*. R 13 a special librarian from the PM’s department asked *“How to start digitizing if we are not clear on so many things?”* And R 5 an academic librarian said *“Just like blueprint, digital policy will ensure that there will be some form of guidance”*.

There seemed to be no written policy on digitization or selection policy on priorities of items to be digitized. They were guided by the simple approach to digitize, preserve and to provide online service. Therefore the respondents felt that digital library policies with respect to acquisition, circulation, reference service, Internet access, development of local contents, document delivery service, SDI, selection of materials for digitization, born digital materials, information surrogates and domain types should be first created. As a result of lack of digital library policy, there had been inconsistencies for example in term of domain types. As the quantitative findings had revealed, only 12% flashed the digitized materials onto public domain, 54% flashed selected materials only and 33% did not flashed at all. If there was a policy specifying on this matter, then it would not had happened, because one of the most important elements of digital library is actually resource sharing.

The National Library of Malaysia had approved *Dasar Pendigitilan* (Digitization Policy) in 1994 but this need to be expanded to cater for more specific details. Some of

the respondents agreed that the National Policy on Library and Information Services, National Library of Malaysia, need to be revised. The revised policy should include and spell more factors comprehensively on digital library developmental aspects, including policy on library digital information and services. As some of these directly involved national policies, so it would be best if it could be dealt with by a national commission or a leading agency on digital library together with the National Library of Malaysia. With respect to this, a senior national librarian R 38 strongly suggested *“The formulation of digital library policy and the adoption of digital library standards by Malaysian libraries, and to include establishing a legal framework for digital library development”*.

Throughout the interview discussions, it seemed that the librarians had opted three main methods towards digital library initiatives. One was information surrogates and followed by subscription to commercial online databases that include e-journals and e-books. The creation of websites had also been extensively developed to render more online and digital information services. This was similar to the quantitative finding, whereby Malaysian libraries’ approaches to digital library initiatives were mainly through information surrogates, online subscription of databases and the development of home pages or websites. What had been mostly digitized were organizational publications to avoid any legal implication. This was the underlying factor hindering aggressive information surrogates, especially for libraries that need to serve the community at large. *“Certain requirement should be waived especially if the information digitized is meant strictly for educational purposes”*, said a special legal librarian R 3. *“Libraries dare not venture into other publications due to copyright problems”* said R 6, another special legal

librarian. *“Library loan system has been functionally accepted in the printed era but global access through digital library concept necessitates the system to be re-looked, re-defined and re-assessed to cater for wider online user based”* said a special productivity librarian R 24. *“There must be some acceptable mechanism to overcome copyright act problem, where it will be a win-win situation for all parties – users, libraries and writers”*, added R 30, a special linguistic librarian.

Another mechanism to support information surrogating and to avoid legal problems would be through the acquisition or depository system of born digital materials from the general public. An academic librarian R 5 suggested *“Malaysian libraries may adopt a more aggressive direct acquisition i.e. calling and encouraging the public to donate or surrender digital information that they have produced for safe keeping”*. R 3 a special legal librarian suggested *“The legal deposit act can be amended to include born digital materials”*. *“If it has been spelt out in the collection development policy, then it would be easier to implement”*, said R 4, a senior academic medical librarian. Therefore related laws pertaining to library and information services need to be addressed accordingly, so as not to affect library services in the digital era.

Besides digital library and Copyright Act policies, they too felt the need to have a standard national blueprint on digital library initiatives as a national reference document. They seemed to agree that Malaysian libraries needed urgently a blueprint to spell out digital library initiatives in a more detail, specific and comprehensive manner. With respect to this, a senior academic librarian R 37 said *“That’s why it is important to have a policy on digital library and anything that relates to it – services, infrastructure, selection, digitization process, ownership, subscriptions of e-resources, even a blueprint or*

anything for that matter!” The importance of a blueprint was highly stressed due to the fact that digital library was something new that they needed much input and guidance as to its planning and implementation. As told by R 13 a special librarian *“Digitization is new to me. Therefore documentation in the form of a blueprint is most welcome”*. *“If there is a blueprint, we can use it as a referral document to get some answers to some of our questions on digital library works”*, another comment from R 16, a public librarian.

Many were of the opinion that the existence of a blueprint would provide guidelines on the numerous aspects of digital library planning and implementation. Some of these according to them would be the definition and elements of a digital library by Malaysian standards, the procedures involved for information surrogates including the best practices in terms of materials selection, the creation of local contents, the range of online services that must be operational and elements for success that might include management support, technical expertise, collaboration, global access, resource sharing and minimum budget requirement. As R 23 a special map librarian was saying *“If there is a blueprint then we will be less depending on the National Library and it will increase communications among the librarians since we will be consulting the same document”*. Therefore they urgently called that this be given priority so that at least in the preliminary stages, digital library works or initiatives could be standardized based on one national digital library blueprint.

From the lengthy discussions with the respondents, it seemed that they wanted some form of published guidelines and standardization that Malaysian libraries would adopt to ensure consistency. The creation of national Digital Library Policy and Services as a supportive mechanism to charter its growth was proposed as one of the perceived

conditions for future growth by 22 respondents or 58%. As for blueprint, the quantitative finding revealed that 71% had identified it as one of the problems faced and therefore it was not surprising that the creation of a blueprint was proposed by 29 respondents (76%). A workable policy on Copyright Act and Intellectual Property Right had also been proposed as one of the perceived factors for future growth by 21 respondents or 55%.

5.2.8 Theme 8: ICT facilities and National Information Infrastructure

As explained in Chapter 1, it was very unlikely that Malaysian libraries would develop digital libraries without first acquiring library systems. The logical and normal phase would be to have first library systems, developed electronic libraries and online services, and subsequently followed by a plan for digitization programs. It was found that two of the libraries visited were still using card catalogs but both were in the process of purchasing an integrated library system. The researcher was informed by a state librarian R 14 and a special librarian R 21 that digitization would be the next phase of library development once library systems were in place. With respect to this, it seemed that there was a tendency to prefer local library system because of the cheaper price. This coincided with the quantitative finding whereby the locally produced library system *ILMU* had so far the highest installations.

The establishment of a separate unit called IT Unit or Cyber Unit or Internet Corner or Virtual Library or Digital Library Unit within the library premise was now an acceptable new phenomenon thus separating between digital and print services. The IT Unit of a library was central to the overall digital library development, headed by either IT personnel (programmer or system analyst) or a librarian that had been trained in IT.

The IT Unit (or whatever name that was being used) normally housed an average of 30 PCs for users' use. Armed with their own websites, this was where the regulated Internet connection was provided, including access to all types of online services, back up with Local Area Network and Wide Area Network.

From the discussions, the respondents realized that Internet access had not yet achieved 100% subscription despite the government's nationwide campaign of *One House One PC*. With Internet access not widely available yet especially in the rural areas, there was a high dependency on public libraries and Internet cafes for Internet access. Some of the respondents were lamenting on the fact that Internet access was at times slow that users could patiently wait. The use of internet facilities was regulated based on time and users were given an average of one hour to surf unless the schedule was free of bookings. However special libraries were more generous where the use of Internet was unlimited, as they catered for organizational staff only. As proven by one academic library when they started a 24 hour Internet service next to the library building, it was found to be fully utilized until the wee hours of the day. As a senior academic medical R 4 said "*Library online services continues even after library closes*".

Seventeen libraries had started using the self checkout machine and one library had implemented digital thumb print for membership registration. Scanners were mostly available for users as well as for digitization works. However due to lack of ICT facilities, twenty of the respondents would prefer outsourcing when comes to digitization works. Again this finding consolidated the earlier quantitative finding. This

was quite natural as they were facing staff shortage. *“Better outsource, it’s much easier”*, was a comment given R 23 a special map librarian.

The Ministry of Energy, Resources and Telecommunication *do* have a policy on Telecommunication but did not precisely spelt for library needs. Internet facilities should be expanded nationwide, using the broad band, at a much reduced rate. A state librarian R 27 said *“Internet connection costs for all library types must be differentiated from commercial use, to enable libraries to increase their online services without having to spend more on Internet subscription cost”*. Another respondent a special medical research librarian R 11 was slightly critical when she said *“After all libraries are servicing the public. It’s part of social obligation. So we should be given special Internet fees to cater for public needs”*. A national librarian R 38 was of the opinion *“That digital technology implementation must be given priorities, including the availability of broadband and other ICT infrastructure”*.

Many of the respondents had expressed the need for ICT, national information infrastructure and other digital library related policies to be upgraded and enhanced. It was suggested that the government should be looking into the provision and expansion of broadband facilities to enable wider digital library initiatives at national level. National information infrastructure was in fact crucial for the development of digital library in Malaysia, focusing on the specific technical requirements necessary for networking and World Wide Web based library services. *“Digital technology, basic and adequate ICT infrastructure and Internet facilities including broadband must be in place to cater for the digital needs of library operations and services”* said a state librarian R 19. *“Rightfully, all libraries at this juncture of cyber era, should at least*

have already installed an integrated library systems and possess a substantial amount of PCs to cater for an increase of online and digital services” added R 21 a special land librarian. And according to R 28 a senior academic librarian “Local and wide area networks, Internet and Intranet access too should be made readily available, expanded and sufficient to cater for digital needs”.

The need for national information infrastructure specifically tailored for web based digital library services was thought of as one of the important aspects to be dealt with by the so called an independent body as proposed. The technicality aspect of this would then be placed under the technical team of the independent body. Therefore national information infrastructure must be in placed especially broadband to facilitate Internet access and to help boost digital library development as the quantitative finding had revealed whereby 64% identified it as one of the problems faced. Similarly this had also been perceived as one of the conditions for future growth and had been proposed by 28 interviewees or 74%.

5.2.9 Theme 9: Increased usage of online services and sources

The expansion of online services and sources had been significant although the former was the main concerned and had been much focused. It seemed that it was easier to develop online services as it dealt directly with library patrons which were considered as IT savvy and had high expectations for more sophisticated online services. Many of the common counter services had been offered online such as circulation, registration, reservation, interlibrary loan, and the use of e-mail facilities had been fully exploited to communicate with library users on all library matters. For libraries that had started

digitization works, their main concern was to increase online services and making their websites more content laden and interactive, thus providing more digital reference and reducing the amount of manual counter services. Fulfilling user information needs was still the prime objective, done through both print and digital collections. Many of the respondents agreed that e-journals had been extremely popular as an academic/college librarian R 12 said *“An increasing number of users prefer online to print materials, especially e-journals”*. *“The use of e-journals is so popular”*, added R 28 a senior academic librarian. User services had been enhanced, now that users could access the digital online information at all times.

It was observed that printed materials and book shelves were still dominating in most libraries and that respondents seemed to agree that Malaysian libraries were resorting to the subscription of commercial online databases to increase online services particularly e-journals. It was noted that a database was at times being subscribed by more than one library. Since subscription prices were high, individual subscription was not economical. But since there was no mutual agreement on this matter, the situation remained as it was. Collective subscription through a consortium would be an alternative that most respondents agreed to, but a body must work towards its effective implementation. And again this could also be one of the functions that could have been put under the proposed independent body, either under the technical team or digital library project team. Besides saving cost, it would also consolidate resource sharing and lead to the maximum use of subscribed online databases or e-journals. This was crucial as underutilization of digital resources was one of the problems identified in the quantitative finding. As an example, Universiti Kebangsaan Malaysia Medical Virtual

Library had created a monitoring system on the usage of subscribed online databases. The subscription of any databases that had been underused would be terminated.

The increase of online database subscriptions had not been as significant as libraries still concurrently acquired both print and digital collections. But this phenomenon was slowly changing as told by a senior academic medical librarian R 4 *“We are subscribing to more e-journals as the fastest way to provide online services”*. Supported by a special trade and industry librarian R 32 *“There are many commercial databases, just select those that are related, pay and service”*. *“Subscription to e-journals save space and reduce the headache of missing issues”* said a senior academic librarian R 36. Although they could not subscribe to as many journal titles as they wanted to, but many agreed that this was the easiest and fastest way to provide online service.

Through the above discussions it seemed that libraries took the option of increasing their subscriptions to commercial online databases and e-journals as one of the fastest ways to providing digital services. When asked on the subjects of collection development and ownership against subscriptions, many of the respondents remained unsure and had not given much thought on that matter. Everybody was on the race to provide online services that they had not really thought about the aftermath impact of change of acquisition pattern. As R 37 a senior academic librarian said *“What really matters is to give online services. Other questions will be dealt with later as we go along”*.

The increased usage of online services and sources however was not quite the same for library operations such as acquisition, as it involved book suppliers and

distributors. Government procurement that required certain procedures made it impossible to purchase and made payment online. *“It is high time that the Ministry of Finance create new financial procedures to cater for the rising of e-payment”*, commented R 11, a special librarian. This was consolidated by quantitative finding whereby only 15% of the respondents had resorted to online acquisition.

Information dissemination was taking on a new course where the use of home pages and websites were greatly exploited as new media of reaching out to library patrons. *“Our user based has been much expanded and widened”*, said a senior academic librarian R 28. Many were also talking about developing knowledge portals as a better way to disseminate information. *“The trend today is to provide access from a single source and developing knowledge portal is one of the ways of doing it”*, added R 31, a special information librarian. She had developed one for her library called *Portal Ilmu* and wished that more multidisciplinary knowledge portals be created collaboratively representing the many historical and heritage information that were in the collections of so many Malaysian libraries.

The use of library printed brochures seemed to be fast declining and printed reminders had been almost replaced with e-reminders and the use of e-mail for libraries' correspondence was extremely high. Any library services that could be provided online and in digital form would have been given priorities. Library newsletters, new book arrivals, booking of library facilities and announcements had been digitized and put online. The digital reference service had been expanded to cater for more online enquiries and updating continuously through hypertext linkages the listing of online reference tools and related websites; although for some libraries it was still on a

preliminary or trial basis. The reference librarian had been most affected in terms of job specification as commented by R 35 a senior academic librarian “*Reference librarian now spend more time in surfing the Internet, searching for relevant websites to fulfill users’ enquiries*”. Added by a special medical research librarian R 11 “*Reference librarian’s new functions may include surfing the Internet and establishing hypertext linkages to related websites*”. R 24 a special productivity librarian was more optimistic when she said “*Acquisition librarian can now do away with B.I.P. (Book In Print). What important now is to get in touch with electronic suppliers, use the database in the trial period and if proven useful, subscribe*”.

Digitization had brought an increased usage of not only online services but also online sources. As could be seen throughout the interview sessions, many libraries were turning to information surrogation i.e. digitizing organizations’ internal publications such as annual reports, project and occasional papers, press cuttings, specific subject or special collections, thesis and dissertations and subscriptions to commercial online databases for e-books and e-journals. As an example, Public Service Department Library had been actively digitizing its scholars’ masters and doctoral theses by requiring them to voluntarily surrender their thesis once completed, together with copyright ownership. *Perdana* Leadership Foundation Library in Putrajaya had digitized more than 1 million pages (as of October 2008) of newspaper cuttings/articles on Malaysia’s past and present prime ministers. Contradict to ATMA’s (Institute of Malay Civilization, Universiti Kebangsaan Malaysia) *Malay Civivilization.com*, where much of its contents on the Malay world were actually born digital. The National Map

Department had been focusing on digitizing its entire map collection especially those published prior to the 1950's.

TV Library of the Ministry of Information was developing online booking system for its VHS tape and film collections. Museum and Antiquity Library was in the mid of planning to preserve its old books collection by means of digitization. And the Attorney General Library was in the mid of planning to develop an online legal information system to enable a national online access to the library's legal records. For academic libraries, their main preferences would be digitizing thesis and dissertation, past years' examination questions and developing digital reference service. Universiti Teknologi MARA's library introduced the Virtual Reference Facilitator (VRF) in 2005 to help facilitate research among academicians.

It was learned that the main objective of Malaysian digital library initiative had always been to provide online services in tandem with the world digital library trend. The second objective was to establish institutional memory, where internal organizations' publications were digitized for preservation purposes and to help save library's space, thus indirectly increasing the online sources. Even though online services and sources and operations were gaining momentum but they confessed that the use of print materials was still high.

As a result of increased usage of online services and sources, all (100%) of the respondents interviewed were in total support of digital library development. They were very enthusiastic and optimistic about digital library services and agreed in principle that for libraries to stay viable, they would have to change accordingly. Almost all of them also agreed that the traditional library concept was fast changing to accommodate more

online services. *“It is the trend. Users are expecting more sophisticated library services, so we have to provide them”*, said R 9 a special librarian. *“The provision of digital resources is becoming more important than ever and patron’s expectations for online services at times can be very demanding”*, said R 4, a senior academic medical librarian.

They could generally observe that the use of online services and sources had increased to a large extent and they were hoping that the print collection would not be sidelined in the long run. They were definite of the fact that digital library *is* the library of the future and that the traditional library would remain intact in supporting, supplementing and enhancing the digital library collections. None of the respondents felt that digital library was a threat, as suggested by two respondents, R 28 *“They still borrow books”* and a senior academic librarian R 35 *“Circulation remains high, even though the use of e-journals is on the increase”*.

5.2.10 Theme 10: Leadership

As had been discovered in the study, Malaysian digital library initiatives had been planned rather independently. However, national digital library planning had been the prerogatives of the National Library of Malaysia, but several of them were close to concluding that leadership was just not available. A special librarian R 13 wanted the National Library of Malaysia to be *“More focused on library works and functions”* and supported by a senior academic librarian R 37 *“Remain focused on library agenda besides working in a framework to lead and coordinate”*. R 27 a state librarian suggested that *“PNM should be doing the consolidating work, collocating a report what other libraries are doing or planning (on digital library initiative)”*. R 4 a senior

academic medical librarian thought that *“PNM needs complete face uplift to attract more users and to introduce more digital based changes on the premise”*. R 38 a national librarian was even critical when she said *“No one is championing Malaysian digital library development especially in terms of leadership”*. She continued *“Leadership is also a problem at state level whereby there is no centralized digital library initiative among the states”*.

Even though the National Library of Malaysia did support in terms of development grant for digital library initiatives but coordination at state level was severely lacking. She added *“That legally there is no legislative power to control all types of libraries in Malaysia”*. As such there was a segmented library management system that made collaboration difficult. The researcher was also informed that Public Library Corporation of Perlis was on the way to be federalized in September 2008.

The researcher tried to comprehend these statements and by probing the matter further, it seemed that the biggest stumbling block was the lack of digital library expertise at all levels. How could the National Library of Malaysia lead when expertise was not there? Even the Digital Library Division of the National Library of Malaysia had only two professional librarians and another two supporting staff. To reflect as what R 1 had said earlier, *“It will be good if the National Library of Malaysia can develop the expertise among them first, before extending it to others”*.

The respondents who happened to be all professional librarians and themselves leaders in this area agreed that they had a role to play to further support digital library development. As suggested by a special linguistic librarian R 30 *“All have a role to play –libraries, museums, archives, government printing including university presses and*

commercial publishers". They should equip themselves with all the necessary technological knowhow, as had been expressed earlier under training, so that they could lead more aggressively digital library works. The respondents also felt that the government should lead by playing a more exertive role in ensuring that digital library development became a national agenda and put it as one of the main items in the national master economic or social plans. As a sum total of what they were trying to say was that everything that could contribute to the development of more digital library initiatives must be mobilized in tandem towards its successful achievement.

The creation of a leading agency or an independent body that would manage the national digital library planning more coherently had been proposed to help solved the problems of leadership, collaboration and expertise. Thirty two of the respondents (84%) hinted more than once that there was such an urgent need that a committee in the form of a leading agency be created to look solely into the matter of developing more digital library initiatives, collaboratively, most probably creating multidisciplinary knowledge portals. They were imagining and talking about a body that would be able to provide central leadership, funding, guidance, supervisory/advisory/intermediary and development functions and acts as a national referral center for digital library initiatives.

They felt and agreed that the National Library of Malaysia had initiated and started the platform but could not cope with their existing amount of national library functions, in addition to inadequate professional staff and digital library expertise on their part. As a matter of fact, it was also suggested by a senior librarian from the National Library of Malaysia that the *PERDANA* Service Division be placed under the jurisdiction of the Malaysian Communications and Multimedia Commission (MCMC)

so that it would be directly be part of the component of the National Broadband Plan of the MCMC. The lack of solid substance from Malaysian libraries' digital future plans derived from both methods of data collections consolidated the fact that Malaysian libraries were in need of a strong guidance and leadership to take them further into greater height in planning and developing more digital library initiatives.

5.3 Summary

As could be seen from both findings (quantitative - Chapter 4 and qualitative – Chapter 5), Malaysian libraries were moving towards the global trends of digital library and were taking steps, albeit slow and independently, in implementing digital library initiatives. The extent that they had progressed in library automation, building up electronic libraries, offering online services, increased usage of online services and sources and the subsequent steps toward digitization was a manifestation of their readiness to move forward into the digital world. Even though digital library development had not yet become the center stage, where libraries tend to remain very much the same, but they were slowly initiating and taking actions to establish hybrid library system where some of the services and operations had already been digitized and offered online. Their readiness to transform could be summarized as going from *MALMARC* to *PERDANA*.

With some of the ICT facilities in placed, digital information and services were increasingly being offered especially the provision of e-journals through the subscriptions of online databases. Information surrogates were also taking shape especially for organizations' internal publications, led by newspaper cuttings.

Monographs still dominated the collections but online services were on the rise such as Web OPAC, online circulation, website services, online reservation and registration and online reference enquiries or digital reference, online acquisition, online SDI, mobile Internet services and online inter library loan. The development of home pages and websites had been notably extensive too.

It seemed that Malaysian libraries had initially accepted the concept of digital library, internalizing and digesting it, and conceptualizing it into plans that would see more digital library initiatives in the near future. However, as the research had unfolded, Malaysian digital library planning was still very much localized, small and basic in nature without solid, long term collaborative planning. This could be due to the fact that Malaysian libraries were facing a scores of library general problems such lack of IT personnel, lack of budget, lack of digital library initiatives, lack of ICT training, underutilization of digital resources, renewal subscription of online databases, lack of suitable integrated library system, lack of space and ICT facility. On the other hand, digitization related problems were concerned with lack of staff, need for a digital library blueprint and national information infrastructure policy, cost factor, lack of role model, and copyright act clearance.

In addition, there had also been a scores of other problems that had been voiced out by the interviewees such as leadership, insufficient budget for digitization programs, lack of background knowledge on the subject matter, lack of national collaborative efforts, lack of technical expertise, expensive user license, training, staffing, time factor, monitoring the utilization of e-resources, especially journals, the promotion of online services and digital ownership. Despite of the problems above that had resulted in heavy

dependence on the parents' organizations' IT Unit for technical support and that only a small fraction of the libraries had actually done digitization works but many of the library heads were positive about digital library development because users were ready. Judging from the overall Malaysian library development and transformation that had been going on, they strongly felt that the hybrid type would suits them best.

There had been some convergence of findings from both methods and these were significant in the aspects of digital library planning, barriers to digital library development and problems faced, collaboration, digital library policy, blueprint, ICT facilities and national information infrastructure.

The National Library of Malaysia had been duly acknowledged for successfully laying out the national platform and foundation for the initial take off towards automation and digitization. The respondents agreed it had in principle set the platform for digital library initiatives, through *PERDANA* and few other projects and had brought enormous awareness on them. Most of the respondents placed high hopes on the National Library of Malaysia to lead and create more national digital library projects and to increase the number of participating libraries in these digital library projects, to provide technical assistance and also some form of financial assistance. They wanted the National Library of Malaysia to be more aggressive, disseminate latest information on *PERDANA* or *MyLib* through a newly published newsletter, and provide more digital library training and to organize official working visits to any successful digital library projects overseas.

Therefore, based on these findings and specifically the perceived conditions for future growth derived from the interview sessions, the next Chapter 6 would elaborate

on the final summary and recommendations that the researcher would like to put forward to the related authority for considerations. It seemed that more impetus would be needed to bring Malaysian digital library initiatives to a greater height.