

# **MONOGRAPH**

## **TRIPLE HELIX PROGRAM**

by

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**Jabatan Pengajian Islam dan Kemanusiaan**  
**Pusat Bahasa dan Pembangunan Insan**  
**UTeM. Melaka**

### **EXECUTIVE SUMMARY**

The two-day programme, Entrepreneurial Networking in Industrial Linkages University-Industry Triple-Helix was organised from 3<sup>th</sup> until 4<sup>th</sup> September, 2012 at Kampus AKEPT, Bandar Enstek, Negeri Sembilan. The programme was conducted as a two days programme that filling with Talk, Workshop and Forum session. With general aim to provide a platform for the sharing of knowledge and experience among academics, researchers, entrepreneurs, government agencies and industrialists (SMEs and MNCs) in an effort to enhance innovation and entrepreneurship in the country via smart collaboration (Triple-Helix), this programme was organised by AKEPT Centre for Leadership Research and Innovation (ACLRI) in collaboration with Universiti Teknikal Malaysia Melaka (UTeM). There were four speakers with each of them was given one hour thirty minutes during the talk session. The workshop session and forum session were taken one hour and two hours thirty minutes, respectively. The participants were from policy makers, academics, researchers, entrepreneurs, government agencies and industrialists (SMEs and MNCs).

Conventional survey questionnaire was implemented to investigate participants' perception on the program. The effectiveness of the programme was measured by using AKPET evaluation forms. The scale of rating is from 1 to 4, each representing Poor, Satisfactory, Good and Excellent. The commercial available SPSS Version 18 was used to perform the mathematical analysis.

The purpose of this report is twofold: first it aims to document the effectiveness of this programme and second, it aims to profile the best practices for the effective implementation of the Triple-Helix concept and identify relevant and potential partners to harness innovation and entrepreneurial collaboration for growth and sustainability by producing the resolutions on how to harness the entrepreneurial development in university-industry linkages in actualizing the mission of a high income nation.

Overall programme has been rated as satisfied programme and its objectives have been achieved successfully. The whole programme showed minimum faults in administration and inconsistency between AKEPT and UTeM. For the future programme, participants did suggest some useful approach as inviting professional speaker from varieties area and expertise and implementing session to develop the networking between speakers and participants. As a result, the entire programme

should be reviewed on its programme schedule, number of speakers from industry, and programme document.

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# EVALUATION REPORT

by

**Hanipah Hussin and Anas Abdul Latiff**

**PROGRAMME:** Entrepreneurial Networking in Industrial Linkages University-  
Industry Triple-Helix

**DATE:** 3-4 September 2012

**VENUE:** Kampus AKEPT, Bandar Enstek, Negeri Sembilan

**SPEAKER:** **1. Prof. Datin Paduka Dr. Khatijah Mohd Yusoff**  
Deputy Secretary General (Science),  
Ministry of Science, Technology and Innovation  
(MOSTI)

**2. Tan Sri Datuk Dr. Kamal Bin Mat Salih**  
Chairman,  
KLEC Ventures Sdn Bhd

**3. Prof. Dr. Saringat Bai@ Baie**  
Chairman, Board of Director,  
Skinfix Sdn Bhd

**4. Ms. Fuaida Harun**  
Quality Director,  
Infineon Technologies

**PANELIST:** **1. Mr. Azrai Shuib**  
General Manager,  
Incubation & Technopreneurs Development,  
Technology Park Malaysia (TPM)

**2. Prof. Dr. Ir. Azhar Dato' Abdul Aziz**  
Director,  
Innovation & Commercialisation Centre,  
Universiti Teknologi Malaysia (UTM)

**3. Prof. Ir. Dr. Mohd Jailani Bin Mohd Nor**  
Deputy Vice Chancellor,  
Research and Innovation,

## **1.0 PROGRAMME OVERVIEW**

Today innovation is increasingly based upon a “Triple Helix” of university-industry-government interactions. This indicates that the newly emerging knowledge-based economy depends on the ability of business and organization to foster synergy and collaboration in promoting knowledge-based activities such as R7D, innovation and entrepreneurship. Triple-Helix which generally refers to university-industry-government collaborations has been widely recognized to have positive consequences on economic and social development. Malaysia also realizes the importance of Triple-Helix for successful regional wealth creation notably in actualizing the mission of becoming a high income nation.

In line with this, AKEPT as one of the important implementation agencies under the Ministry of Higher Education, Malaysia (MOHE) initiated this collaborative Seminar on Entrepreneurial Networking in Industrial Linkages: University-Industry Triple Helix with Universiti Teknikal Malaysia Melaka (UTeM). This seminar provides a platform for the sharing of knowledge and experience among academics, researchers, entrepreneurs, government agencies and industrialists (SMEs and MNCs) in an effort to enhance innovation and entrepreneurship in the country via smart collaboration (Triple-Helix). Among others, this seminar is expected to enhance understanding and knowledge of the participants on the importance of smart academic-industry-government collaboration in an effort to enhance national competitiveness.

At the end of the programme the participants should be able to:

- i. Comprehend and apply the concept of Triple-Helix, notably in the innovation milieu and entrepreneurial development, through participatory dialogues, talks and forums.
- ii. Identify the best practices for the effective implementation of the Triple-Helix concept.
- iii. Identify relevant and potential partners to harness innovation and entrepreneurial collaboration for growth and sustainability.
- iv. Produce resolutions on how to harness the entrepreneurial development in university-industry linkages in actualizing the

mission of a high income nation.

The programme was conducted as a two days programme that filling with Talk, Workshop, and Forum session, and Research Product Exhibition. There were four speakers with each of them was given one hour thirty minutes during the talk session. The workshop session and forum session were taken one hour and two hours thirty minutes, respectively. The participants were from policy makers, academics, researchers, entrepreneurs, government agencies and industrialists (SMEs and MNCs).

## **2.0 EVALUATION METHODOLOGY**

### **2.1 Evaluation on the Program**

The evaluation forms were distributed on the first day of programme and collected at the end of last day's programme to be compiled into evaluation report. The scale of rating is from 1 to 4, each representing Poor, Satisfactory, Good and Excellent. The commercial available SPSS Version 18 was used to perform the mathematical analysis.

### **2.2 Evaluation on the Research Product Exhibition**

Three panels from industry were invited to do an evaluation on the research product. Evaluation was based on applicability and commercializability. The scale of rating is from 1 to 5, each representing Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree.

### 3.0 FINDINGS

#### 3.1 Participation

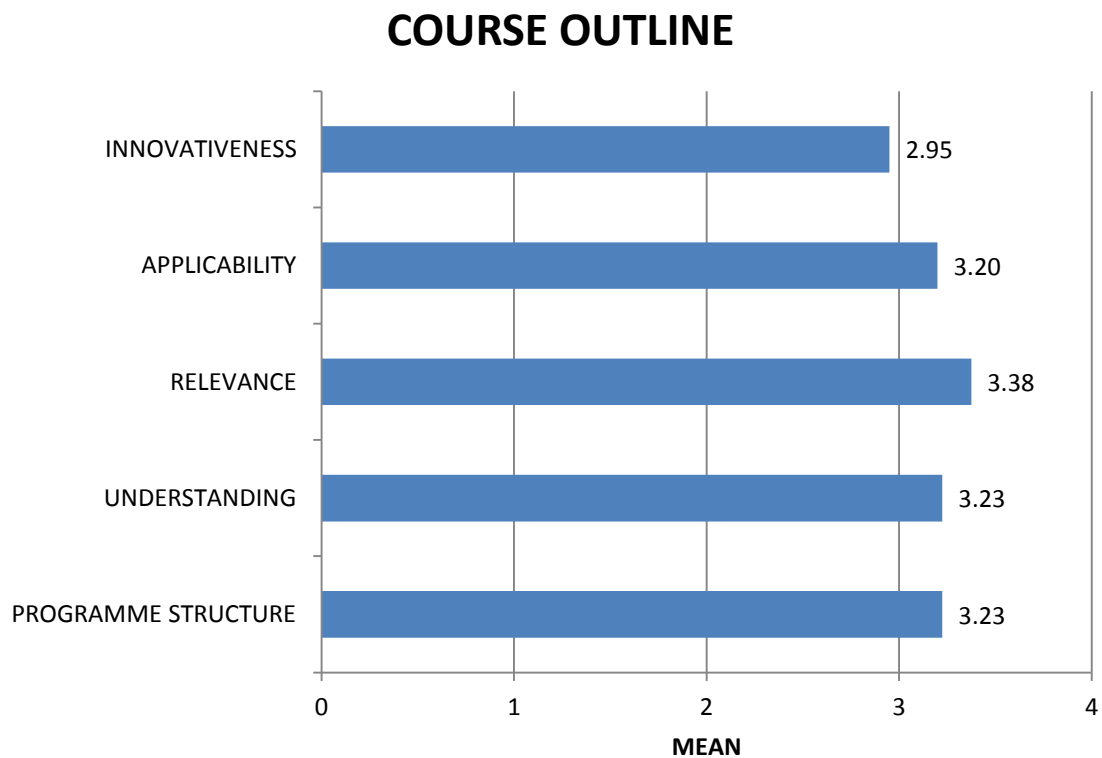
**Table 3.1** shows the statistic of participation during the programme. As shown in table, among 96 nominated participants, 90.6 % showed up in the programme, contributed to a total of 87 participants. The programme was attended by invited participants from policy makers, academics, researchers, entrepreneurs, government agencies and industrialists (SMEs and MNCs). All are committed during the programme.

**Table 3.1:** Statistic of participation.

Registered Participants	Attended	Walk-in Participants	Total Participants
128	104	11	114

### 3.2 Finding on Content Outline

**Figure 3.1** shows the content outline rated in five different aspects namely programme structure, understanding, relevance, applicability and innovativeness. The content rating is plotted within the range of 'good' with an overall content rating of 3.20 out of 4. Consequently, this content outline aligned with the programme objectives.



**Figure 3.1:** Graph of mean rating on content outline.

As shown in the figure, the mean rating of the five aspects are plotted within the range of 2.95 – 3.38, which shows a 'good' delivery on the speaker's content. The participants feel that the programme content generally is good but there are still rooms for improvements in the following aspects:

<b>A</b>	<b>Programme Structure/ Understanding/ Relevance</b>
	<ul style="list-style-type: none"> <li>▪ Punctuality is very poor. Speaker would be difficult to manage, but starting with progress on time should not be an issues. No coffee break on the 1st day. 5 hours of sitting &amp; listening!!! (not even drinks to be lacked out)</li> <li>▪ A good setup and organization of course</li> <li>▪ The moderator in the forum session on 4 sept, 2012 should deliver her speech instead of posing question (Qs should be @ Q + A session). And it is rather awkward that the pore lasts answer her Qs starting at the rostrum. Content of the programme may be able to be widening to other responsible agencies.</li> <li>▪ Suitable for all level of collaboration.</li> <li>▪ Less on government policy. Please emphasis more on innovation and commercialization.</li> </ul>
<b>B</b>	<b>Applicability</b>
	<ul style="list-style-type: none"> <li>▪ Will apply in my administrative work of commercialization coordinator in my faculty.</li> <li>▪ I will fully use this information to support my PhD proposal.</li> <li>▪ Yes the content of the programme is applicable to my job.</li> <li>▪ The programme focuses to the researchers. It should be general to all educators.</li> <li>▪ Ideas green for industrial approach.</li> </ul>
<b>C</b>	<b>Innovativeness</b>
	<ul style="list-style-type: none"> <li>▪ Which content do you relate to innovativeness??</li> <li>▪ Innovation in creating network</li> </ul>



- Expand the knowledge in innovators.
- New method in collaboration and strategies.

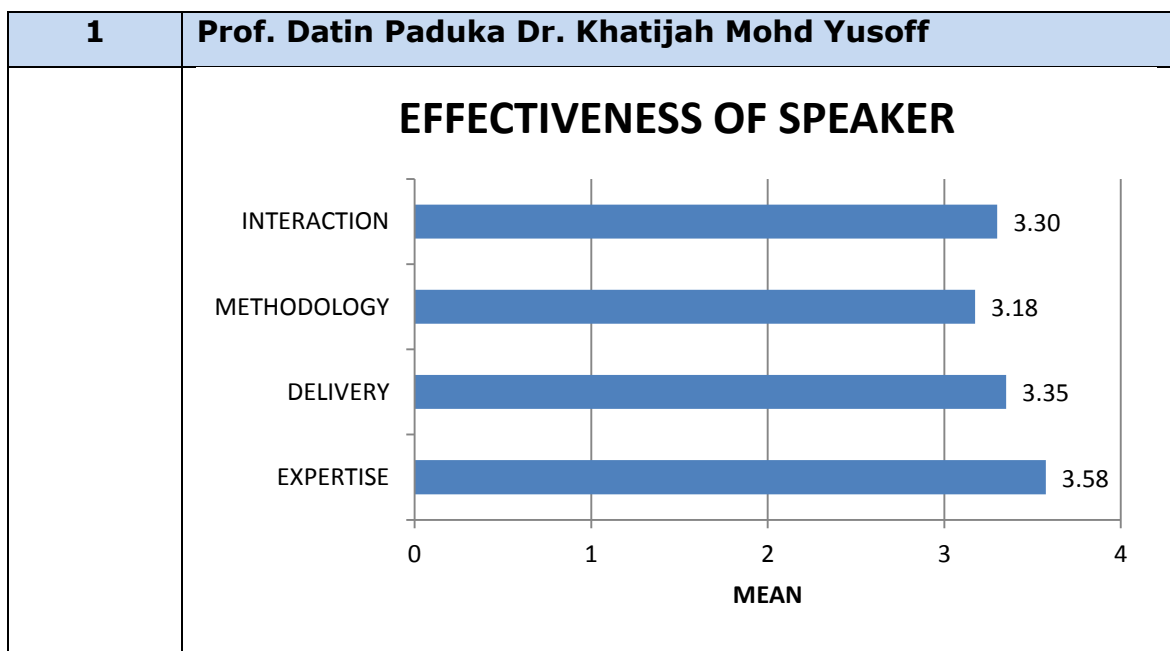
### 3.3 Feedback on Speakers

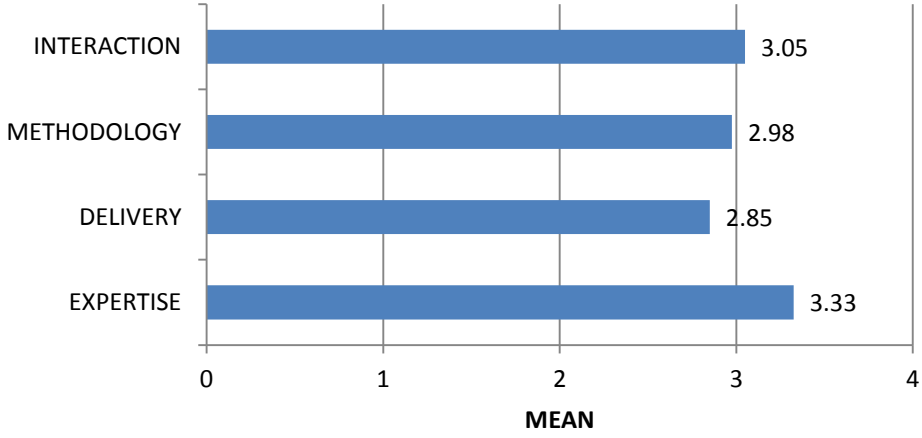
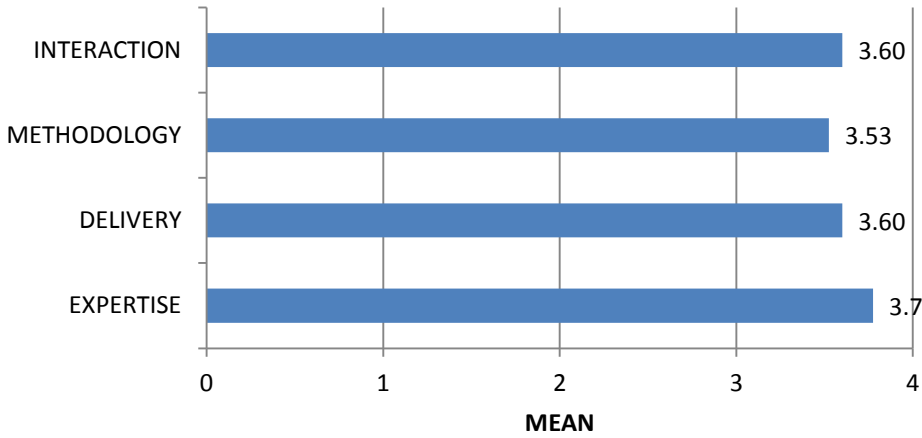
The 2-day-programme was facilitated by four speakers. The speakers received good comments from the participants. Most of participant view the speakers as 'informative', 'energetic', 'excellent' and 'knowledgeable' whereas no complained was reported.

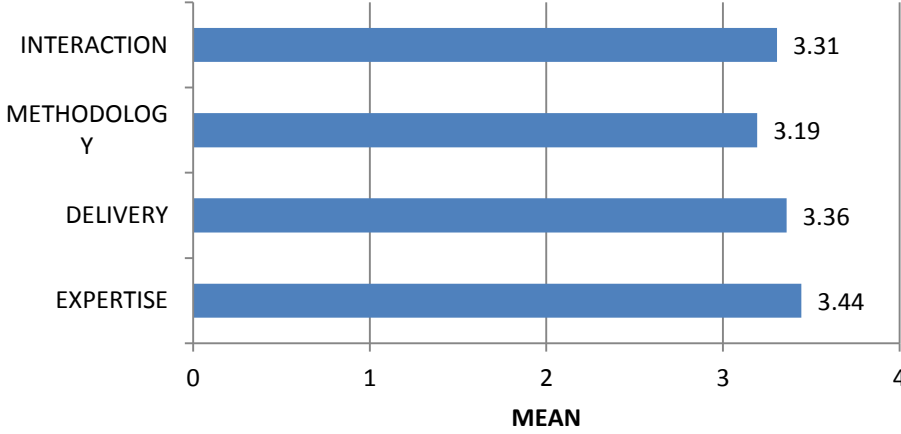
Participants also highlight on the matter of the topic presented. Some should be more concern about finance utilising and policy of MOSTI. Speakers also shared their inspired stories that toward to success. Those speakers are potential to be invited in upcoming programmes.

Attributes of each speaker were rated at the range of 'excellent' and 'good' as in **Table 3.2**. Among the four speakers, Prof. Dr. Saringart Bai@ Baie scored the highest on all four rated attributes.

**Table 3.2:** Effectiveness of Speaker.

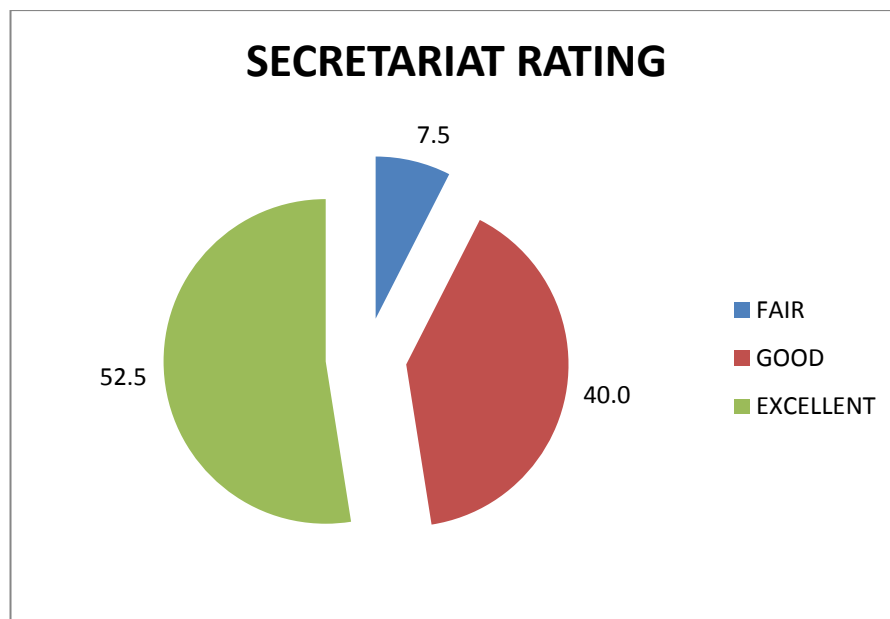


	<ul style="list-style-type: none"> <li>▪ Should more concern about money utilize wisely, audit surreally, policy of MOSTI etc.</li> <li>▪ She is very helpful and willing to help the participants if they have any extra inquiries. Easy to reach her I think.</li> <li>▪ Need more success entrepreneur case studies.</li> <li>▪ Very intellectual.</li> </ul>										
<b>2</b>	<b>Tan Sri Datuk Dr. Kamal Bin Mat</b>										
	<p style="text-align: center;"><b>EFFECTIVENESS OF SPEAKER</b></p>  <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Category</th> <th>Mean</th> </tr> </thead> <tbody> <tr> <td>INTERACTION</td> <td>3.05</td> </tr> <tr> <td>METHODOLOGY</td> <td>2.98</td> </tr> <tr> <td>DELIVERY</td> <td>2.85</td> </tr> <tr> <td>EXPERTISE</td> <td>3.33</td> </tr> </tbody> </table>	Category	Mean	INTERACTION	3.05	METHODOLOGY	2.98	DELIVERY	2.85	EXPERTISE	3.33
Category	Mean										
INTERACTION	3.05										
METHODOLOGY	2.98										
DELIVERY	2.85										
EXPERTISE	3.33										
	<ul style="list-style-type: none"> <li>▪ Very expert.</li> </ul>										
<b>3</b>	<b>Prof. Dr. Saringat Bai@ Baie</b>										
	<p style="text-align: center;"><b>EFFECTIVENESS OF SPEAKER</b></p>  <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Category</th> <th>Mean</th> </tr> </thead> <tbody> <tr> <td>INTERACTION</td> <td>3.60</td> </tr> <tr> <td>METHODOLOGY</td> <td>3.53</td> </tr> <tr> <td>DELIVERY</td> <td>3.60</td> </tr> <tr> <td>EXPERTISE</td> <td>3.78</td> </tr> </tbody> </table>	Category	Mean	INTERACTION	3.60	METHODOLOGY	3.53	DELIVERY	3.60	EXPERTISE	3.78
Category	Mean										
INTERACTION	3.60										
METHODOLOGY	3.53										
DELIVERY	3.60										
EXPERTISE	3.78										
	<ul style="list-style-type: none"> <li>▪ A good example of academician-entrepreneur</li> <li>▪ Don't story about personal live, but good on effort and</li> </ul>										

	<p>conflict in doing of business for as a lecturer.</p> <ul style="list-style-type: none"> <li>▪ Very energetic presentation and he speaks in academician's language.</li> <li>▪ Shared very inspiring stories about his up and downs in business.</li> <li>▪ Excellent presenter.</li> </ul>										
<b>4</b>	<b>Ms. Fuaida Binti Harun</b>										
	<p style="text-align: center;"><b>EFFECTIVENESS OF SPEAKER</b></p>  <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Category</th> <th>Mean Score</th> </tr> </thead> <tbody> <tr> <td>INTERACTION</td> <td>3.31</td> </tr> <tr> <td>METHODOLOGY</td> <td>3.19</td> </tr> <tr> <td>DELIVERY</td> <td>3.36</td> </tr> <tr> <td>EXPERTISE</td> <td>3.44</td> </tr> </tbody> </table>	Category	Mean Score	INTERACTION	3.31	METHODOLOGY	3.19	DELIVERY	3.36	EXPERTISE	3.44
Category	Mean Score										
INTERACTION	3.31										
METHODOLOGY	3.19										
DELIVERY	3.36										
EXPERTISE	3.44										
	<ul style="list-style-type: none"> <li>▪ A very good and experienced industry representative</li> <li>▪ The bottom neck from industries is dollar and cent unless if they talk about CSR.</li> <li>▪ Very energetic presentation however she speaks in industrial language but I still able to understand it and whatever she said make sense.</li> <li>▪ Good information.</li> <li>▪ Well known of the specific field.</li> </ul>										

### 3.4 Secretariat

**Figure 3.2** shows the pie chart of secretariat rating. The rating on the secretariat is satisfied with 52.5% of the participants rated 'Excellent', 40% rated 'good' and 7.5% rated for 'fair' and 0% rated 'poor'. The mean score was 3.45 out of 4. As a result, programme's secretariat successfully handles this programme with full of commitment.



**Figure 3.2:** Graph on secretariat rating.

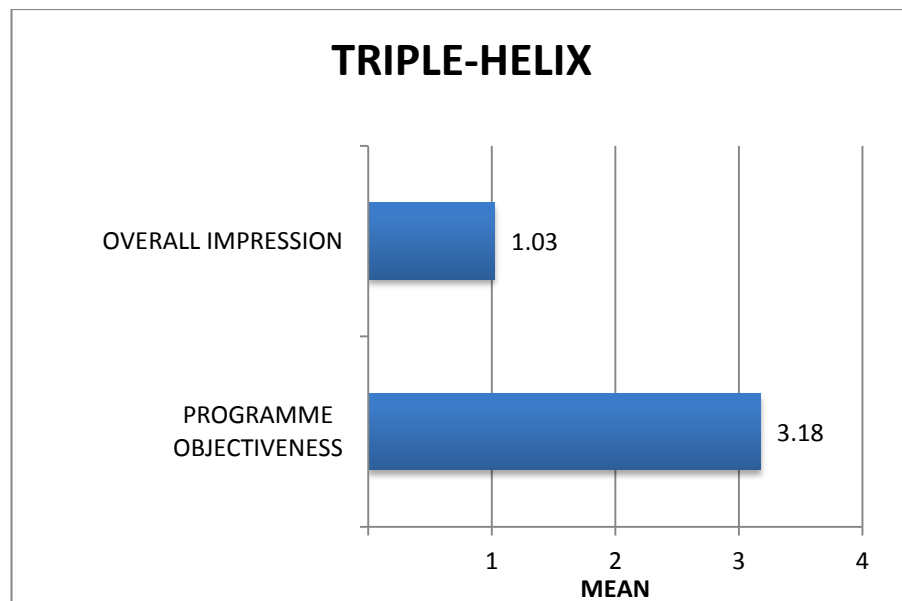
There are a few improvements could be done as highlighted in the feedback form:

- To suggest another round of workshop/course to practice the resolution created from this course
- Thank you
- The no of secretariat is more than the participant.

- TV channel should improve especially for sport and news.
- Overall is good
- Excellent. Superb. They are helpful, cheerful and their best to give the best service to the participants including the practical students. Congratulation. I would rate them 5 out of 5.
- Since many of us are staying at the residents/hostel, kindly let some staffs be at the registration lobby of block B, all the time, should there be any problem arises. Others are good if admin, logistics, etc.
- Invite more speakers and participants in thin seminar.
  
- The administrations and logistics arrangement provide best service. Suggestion to administration, the invitation made should be in email and letter through participant's organization.
- Great teamwork among secretariat members helpful towards participants.
- The organizer should invite the university COEs' Head, Holding companies from universities and related with industries (ICNet) for this event be off their action plan for further success action of Triple-Helix.
- If there is transportation arrangements for the participant go to the nearer town for shopping during free time is better.
- Scheduling is very important, during the event, the schedule was unclear.
- Punctuality of the speaker was bad.
- Punctuality the arrangement of the programme is not clear to participant (include the exhibition), should have rest time if the programme takes too long time continually.
- More time for question. Answer session.
- Very informative and useful for new lecturers to start collaboration between universities and industrial.
- No comment. (All in good services and condition).
- This is a heavy programme. Please include breaks with food in between. I cannot function without proper food.

### 3.5 Overall Programme Rating

**Figure 3.3** shows the mean rating for overall impression of the programme and achievement of the programme objectives. The programme objectiveness is plotted within the range of 'good' with the mean of 3.18. Meanwhile, the overall impression is plotted within the range of 'satisfaction' with the mean of 1.03. The participants realized the good intention in having this programmes, however the programme has fairly impress them.



**Figure 3.3:** Comparison of the overall impression of programme and whether the programme meets its objectives objectiveness.

### 3.6 Feedback on Exhibition

**Table 3.3** shows the feedback and evaluation on the research product in applicability and commercializability. As shown in table, about 21 products were exhibited and received positive comments. Three panels from industry were invited to do the evaluation on these products.

**Table 3.3:** Feedback on research product exhibition.

Name	Institution	Product	Description	Feedback
<b>PROF DR. SARINGAT BAIE</b>	<b>USM</b>	Har One Product	Combination between a comfortable dressing for dermal wound and to provide an adequate nutrition to the wound site. Received grant from TechnoFund and Innofund. Received award from various exhibition. USM RU, RM 540k	Not evaluated, <b>already commercialized.</b>
<b>ASAR ABD KARIM</b>	<b>UMP</b>	Asarfonts	AsarFonts is English-Arabic Romanization keyboard layout namely as AsarEN and Arabic-Jāwī QWERTY keyboard layout known as AsarAR. Has been commercialized and received award in various exhibition such as MTE11, ITEX and have been registered for copyright.	applicability = 4/5 commercializability = 4/5
<b>ABD. SYUKUR ABD. RAZAK</b>		Pisoptera	Product for prevention form termite. This product already in market. And reciver grant form MTDC.	applicability = 4/5 commercializability = 4/5
		Phytoredemption	Product for friendly wastewater treatment system. This project can be the low	
		Phytogreen		

		Phytogreen Refurbishment	cost and environmentally effective. PHYTOGREEN also been identified by the Malaysian Technology Development Corporation Sdn.Bhd (MTDC)as R & D projects with potential for commercialization and eligible to apply for Commercialization of R & D Fund 3 (A)or CRDF 3 (A), the maximum amount of grant applications in that category is RM 4 million.	
<b>DR. REDDY PRASAD</b>		Jatropha Toothpaste	JATROPHA curcas, a tree and shrub native to Central America and the Caribbean, is known for its oil-containing seeds. Jatropaste, a toothpaste incorporating natural goodness from latex of Jatropha curcas plant. Jatropha curcas latex as a cure for toothache, gum inflammation, gum bleeding, tongue inflammation and reducing dental cavity. Recieved pre commercialization grant from SIRIM and MTDC which are Development of mouthwash and antibiotic cream from Jatropha, SIRIM RM40k and Development of medicated toothpaste from Jatropha, MTDC RM500k.	applicability = 1/5 commercializability = 1/5  Comment : <b>too many toothpaste product in market, need to benchmark and find the novelty</b>
<b>PROF. MADYA DR. MIMI SAKINAH ABD MUNAIM</b>		Natural Dye	The invention relates to an apparatus and method for production of natural dye from skin of fruits using submerged membrane water extractor system. The process uses an ultrafiltration submerged membrane and nanofiltration cross flow membrane. The product containing the natural dye flows through the membrane contains plentiful of pure natural dye. This process is the integrated by extractor and membrane (ultrafiltration and nanofiltration) technology. US 2011/0083285 A1	applicability = 3/5 commercializability = 3/5  comemnt : <b>do benchmark for company who produce baby products</b>
<b>PROF. MADYA DR. HAYDER A. ABDUL BARI</b>		Grease	Incorporated of wastes in industries particularly palm oil industries for new multi-purpose grease. Spent bleaching earth (SBE) from local palm oil refinery is used as thickener for this newly formulated grease while waste cooking oil is used as base oil. recieved many grants and published some journal regarding the products.	applicability = 3/5 commercializability = 3/5



<b>ENGR. ANUAR MOHAMED KASSIM</b>	<b>UTeM</b>	Smart Eye	Product for guiding visually impaired person. Have been awarded many awards in various exhibition such as MTE 11, MTE12, GENEVA11, I-ENVEX 11, I-ENVEX12, NRIC 11. IP pending : PI2012003042 Received FRGS and shotrm term grant from university = RM 76,000 collaborate with malaysia society for blind	applicability = 4/5 commercilizability = 3/5
<b>RIDZA AZRI RAMLEE</b>		Smart House Controller Using Android	Product for monitoring the home appliances usign Android. Have been awarded many awards such as MTE11 and etc. IP pending	applicability = 4/5 commercilizability = 4/5
<b>SIVA KUMAR A/L SUBRAMANI AM</b>		Multiplex Switching System For Single Phase Electrical Application	funding = RM5000 collaboration not yet established	applicability = 2/5 commercilizability = 3/5
<b>ZAMANI MD SANI</b>		Smafac	Product forcontrolling speed of fan using multi sensor. Have been awarded many awards in various exhibition such as ITEX,I-ENVEX 11, I-ENVEX12, NRIC 11, 12. IP pending. Received shotrm term grant from university. Collaboration with KHIND funding = PJP RM 12,500	applicability = 4/5 commercilizability = 4/5
<b>SIMMATHIR I A/L APPLANAID U,KAMISAH BINTI KAMIS, KANNAN A/L RASSIAH, AIZURA BINTI ABU BAKAR, MOHAMAD NAZRI B.ISMAIL, MOHAMAD SHAHRIL BIN IBRAHIM</b>	<b>Politeknik Merlimau</b>	Innovation Mini Palm Cutting Machine		applicability = 3/5 commercilizability = 3/5 comment : <b>product need to have proper IP management and more market study with pekebun kecil</b>
<b>ALFRED BAKRI</b>		Alat Pengapit Karipap		applicability = 2/5 commercilizability = 2/5 comemnt : <b>large area to improve ans early stage of invention</b>

<p><b>DR. S. NURMAYA MUSA</b></p>	<p><b>UM</b></p>	<p>ATDM &amp; CNC</p>	<p>The ATDM introduced construction of a closed chamber to create a controlled environment and to avoid heat loss. Hence, became a smart electric consumption machine. The application of stepper motor in mechanical mechanism of ATDM gives an advantage in term of precision movement of the basket. Besides that, experiments with multiple cycles of hot, warm and cold fluids are now possible with minimal preparation and can run automatically. The six tanks are independent of each other and can be remotely controlled via a touch screen interface. From this technology, users are able to customize the machine's program by selecting appropriate values of temperatures, cycle times and movement at each tank. Furthermore, the liquid levels in the tanks are constant and when the level drops below the accepted tolerance, the tanks will automatically refill its contents. The mechanical mechanisms are controlled by motors. Gold Medal Event: 22nd International Invention, Innovation &amp; Technology Exhibition (ITEX 2011), PI 2010002659</p>	<p>Not evaluated, <b>already commercialized.</b></p>
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<b>DR. SHAHRUL AZMI BIN MOHD YUSOF</b>	<b>UUM</b>	University Virtual Interview Application (UVIA)	Virtual Interview Trainer (VIT) is an application that prepares the students for job interviews by means of a virtual interview training method. It trains them by having an avatar to interact by asking common job interview questions. The interview is recorded and can be replayed for self monitoring. This which helps improve the confidence of the students to communicate in English. VIT has an ntegrated automatic speech recognition (ASR) capability which ecognizes certain verbal responses. It uses a novel single frame spectrum envelope method which is faster to process speed and accuracy compared to conventional multiple frame speech recognition processes like Mel-Frequency Cepstral Coefficient (MFCC). This trainer also displays interview performance score according to the interviewee’s verbal responses. If the interviewee fail to perform well, the avatar will angrily cut short the interview. Have been awarded many awards in various exhibition such as MTE12, PECIPTA111	applicability = 4/5 commercilizability = 4/5
<b>DR. MOHD.NAJI B B. MOHD. SALLEH, ABDUL HALIM B. OMAR</b>	<b>UTHM</b>	Crop Selection using Fuzzy Modeling Technique in Decision Support System	The decision support system proposes integrated data warehouse with fuzzy representation for decision modeling in crop selection for Malaysian farmers. In agricultural domain application, it is becoming increasingly important to adapt changes in their environment by adjusting its own behavior. Silver medal in 23rd International, Invention, Innovation & Technology Exhibition (ITEX 2012) 16th to 18th May 2012	applicability = 4/5 commercilizability = 4/5
<b>DR. MOHD.NAJI B B. MOHD. SALLEH, YAP KWONG YEW</b>		Malay-Mandarin Translator for Business Traveler using Andriod Technology		applicability = 4/5 commercilizability = 4/5
<b>DR. MUHAMMAD YUSOF BIN ISMAIL, MUHAMMAD INAM ABBASI,</b>		Dual Frequency Flat Reflector for Mobile Communication Systems	Gold Medal in 23rd International, Invention, Innovation & Technology Exhibition (ITEX 2012) 16th to 18th May 2012 funding PRGS RM 600,000 collaboration with Angkasa	applicability = 4/5 commercilizability = 4/5

<b>NOOR HAFIZAH BINTI SULAIMAN</b>				
<b>DR. MUHAMMAD YUSOF BIN ISMAIL, DR. FAUZIAHAN IM CHE SEMAN, MUHAMMAD HASHIM DAHRI</b>		Tunable Microwave Absorber for Wireless Systems	Silver medal in 23rd International, Invention, Innovation & Technology Exhibition (ITEX 2012) 16th to 18th May 2012 funding FRGS RM 100,000 colaborator = Angkasa, Agilent infant stage of commercilization	applicability = 3/5 commercilizability = 3/5

## 4.0 FINANCE

**Table 4.1** shows four finance allocations on the programme. All cost and allocation were well organized by committee members. In appreciation on speaker professionalism, all speakers received a higher amount of rate.

**Table 4.1:** Finance allocation.

<b>No.</b>	<b>Allocation</b>	<b>Total (RM)</b>
1	Operation cost	59,990.00
2	Module preparation	14,000.00
3	Contingence	1,010.00
4	Professional speaker	15,000.00
<b>Total Amount (RM)</b>		<b>90,000.00</b>

## 5.0 SUMMARY

The overall response on the programme was mixed, most were either rate the programme 'excellent' or 'good'. The whole programme showed minimum faults in administration and inconsistency between AKEPT and UTeM.

For the future programme, participants did suggest some useful approach as follows:

- i. Inviting more professional industry speaker from varieties area and expertise.
- ii. Session to develop the networking between speakers and participants.

As a result, the entire programme should be reviewed on its programme schedule, number of speakers from industry, and programme document.

## 6.0 REFLECTION ON THE PROGRAMME (De 'Bono Frameworks)

**Table 6.1** shows the reflection on the programme that based on De' Bono Frameworks. As shown in the table, the reflections on the programme can be categorised into four items as positive, negative, interesting, and other people views.

**Table 6.1:** Reflection on the programme

<p style="text-align: center;"><b>Positive (P)</b></p>	<ul style="list-style-type: none"> <li>▪ Good team works and IT Practitioners with Social Media Interactive.</li> <li>▪ Brainstorming in the workshop session by providing professional facilitators.</li> </ul>
<p style="text-align: center;"><b>Negative (N)</b></p>	<ul style="list-style-type: none"> <li>▪ Improve programme schedule by looking at the frequency of breaks.</li> <li>▪ Should include the contact detail of speakers in the programme book.</li> </ul>
<p style="text-align: center;"><b>Interesting (I)</b></p>	<ul style="list-style-type: none"> <li>▪ The effective implementation of the Triple-Helix concept can harness the entrepreneurial development in university-industry linkages in actualizing the mission of a high income nation.</li> </ul>
<p style="text-align: center;"><b>Other People Views (OPV)</b></p>	<ul style="list-style-type: none"> <li>▪ If the time is a little bit longer for the speaker, knowledge dissemination might be more in to detail.</li> </ul>

## 7.0 FUTURE SUGGESTIONS ACTION TO BE TAKEN

Suggestions from the participants on the future programmes held by AKEPT:

- Very useful forum. Informative views from all the relevant speakers.
- Should do again for other lecturer next time.
- The forum session should be longer.
- Little or not much publicity in marketing of the programme.
- Announcement should be made earlier to universities and related agencies so that they can be fitted from this programme.
- This programme should come out with recorded DVD tape and documented all slide presentations. Some of participants, interested to purchase those items.
- Should include the email address of all the panels and speakers in the brochure. This seminar is a platform for us to build networking with them.
- Please distribute mineral drinks and sweets next time. Kindly, improve the frequency of breaks.
- More industry people involve. Many of the speakers are from academic or government agencies.
- All soft copy of slides should be downloaded via links or etc.



## APPENDIX A

### RESOLUTION ON TRIPLE-HELIX



## RESOLUTION

**WORKSHOP:** Entrepreneurial University: Issues and Prospect in K-Economy

**PROGRAMME:** Entrepreneurial Networking in Industrial Linkages: University-Industry Triple-Helix

**DATE:** 3-4 September 2012

**VENUE:** Kampus AKEPT, Bandar Enstek, Negeri Sembilan

**SPEAKER:** **1. Prof. Datin Paduka Dr. Khatijah Mohd Yusoff**  
Deputy Secretary General (Science),  
Ministry of Science, Technology and Innovation  
(MOSTI)

**2. Tan Sri Datuk Dr. Kamal Bin Mat Salih**  
Chairman,  
KLEC Ventures Sdn Bhd

**3. Prof. Dr. Saringat Bai@ Baie**  
Chairman, Board of Director,  
Skinfix Sdn Bhd

**4. Ms. Fuaida Harun**  
Quality Director,  
Infineon Technologies

**PANELIST:** **1. Mr. Azrai Shuib**  
General Manager,  
Incubation & Technopreneurs Development,  
Technology Park Malaysia (TPM)

**2. Prof. Dr. Ir. Azhar Dato' Abdul Aziz**  
Director,  
Innovation & Commercialisation Centre,  
Universiti Teknologi Malaysia (UTM)

**3. Prof. Ir. Dr. Mohd Jailani Bin Mohd Nor**  
Deputy Vice Chancellor,  
Research and Innovation,  
Universiti Teknikal Malaysia Melaka (UTeM)

Becoming a high income nation is an important mission in Malaysia. The regional wealth creation notably in actualizing that mission is successfully realized by Triple-Helix. Triple-Helix which generally refers to university-industry-government collaborations has been widely recognized to have positive consequences on economic and social development. Consequently, this resolution presents the issues, prospects, and strategies in government, university, and industry perspective.

## **1.0 ISSUES**

### **1.1 Government**

- 1.1.1 Malaysia's expenditure on Research-and-Development (R&D) is very minimal.
- 1.1.2 Issue on IPs.
- 1.1.3 Middle income trap in 1980's to date.
- 1.1.4 Low involvement of venture capitalist.
- 1.1.5 Heavily depend on Foreign Direct Investment (FDI).
- 1.1.6 Malaysian Innovation Ecosystem based on multi-actor which led to overlapping of functions.
- 1.1.7 The absence of mechanism of monitoring and coordination.

### **1.2 University**

- 1.2.1 Small effect on R&D whereas return income is not too significant.
- 1.2.2 Funding critically required.
- 1.2.3 Substantial investment and funding from all parties.
- 1.2.4 Entrepreneurial barrier.
- 1.2.5 Marketable product.
- 1.2.6 The absent of technology culture among Malaysia.
- 1.2.7 Too dependent on public funding and investment.
- 1.2.8 Capital allocation is minimal.

### **1.3 Industry**

- 1.3.1 Low synergy among actors.
- 1.3.2 Substantial investment and funding from all parties.
- 1.3.3 Required short time solution.
- 1.3.4 Research Output can be applied directly to the industry developed by research funding.
- 1.3.5 Industry not well informed about the facilities in university.

### **3.0 STRATEGIES**

#### **3.1 Government**

- 3.1.1 Think-tank among AKEPT & Majlis Professor Negara (MPN).
- 3.1.2 National Systems of Innovation.
- 3.1.3 Vision 2020: To establish scientific and progressive society.
- 3.1.4 1 Malaysia concept.

#### **3.2 University**

- 3.2.1 More chances for Industry to do PhD.
- 3.2.2 Rectifying the mindset and attitude among academia.
- 3.2.3 Clear direction and strong leadership.
- 3.2.4 Longer term for industrial attachment (for academics).
- 3.2.5 Involve industries in curriculum design.
- 3.2.6 Entrepreneurial universities.
- 3.2.7 Enhancing the marketing skills.
- 3.2.8 Optimization of linkages with incubators.

#### **3.3 Industry**

- 3.3.1 Actively involve with academics in research.
- 3.3.2 Triple Helix Linkages.
- 3.3.3 Strategic partnership with firms on techno- science parks.
- 3.3.4 Triple Helix Model.
- 3.3.5 Quadruple Helix.
- 3.3.6 Strategic thrust.
- 3.3.7 Accelerate development.
- 3.3.8 Better exposure and awareness.

## **2.0 PROSPECTS**

### **2.1 Government**

- 2.1.1 Serious commitment from the Malaysian government to enhance indigenous technological and entrepreneurial capabilities at home.
- 2.1.2 STI (Science, Technology and Innovation) strategic tools to solve / reduce the issue of income trap.
- 2.1.3 Vision 2020.
- 2.1.4 Towards high income Growth National Income (GNI).
- 2.1.5 National STI Policy Framework.
- 2.1.6 Innovation-led economy.
- 2.1.7 Economic Development Corridor for Regional Wealth Creation.
- 2.1.8 Halal Industry.
- 2.1.9 Policy measures for University-Industry Collaboration.
- 2.1.10 The availability of advanced technological infrastructure and facilities.
- 2.1.11 State-of-the-art Incubators.
- 2.1.12 Government Transformation Program (GTP).
- 2.1.13 Knowledge and Technological spill-over from the MNCs.
- 2.1.14 Develop/discover new technologies.

### **2.2 University**

- 2.2.1 GDP - expenditure on R&D.
- 2.2.2 Incentives on scientific research.
- 2.2.3 State-of-the-art infrastructure & facilities.
- 2.2.4 Roles and functions – universities and research.
- 2.2.5 Knowledge key production.
- 2.2.6 Profitability product.
- 2.2.7 Universities growth centre.
- 2.2.8 Research to entrepreneur innovator.

### **2.3 Industry**

- 2.3.1 Develop/discover new technologies.
- 2.3.2 Contract manufacturing with other company.
- 2.3.3 Balance between innovation and productivity.
- 2.3.4 Cost pressure.
- 2.3.5 Technology-based SMEs.
- 2.3.6 Biotechnology.
- 2.3.7 Palm Oil Industry.
- 2.3.8 Green Technology.
- 2.3.9 Nobel Laureate.

# RESOLUTION

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**APPENDIX B**

**PICTURE OF THE PROGRAMME**

