STRATEGIC
PLAN
2012-2020

UTeM
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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Vice Chancellor
FOREWORD

UTeM Strategic Plan 2012-2020 is a comprehensive and thorough review of the university's vision, mission and strategies. In its 11th year of inception, UTeM is now on a solid platform with the need to prepare for the future through breakthrough strategies as the university move forward towards 2020. The Strategic Planning process is focused at aligning organisation priorities. It is therefore imperative for the University to make informed decisions in optimizing scarce resources for the next 8 years.

In drafting this document, UTeM Strategic Plan 2009-2010 was used as a base. It began with a series of discussions and workshops which started off with the Pre-Workshop from 27-28 February 2012 at Pantai Puteri Melaka followed by the UTeM Strategic Plan Workshop 2012-2020 from 29 March–1 April 2012 in Penang. The commitment and involvement of all key staff of the university as well as the commitment of the stakeholders, the Chairman and members of the UTeM Board of Directors, Deputy Director General (Public Universities), Department of Higher Education, and Ministry of Higher Education. Perspectives and needs of the students were also acknowledged through the inclusion of representatives from the Student Council. The outputs from the workshops were further refined before it could be finalised. The much anticipated Future Scenario Planning Workshop from 7-9 June 2012 also led to further enhancement of this document.

The University's Strategic directions take into account the current trends in globalisation, mobility, international collaboration, evolution in learning & teaching, maximum use of technology, global university best practices, entrepreneurship attributes and community outreach to dramatically redesign its future. As such, the University is fully committed to optimizing its resources to embrace change and infuse technology in an effort to become a high-income nation moving forward synergistically and in consonance with the Strategic Plan 2012-2020.

I would also like to take this opportunity to congratulate the Strategic Plan Committee for their dedication and commitment in actualizing UTeM Strategic Plan 2012-2020 which will undoubtedly put the University on a firmer foundation for the future. I would hope the breakthrough strategies defined in this document will be implemented in our quest to make UTeM global and internationally known.

Last but not least, I hope all of us shall internalise and dedicate undivided attention to the contents of this document and adopt it as a guide in our action plans. The UTeM Strategic Plan should be the focus in our feat to elevate higher technical education to the pinnacle of excellence and in producing highly creative and innovative human capital for the nation. UTeM shall then be 'Always A Pioneer, Always Ahead'.

Thank you.

PROF. DATUK DR. AHMAD YUSOFF BIN HASSAN
Vice Chancellor

About
UTeM's STRATEGIC PLAN DOCUMENT

This document presents the long-term strategic plan for UTeM covering the current year 2012 up to year 2020 providing a stronger footing and strengthening the foundation based on the previous strategic plan documents.

This document is divided into three (3) major chapters:

Chapter One

UTeM CURRENT SCENARIO intends to give the reader a snapshot of UTeM, our current priorities and aspirations.

Chapter Two

STRATEGIC DIRECTION 2020 states the pathway of success that UTeM intends to take within the stated timeframe. This chapter is the body of the plan, elaborating the core strategies designed to transform the University towards realising its 2020 goals.

The Strategies defined in this document encompass six themes, namely Accelerating Techducation Excellence, Pioneering Future Technology, Moulding Technopreneurial Leaders, Boosting Community Potential, Talent Management and Financial Independence that were further amplified and supported by respective stakeholders.

This chapter shall be the main reference for the University's employees in ensuring that their day-to-day activities are synchronised and aligned with the aim of achieving the desired future that the University envisions.

Chapter Three

STRATEGY MANAGEMENT outlines how UTeM intends to implement and monitor the success of this framework. This chapter gives a synopsis of the critical success factors to operationalise the strategic plan, and at the same time, educate the philosophy of strategy management that UTeM practices.

Chapter 1 : UTeM CURRENT SCENARIO

The Organization

Universiti Teknikal Malaysia Melaka (UTeM) was established on December 1, 2000. It was established under Section 20 of the University and University College Act 1971 (Act 30) under the Orders of Kolej Universiti Teknikal Kebangsaan Malaysia (Incorporated) 2001, then known as Kolej Universiti Teknikal Kebangsaan Malaysia (KUTKM).

On February 1, 2007, UTeM went through a rebranding exercise when Kolej Universiti Teknikal Kebangsaan Malaysia (KUTKM) was given a new name as Universiti Teknikal Malaysia Melaka (UTeM). UTeM is the first technical university and the 14th public university listed in Malaysia.

UTeM pioneers the "practice and application oriented" teaching and learning methodology for higher technical education in Malaysia. This is in accordance with the government's decision to cater for high technical-skilled human resource needs of Malaysia's industries.

UTeM currently operates from three campuses namely the Main Campus, the City Campus and the Industry Campus. UTeM has seven faculties which provide in-depth specialization in engineering, ICT and technology management disciplines. The faculties are Electrical Engineering, Electronics and Computer Engineering, Mechanical Engineering, Manufacturing Engineering, Information and Communication Technology and Technology Management & Technopreneurship with the latest addition of the Faculty of Engineering Technology. The university offers academic programs at Diploma, Bachelor, Masters and PhD levels.

The programmes offered at UTeM are highly specialised. The curriculum is developed closely with industry experts so as to ensure its quality and relevance meet the needs of the thriving industrial sectors and further produces highly-skilled human resources for the development of Malaysia towards becoming a high-income nation by 2020.

UTeM's Organization Chart

UTeM Organization Chart is as shown in Figure 1 below. Although not present in the organization chart, the Board of Directors oversee the overall policy direction of the University to be executed by UTeM's top management. The University's Senate is entrusted to deliberate on all academic matters pertaining to students at undergraduate and post graduate levels, enhancing the curriculum and ensuring that the standard meets international recognition.

The management team is headed by Vice Chancellor supported by two Deputy Vice Chancellors and two Assistant Vice Chancellors with various portfolios. There are other support staffs such as the Bursar, Registrar, the Librarian, Head of Computer Centre and many others. Management meetings chaired by the Vice Chancellor are regularly held ranging from pure operational activities to some strategic monitoring of the University's Key Performance Indicators.

The above is a snapshot which may soon be dynamic, flexible and adaptable to ensure all the plans can be implemented successfully and achieved all the aspirations. Empowerment and autonomy will be imperative for the strategies to drive the organization.
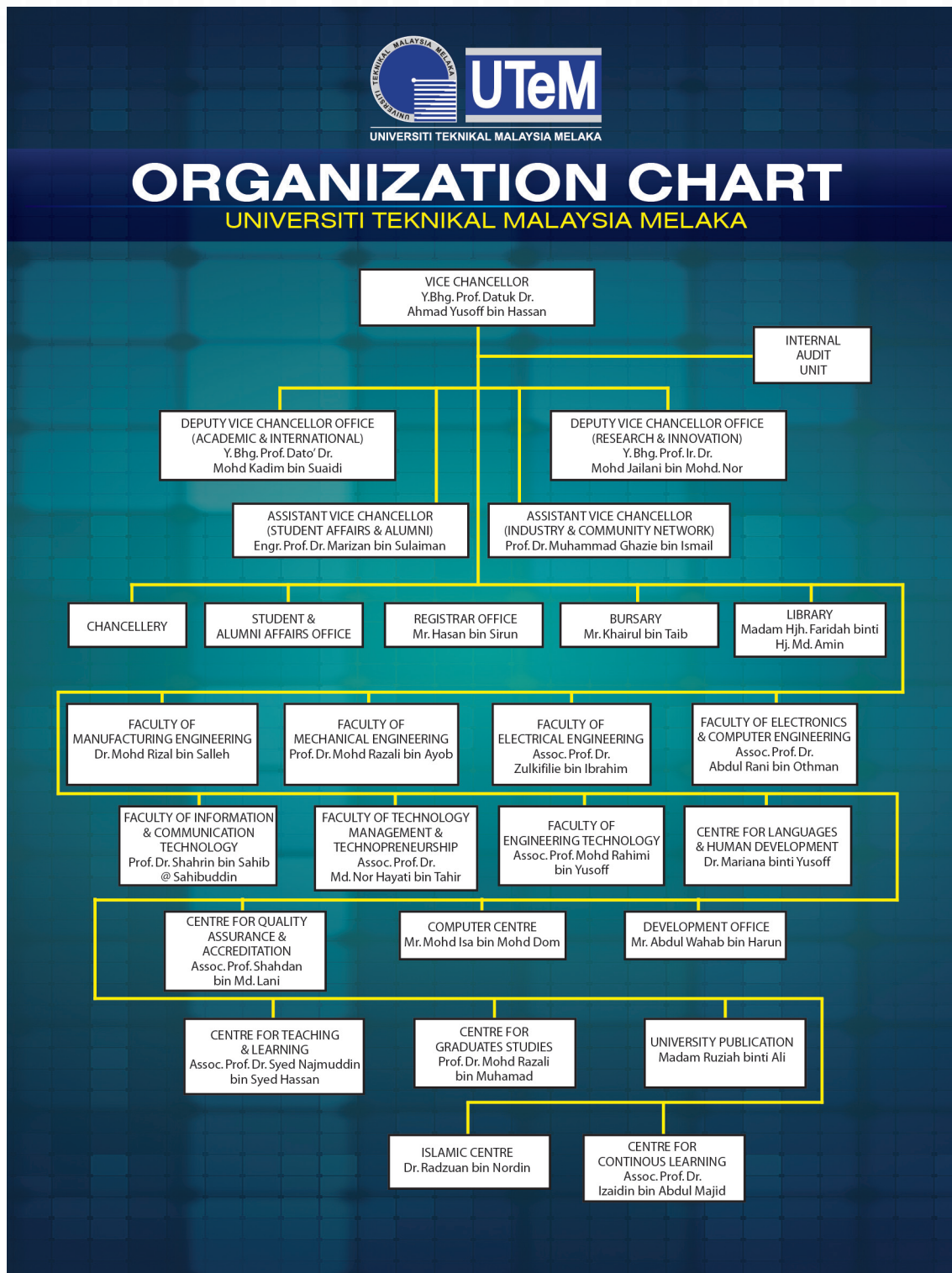
ORGANIZATION CHART
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

VICE CHANCELLOR
Y.Bhg. Prof. Datuk Dr.
Ahmad Yusoff bin Hassan

INTERNAL AUDIT UNIT

**DEPUTY VICE CHANCELLOR OFFICE
(ACADEMIC & INTERNATIONAL)**
Y. Bhg. Prof. Dato' Dr.
Mohd Kadim bin Suaidi

**DEPUTY VICE CHANCELLOR OFFICE
(RESEARCH & INNOVATION)**
Y. Bhg. Prof. Ir. Dr.
Mohd Jailani bin Mohd. Nor

**ASSISTANT VICE CHANCELLOR
(STUDENT AFFAIRS & ALUMNI)**
Engr. Prof. Dr. Marizan bin Sulaiman

**ASSISTANT VICE CHANCELLOR
(INDUSTRY & COMMUNITY NETWORK)**
Prof. Dr. Muhammad Ghazie bin Ismail

CHANCELLERY

**STUDENT &
ALUMNI AFFAIRS OFFICE**

REGISTRAR OFFICE
Mr. Hasan bin Sirun

BURSARY
Mr. Khairul bin Taib

LIBRARY
Madam Hjh. Faridah binti
Hj. Md. Amin

**FACULTY OF
MANUFACTURING ENGINEERING**
Dr. Mohd Rizal bin Salleh

**FACULTY OF
MECHANICAL ENGINEERING**
Prof. Dr. Mohd Razali bin Ayob

**FACULTY OF
ELECTRICAL ENGINEERING**
Assoc. Prof. Dr.
Zulkiflie bin Ibrahim

**FACULTY OF ELECTRONICS
& COMPUTER ENGINEERING**
Assoc. Prof. Dr.
Abdul Rani bin Othman

**FACULTY OF INFORMATION
& COMMUNICATION
TECHNOLOGY**
Prof. Dr. Shahrin bin Sahib
@ Sahibuddin

**FACULTY OF TECHNOLOGY
MANAGEMENT &
TECHNOPRENEURSHIP**
Assoc. Prof. Dr.
Md. Nor Hayati bin Tahir

**FACULTY OF
ENGINEERING TECHNOLOGY**
Assoc. Prof. Mohd Rahimi
bin Yusoff

**CENTRE FOR LANGUAGES
& HUMAN DEVELOPMENT**
Dr. Mariana binti Yusoff

**CENTRE FOR QUALITY
ASSURANCE &
ACCREDITATION**
Assoc. Prof. Shahdan
bin Md. Lani

COMPUTER CENTRE
Mr. Mohd Isa bin Mohd Dom

DEVELOPMENT OFFICE
Mr. Abdul Wahab bin Harun

**CENTRE FOR TEACHING
& LEARNING**
Assoc. Prof. Dr. Syed Najmuddin
bin Syed Hassan

**CENTRE FOR
GRADUATES STUDIES**
Prof. Dr. Mohd Razali
bin Muhamad

UNIVERSITY PUBLICATION
Madam Ruziah binti Ali

ISLAMIC CENTRE
Dr. Radzuan bin Nordin

**CENTRE FOR
CONTINOUS LEARNING**
Assoc. Prof. Dr.
Izaidin bin Abdul Majid

Figure 1 : UTeM Organization Chart

Academic Excellence

UTeM is committed to the advancement of teaching and learning and the development of academic excellence across a comprehensive portfolio of academic programmes at the diploma, undergraduate and postgraduate level. The Industrial PhD is regarded as a niche for UTeM in collaboration with the industry in which the candidates conduct his research at their workplace. UTeM undergraduate and postgraduate students have in-depth specialization in Engineering, Engineering Technology, Information and Communication Technology and Technology Management.

Through the curriculum, UTeM students are equipped with knowledge and understanding of real world problems particularly designed to be practical and applied oriented. As such, UTeM graduates are essentially exposed to industry and business to be highly employable immediately upon graduation or successfully self-employed. The curriculum evolves from a common core of humanities, technopreneurship, mathematic and developed closely with industry experts and professional bodies so as to ensure the quality, standard and relevance meet the needs of the thriving industrial sectors and to produce highly-capable human capital for the development of Malaysia towards becoming a high-income nation by 2020.

It is, imperative to integrate teaching with the research, making best use of new teaching, learning and information technologies. This is so designed to excite UTeM students to be creative and innovative and also equipped with critical thinking, problem solving and the desire to learn and be challenged intellectually.

While UTeM provides conventional engineering courses such as Electronic and Computer Engineering, Mechanical Engineering, Electrical Engineering, Production and Manufacturing Engineering, the University has embarked on a new Engineering Technology programme which produces engineering technologists for the competitive market environment. Students with technical and vocational background from polytechnics and community colleges are given the opportunity to obtain their degree in Engineering Technology.

Objective measures such as benchmarking with well established international universities and professional organisations is carried out regularly to maintain the international standing of the University.

UTeM as a focused university currently has a total of 10,000 students enrolled with yearly enrolment of about 3000 students at diploma, undergraduate and postgraduate levels. These student and graduate enrolment will have attributes important for UTeM to attain the vision of an internationally focused and high-quality university. Students are also given opportunity to study abroad, under UTeM Students Mobility Program, thereby enhancing their unique learning experience internationally.

The academic programmes offered through the seven faculties with the strong support of several centres within UTeM will develop excellent engineers and technologist of tomorrow who are independent, critical thinkers with an openness to new ideas, possessing intellectual curiosity and integrity, and a mastery of a body of knowledge and professional skills as well as moulding them to become responsible and effective members of society.

Research and Innovation

Research and Innovation in the areas of science and technology are central to the success of UTeM. These two elements are the University's vital resources and strategic investments for human capital development and capacity building. UTeM has to equip itself to be technologically and intellectually advanced in meeting and supporting the national aspiration of becoming a developed country by the year 2020.The enculturation of positive attitudes towards Research and Innovation through awareness, monitoring, and strategic management programmes at all levels are crucial in creating a climate for invention, innovation and techno-entrepreneurship.

In line with the University research direction for excellence, UTeM has identified its niche in "Advanced Manufacturing Technology (AMT)". AMT involves the use and integration of new innovative technologies to improve products and/or processes. Advanced manufacturing is also related to the improvement of performance through cutting edge technology applications in product design. It entails rapid seamless transfer of science and technology (S&T) into manufacturing products and processes.

AMT is strengthened by four focus research areas that are linked to outstanding international presence. Excellence in the focus areas identified as Green Technology, Emerging Technology, System Engineering and Human-Technology Interaction enshrined in the UTeM Strategic Plan 2010-2015. The stakeholders' perspectives of meeting and pioneering the knowledge and innovation challenges of the industry are integrated to the achievement of the University vision.
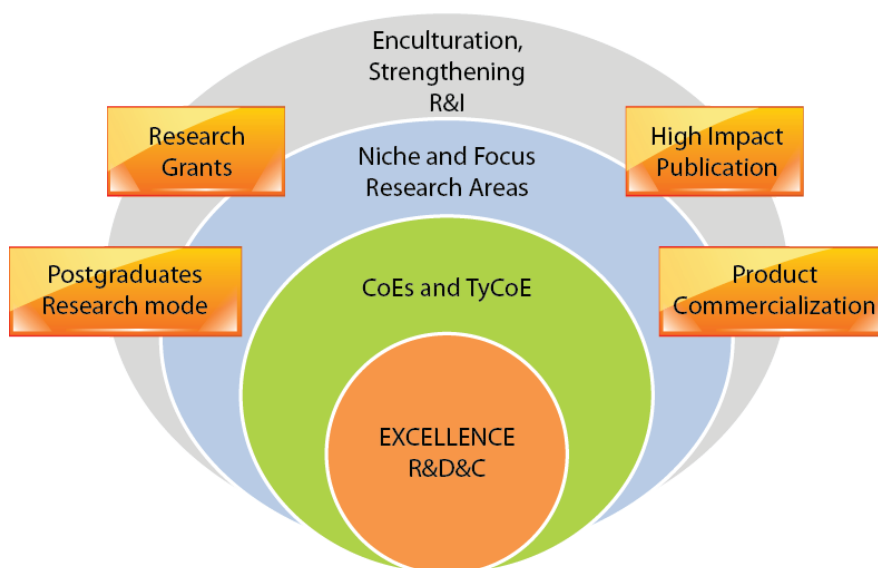

Figure 2 : Research and Innovation related Strategic Programmes

In championing focused technology through strategic sharing, UTeM formed five Centres of Excellence (CoE) known as Advanced Manufacturing Centre (AMC), Centre for Telecommunication Research and Innovation (CeTRI), Centre for Advanced Computing Technology (C-ACT), Centre for Robotic industrial Automation (CERIA) and Centre of Advanced Research on Energy (CARE). The high-performance industrial-linked CoE of UTeM will be acknowledged as TyCoE or Technology-Industry Centre of Excellence, which is a another initiative in UTeM to promote excellence in R&D&C as shown in Figure 2.

Research activities at UTeM are funded through internal, external and international resources that come from government institutions, public and private sectors. As such, researchers are encouraged to apply or bid for funding from these sources. Researchers are encouraged to publish research findings in high impact journals, citation-indexed journals or other forms of publications.

In term of commercialization, the researchers are encourage to discover new things and convert into high impact products that could find ready investors and buyers. To do that, UTeM should aggresively enggage with the industrial players including small medium industries (SME), multi-national company and other innovation and commercialisation agencies such as Agensi Inovasi Malaysia (AIM), Intelectual Property Corporation of Malaysia (MyIPO), State Ministry Office of Malacca and UTeM Holdings Berhad. UTeM is also actively participate in exhibition internally and internationally for promoting and marketing its invention and research products. This is to make sure UTeM has double recognization-as technical education provider and innovative & technology product provider.

UTeM places special emphasis on industry relations and community development as a differentiating factor that sets us apart from other public higher education institutions.

Industry and Community Network

UTeM has implemented proactive collaborations with the industry, especially amongst Small and Medium Industries (SMIs), the Company Stakeholders (GLCs), Multinational Corporations (MNCs), Government Agencies and Statutory Authorities to create strategic network for academia-industry relationship.

UTeM focuses on several main agenda which involves action strategies in the higher education sector in implementing "business unusual" in order to boost industry involvement in academia.

UTeM is committed to foster effective and sustainable partnerships between the academia, industry and community as depicted by Figure 3 :

Figure 3 : Industry and Community Network through PJIM

Through these strong partnerships, UTeM students are equipped with adequate industry-ready skills to enter a highly competitive market environment. UTeM has embarked on several high impact projects which are aligned to our University's vision. These include :

- Knowledge Transfer Programme (KTP) from the Ministry of Higher Education (MOHE)
- Executive Talks from industry CEOs and business experts
- Annual Lecture Series on Entrepreneurship jointly organised with the Faculty of Technology Management and Technopreneurship (FPTT). These invited personalities who are entrepreneurs themselves provide students mentorship, staff attachments in industries and business and hands-on training by the industry.

In addition, unique to the University, UTeM organises the annual CEO Roundtable for the past two years bringing captains of industry both locally and regionally to provide advice to UTeM including sharing of experiences and providing feedbacks to improve our academic programmes, infrastructure and graduate employability as well as creating entrepreneurial leaders.

UTeM encourages and supports the efforts to promote innovative and entrepreneurial staff through strong collaboration and engagement with industry through

- Structured internship programme
- SME University Internship Programme with SME Corp to develop entrepreneurial skills among UTeM students
- Student projects with industry to increase productivity and reduce cost
- KPT-Western Digital Campus Connect Programme, with UTeM taking the role as secretariat, to meet the Human Capital and Technology development requirements of Western Digital with the involvement of private universities, polytechnics and community colleges to pool our expertise, resources and facilities to meet the needs of the industry
- Development of the industry driven iCOE for Advance Packaging with Infineon Technologies targeted for research collaboration with other major Semiconductor manufacturers in Malaysia.

To enhance graduate employability, UTeM's students go through special training under the Graduate Employability Enhancement and Added Value Training (GREAT) programmes. One of the softskills programmes conducted was Graduate Leadership Assessment and Development programme (GLAD) in collaboration with Deloitte Consulting. For six weeks, final year students develop their softskills and social skills to prepare them for the world of work. They were also involved in community projects throughout the programme.

Outreach and engagement with industry have always been a strong priority of UTeM as an impactful effort in establishing pragmatic collaboration such as Knowledge Transfer Programme (KTP) working hand in hand with the industry. UTeM coordinates the Knowledge Transfer Programme (KTP) via the exchange of creative and innovative ideas, research findings, experiences and skills between IPTA, research organizations, industries, government agencies and the wider community.

Chapter 2 : STRATEGIC DIRECTION 2020

Our Vision

To Be One of the World-Leading Innovative and Creative Technical Universities

Our Mission

UTeM is committed to pioneer and contribute towards the prosperity of the nation and the world by

1. Promoting knowledge through innovative teaching & learning, research and technical scholarship;

2. Developing professional leaders with impeccable moral values;

3. Generating sustainable development through smart partnership with the community and industry.

Our Core Values

Since its inception, UTeM has been governed by good ethical conduct, emphasizing delivery of work with utmost professionalism. It is believed that excellent values will shape the culture and define the character of the University in years to come. These core values will be given emphasis to guide how we behave and make informed decisions :

PASSIONATE TO MAKE A DIFFERENCE

We need this set of values to make our University THE place where innovation and creativity are created and nurtured. We have to start by being passionate about what we do to make a difference be bold to make a change for high impactful result.

RESILIENCE

While we are passionate to make a difference in this world, we will be facing many challenges. Hence, it is critical that we become highly resilient persevere & patience. Come what may, we will not give up easily in striving for success.

LOYALTY

Naturally, to be resilient requires us to focus on our quest and always see the bigger picture that is the strategic goal of the University. We must instil loyalty to the organization that we are serving, for the sake of unity. We are ambassadors and represent the best image of the university with a sense of belonging.

INTEGRITY

To achieve whatever we want, does not negate the fact that we must protect our integrity in everything that we do. We must not be tempted by undesired elements but must be transparent in our conduct and take full responsibility for our actions.

PROFESSIONALISM

This set of values must continue to be upheld because it reflects who we are as an entity. We must maintain an excellent service delivery, produce quality work with dedication and match our promises to our words that to the eyes of our stakeholders, is being highly professional.

2020 Strategic Direction

Development of UTeM's 2020 Strategic Direction started with the proper mind-set followed by intense discussion and collective wisdom. This strategic plan was developed through the team approach, sharing views, accumulated knowledge and institutional memory about the University's current standing, and taking into account the global trends in higher education.

UTeM's 2012-2020 strategic direction is driven by six areas known as strategic themes. Strategic themes are, in essence, the main, high-level business strategies that form the basis for UTeM's transformation framework. The strategic themes were developed from a series of workshop and dialogues amongst the strategic planning team, adopting various planning frameworks such as Blue Ocean Strategy and Futures Scenario Planning.

The six breakthrough strategic themes that will steer UTeM toward global excellence in higher technical education by 2020 are :

1. **Accelerating Techducation Excellence**

2. **Pioneering Future Technology**

3. **Moulding Technopreneurial Leaders**

4. **Boosting Community Potentials**

5. **Talent Management**

6. **Financial Independence**

The last two are enabler themes. They are called "enabler" because in essence, they address the fundamental resources required by the first four themes.

UTeM Strategic Themes and the Strategy Story

Collectively, the six strategic themes represent UTeM's transformation agenda with the anticipated strategic results defined, as depicted in the Figure 4 below.
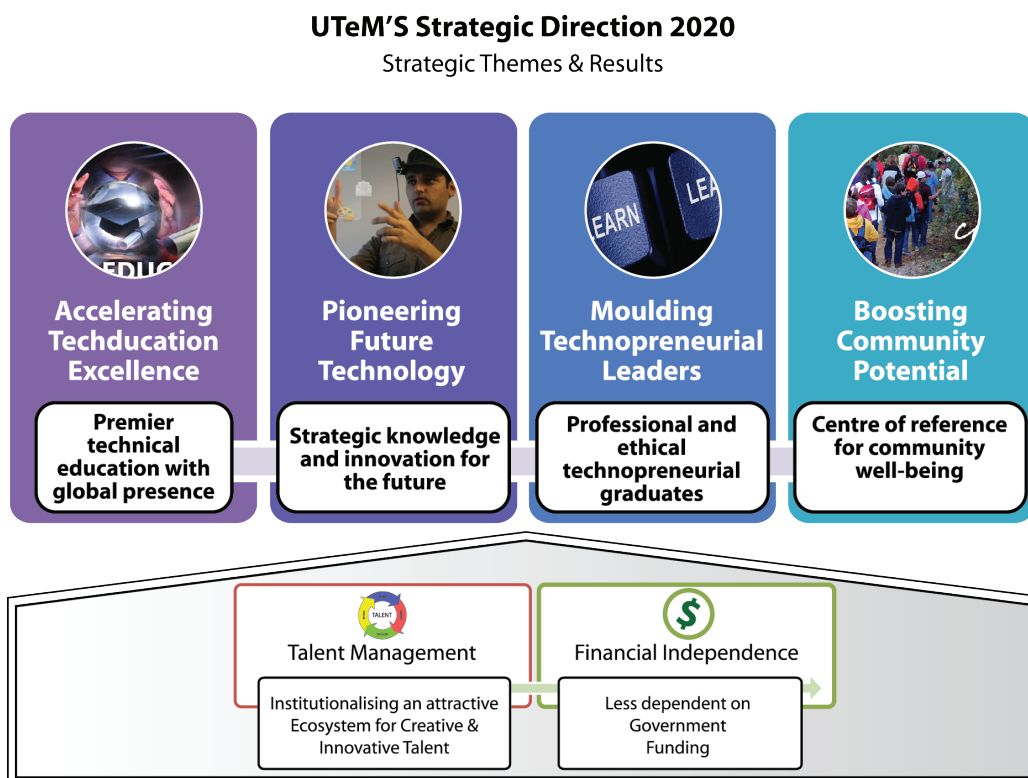
UTeM'S Strategic Direction 2020
Strategic Themes & Results

Accelerating Techducation Excellence	Pioneering Future Technology	Moulding Technopreneurial Leaders	Boosting Community Potential
Premier technical education with global presence	Strategic knowledge and innovation for the future	Professional and ethical technopreneurial graduates	Centre of reference for community well-being

Talent Management — Institutionalising an attractive Ecosystem for Creative & Innovative Talent

Financial Independence — Less dependent on Government Funding

Figure 4 : UTeM Transformational Strategic Themes

Under each strategic theme, the key "headlines" are reflected to denote the desired and significant breakthroughs to bring about change for the next 8 years up till year 2020. These strategies are presented more precisely in the form of strategic objectives. The strategic objectives spread over several business perspectives and based on logical cause-and-effect manner to form a "mini strategy map" using Kaplan's Balanced Scorecard methodology.

Theme owners are appointed to ensure that the themes are carefully crafted, shall be implemented across-faculties and across-divisions, and the progressive results will be communicated to all employees and stakeholders.
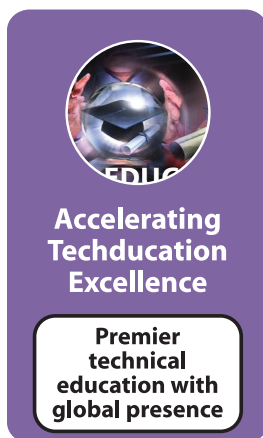
The following sections describe each theme and the corresponding strategies more substantially.

THEME1

Accelerating
Techducation
Excellence

THEME 1 : Accelerating Techducation Excellence

Accelerating Techducation Excellence

Premier technical education with global presence

Theme Definition :

This theme focuses on the core business of the University in line with UTeM's mission to elevate knowledge to an unprecedented level. UTeM is committed to drive and pioneer (accelerate) knowledge advancement with respect to Techducation, a term coined to refer to technical knowledge acquisition, dissemination and application in engineering, technology and science education relevant to the industry and society. Hence, this goes beyond the typical context of learning & teaching per se.

The strategic result we anticipate is for UTeM, by 2020, to be providing premier technical higher education that will put UTeM at the forefront of high quality education delivery with global presence.

Theme 1 Strategy Story :

- To be the premier technical university means providing leadership in technical education, and to be known internationally with global presence. To achieve that standing, there is a need to compete with other technical universities.

- UTeM strategises to accelerate and to champion technical and vocational education and training (TVET), with the aim of global recognition. This would mean UTeM must lead in providing pathways for TVET practitioners and learners, locally and globally.

- To provide premier technical education also requires strategic change from the aspect of the University curriculum integrating the subject of sustainability (green) and technopreneurship, partnering with the industry and community, to make UTeM techducation content and delivery more dynamic, ground-breaking and holistic.

- Another strategic move is committing to Virtual Education, making outstanding use of technology and ICT to enable virtual learning and knowledge management beyond geographical boundaries. The end in mind is for UTeM to contribute to the development of a Knowledge Society, i.e. a society that create, share and use knowledge to improve wealth and the well-being of its people (relevant details in Theme 4).

These underpinning strategies of Theme 1 can be summarised and visualised though the following "mini strategy map" as shown in Figure 5.
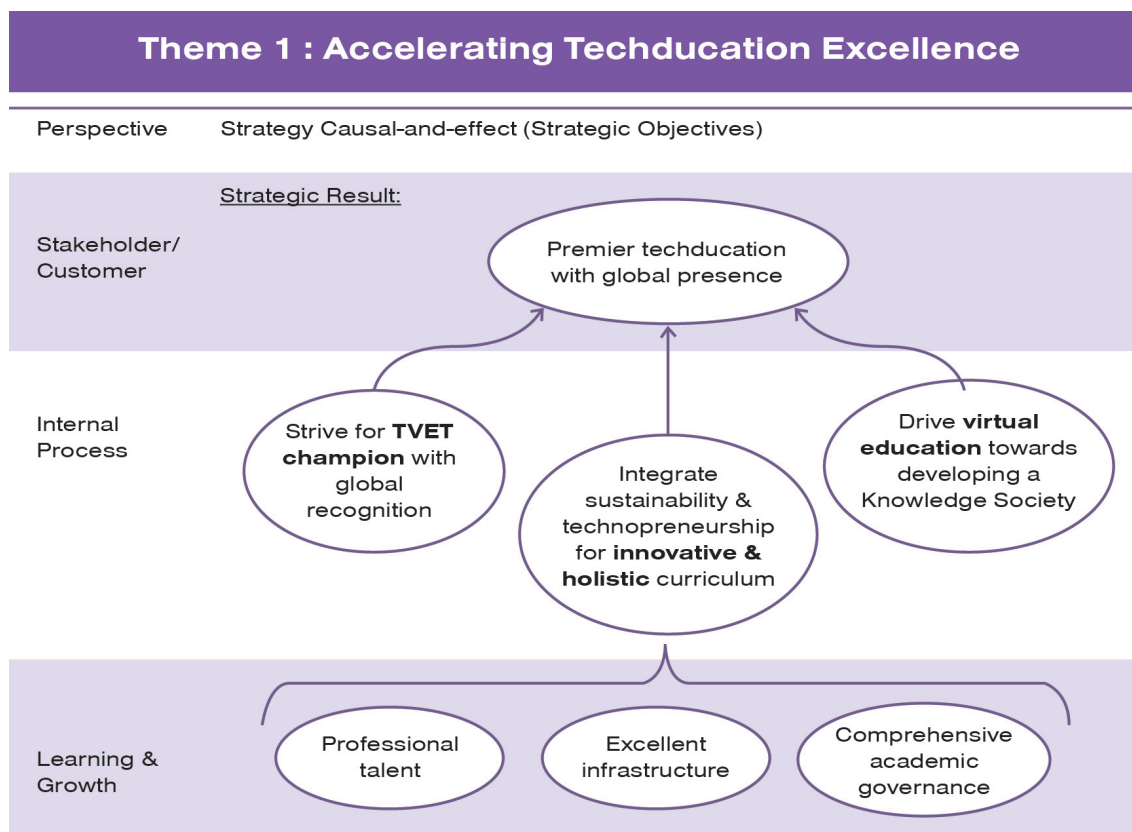

Figure 5 : Strategic Theme 1 Mini Strategy Map

It is clearly depicted above that the strategic objectives in the Internal Process perspective are imperative to drive the outcome.

Nonetheless, it cannot be denied that there are critical enablers for those strategies to be successfully implemented. The identified three strategic objectives as shown in the Learning & Growth perspective are :

- Professional talents-scholars in engineering, ICT and technology who are subject matter experts within the spectrum of techducation;

- Excellent infrastructure–learning, teaching and research facilities that supports a premier techducation delivery;

- Comprehensive academic governance–relevant academic policies and efficient academic administration processes that facilitate the growth of techducation.

THEME 2

Pioneering Future Technology

THEME 2 : Pioneering Future Technology

Pioneering Future Technology

Strategic knowledge and innovation for the future

Theme Definition :

This theme focuses on enabling UTeM to lead in the development of sustainable solutions and state of the art technologies for the future needs of industry and society, with the following desired results by 2020 :

- High impact technical research
- High impact publications
- Indigenous new techniques in technologies
- Commercialization of innovative products
- Champions in niche **Ty**-Areas
- Reputable **Ty-COE™**
- Spin-Off **Ty**–Companies

Theme 2 Strategy Story :

- In order to truly pioneer future technologies, UTeM must have the passion and drive to advance in strategic knowledge and technology foresight. Only then future technologies shall be created in UTeM.

- The most vital strategy is for UTeM's researchers to innovate and produce sustainable solutions that are relevant to the industries, now and beyond.

- For that, UTeM recognises two main sub strategies. Being a young university, UTeM must intensify high impact research output through the establishment of faculty-free Centre of Excellence **(COE)** which are technically competent and industry driven, coined as **Ty-COE™**. This would mean, our scientists must focus in developing innovations and new technologies from the product of high impact research with close industrial collaborations.

- Second sub strategy is for UTeM to aggressively secure venture funds from the industry. This source of fund goes beyond the grants that a university typically received. The message here is crystal clear: Industry linkages and networking are highly essential drivers to this effort.

- This theme has a strong correlation to Theme 4 in the sense that they share a common goal of benefiting the surrounding community and society through strategic knowledge transfer and products developed in UTeM.

These underpinning strategies of Theme 2 can be summarised and visualised though the following "mini strategy map" as depicted in Figure 6.
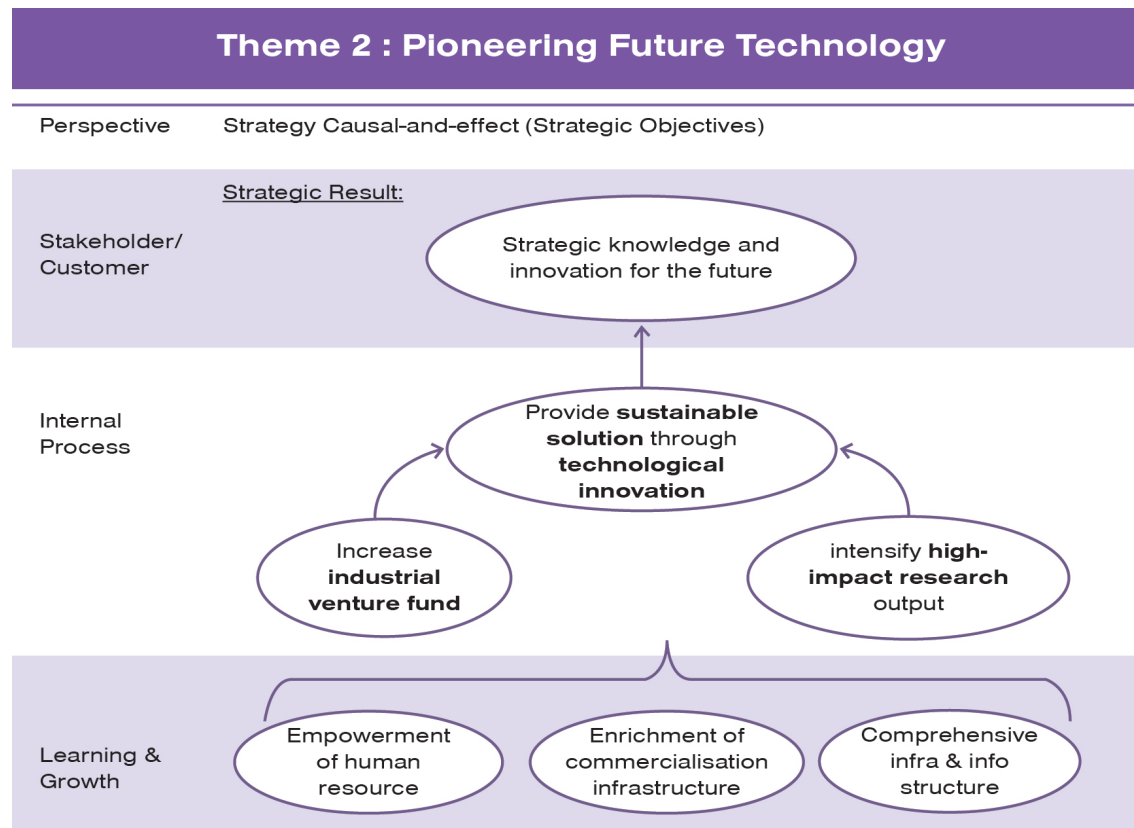

Figure 6 : Strategic Theme 2 Mini Strategy Map

It is clearly depicted above that the strategic objectives in the Internal Process perspective are imperative to drive the outcome.

Nonetheless, it cannot be denied that there are critical enablers for those strategies to be successfully implemented. UTeM has identified three strategic objectives as shown in the Learning & Growth perspective :

• Empowerment of human resource–specifically, human resources here refer to the entire team that are involved in high impact research activities. To be innovative, they must be empowered to carry out research most creatively;

• Enrichment of commercialisation infrastructure–this refers to the contribution made by industry to the University when researches are done collaboratively;

• Comprehensive infra and info structure–this refers to research facilities and systems that facilitate our scientists to produce innovative solutions.

THEME 3

Moulding
Technopreneurial
Leaders

THEME 3 : Moulding Technopreneurial Leaders

Moulding Technopreneurial Leaders

Professional and ethical technopreneurial graduates

Theme Definition :

UTeM is also committed to the development of its students with entrepreneurial attributes. This theme focuses on the personal development journey of our learners while instilling UTeM's core values. Technopreneurial leaders refer to UTeM graduates who make positive changes at the work place due to the specific attributes they possess after completing their educational pursuit at UTeM. In essence, this theme is all about grooming and developing students' technopreneurial attributes; and above all make them highly professional & ethical.

Technopreneurial attributes would mean as having these personal qualities :

- Passionate in the field of technical studies
- Have the mind-set and skill set of an entrepreneur
- Resilient to overcome any circumstances in pursuit of success
- Advance in technology & market know-how
- A good risk manager
- A critical thinker and avid problem-solver

Theme 3 Strategy Story :

- UTeM is committed to ensuring that our graduates are leaders with technopreneurial traits and of high ethical values and professionalism.

- To achieve that, the core strategy would include enhancing the entrepreneurship programmes to be more holistic and innovative. It is imperative that UTeM conducts innovative and diversified entrepreneurial programmes & activities for the students over their entire study period. Entrepreneurship programmes refer to both the formal subject embedded in the academic courses (part of Theme 1 strategy) as well as the additional programmes designed by the student centre. The key message is, it takes the entire University community to link-up and to innovate the technopreneurship learning process that benefits every single student.

- Hence, it is very strategic to institutionalise an ecosystem that promotes technopreneurship growth. It is critical that the students have access to the human, financial and professional resources they need, and are able to function in an environment in which the entire network nurtures entrepreneurship fundamentals.

- Another key strategy is to expose our students to the industry and have them participate in various community programmes (part of Theme 4 strategy). UTeM students should experience Social Entrepreneurship in its true sense of the word prior to completing their studies.

These underpinning strategies of Theme 3 can be summarised and visualised though the following "mini strategy map" as shown in Figure 7.

Theme 3 : Moulding Technopreneurial Leaders

| Perspective | Strategy Causal-and-effect (Strategic Objectives) |

Stakeholder/ Customer

Strategic Result:

Professional and ethical technopreneurial graduates

Internal Process

Enhance innovative & holistic entrepreneurial programmes & activities

Strategic involvement of community & industry in social entrepreneurship

Institutionalise conducive technopreneurial ecosystem & environment

Learning & Growth

Strengthening entrepreneurial mindset & skills

Maximum utilisation of ICT & facilities

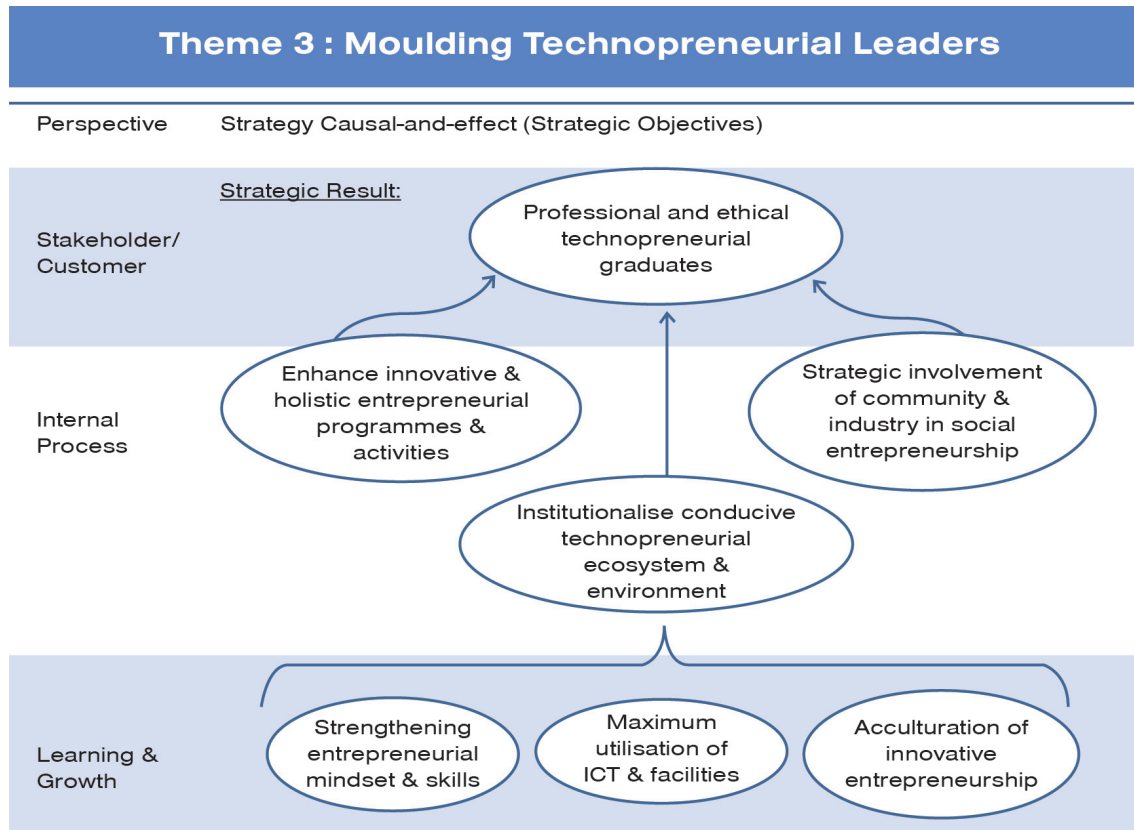Acculturation of innovative entrepreneurship

Figure 7 : Strategic Theme 3 Mini Strategy Map

It is clearly depicted above that the strategic objectives in the Internal Process perspective are imperative to drive the outcome.

Nonetheless, it cannot be denied that there are critical enablers for those strategies to be successfully implemented. UTeM has identified three strategic objectives as shown in the Learning & Growth perspective :

- Strengthening entrepreneurial mind-set & skills–specifically, UTeM needs to have a selected group of academic staff who are not only teaching entrepreneurship, but also possess the critical skills of an entrepreneur and more importantly the mind-set of one. This group of staff shall be the champions who mentor the students in their technopreneurship development.

- Acculturation of innovative entrepreneurship–In addition to mind-set and skillset, a key enabler is to see entrepreneurship being applied and practiced. UTeM must enable this work culture to thrive within the University community.

- Maximum utilisation of ICT & facilities–a key enabler element of entrepreneurship in the 21st century that draws the Gen Y and Gen Z's attention by applying social media tools in doing business.

THEME 4

Boosting
Community
Potential

THEME 4 : Boosting Community Potentials

Boosting Community Potential

Centre of reference for community well-being

Theme Definition :

This theme centers on building engagement with the community and the industry in order to contribute to society and community within national boundaries.

Boosting potentials in this context would mean to significantly improve the quality of life (social & welfare, employability, work life, health & wellness). It is UTeM's aim to create projects for the community through technology transfer and to identify solutions that will impact the community's economy and enhance their well-being.

We foresee a two-phase implementation, where
- in short term, UTeM expects to be the interfacing hub to facilitate community development;
- By 2020, UTeM desires to be the centre of reference for community well-being which encompasses knowledge transfer, Corporate Social Responsibility (CSR) funding and a one-stop-center for community programmes.

Theme 4 Strategy Story :

- Specifically in strategising for this theme, "community" refers to society/NGOs/associations/end users/educational institutions/under-served and disadvantaged groups/business community (as partner for CSR), within the central and southern geographical region.

- The short term goal of this theme is to establish an interfacing hub that facilitates community development. This hub will be positioned as a community engagement centre, physically and virtually.

- Through this hub, UTeM will be able to enhance knowledge transfer programmes. This would mean UTeM will be able to create projects for the community through technology transfer. As such, there will be a strong interlocking agenda with Theme 2.

- Without any doubt, it is imperative to strengthen linkages with the industry and the community, for the benefit of the community. Through these partnerships, it is expected that CSR funding shall be obtained to support the community projects.

- Among the key areas that UTeM will focus on are sustainability development and green technology driven programmes for the community.

- Tourism is a strategic industry to enhance the well being of the local community taking advantage of UTeM being situated in Melaka Bandaraya Bersejarah.

These underpinning strategies of Theme 4 can be summarised and visualised though the following "mini strategy map" depicted in Figure 8,
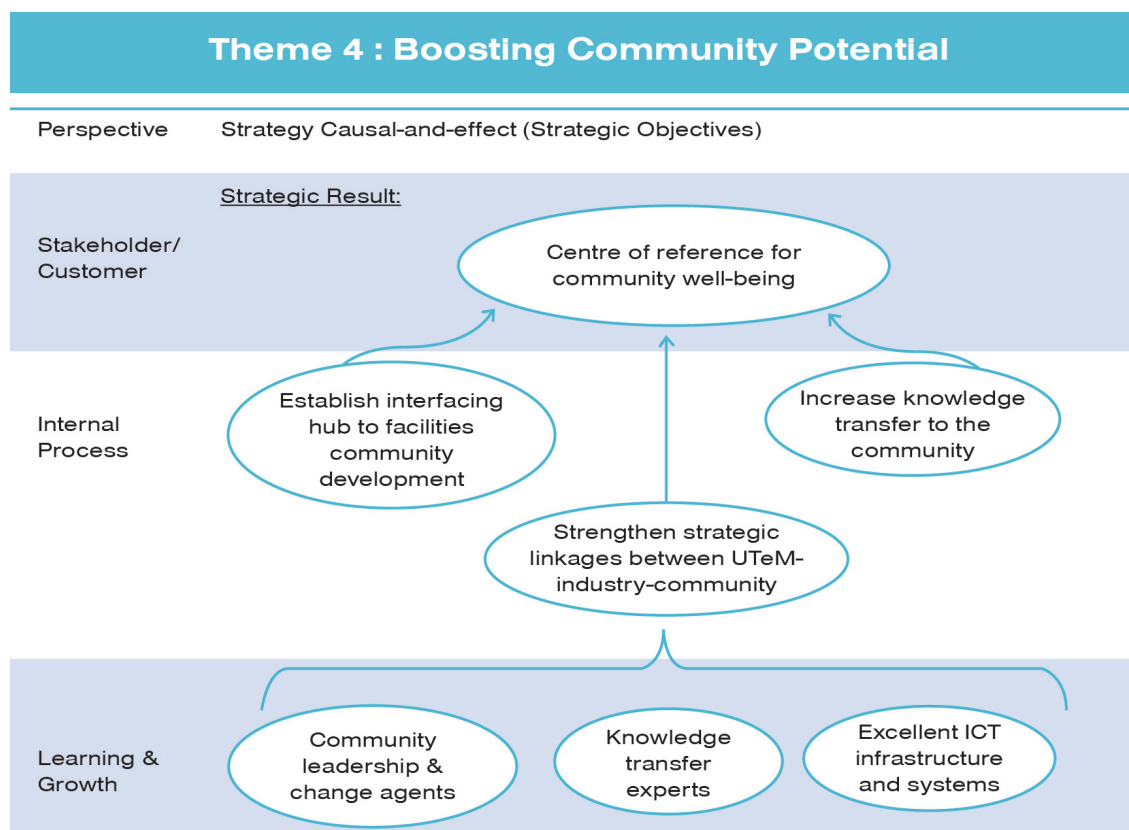
Theme 4 : Boosting Community Potential

Perspective   Strategy Causal-and-effect (Strategic Objectives)

Strategic Result:

Stakeholder/
Customer

Centre of reference for
community well-being

Internal
Process

Establish interfacing
hub to facilities
community
development

Increase knowledge
transfer to the
community

Strengthen strategic
linkages between UTeM-
industry-community

Learning &
Growth

Community
leadership &
change agents

Knowledge
transfer
experts

Excellent ICT
infrastructure
and systems

Figure 8 : Strategic Theme 4 Mini Strategy Map

It is clearly depicted above that the strategic objectives in the Internal Process perspective are imperative to drive the outcome.

Nonetheless, it cannot be denied that there are critical enablers for those strategies to be successfully implemented. The identified three strategic objectives as shown in the Learning & Growth perspective :
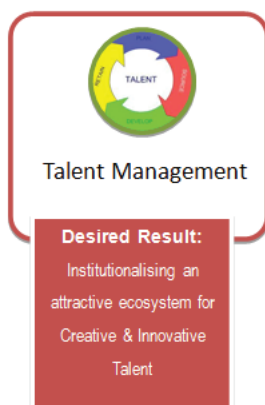
• Community leadership & change agents–this refers to UTeM's staff and students who are community-centric and able to lead make a positive change to the community.

• Knowledge transfer experts–a team of community-centric staff and researchers who can produce impactful and useful community-centric solutions.

• Excellent ICT infrastructure & systems–a community hub must be well equipped with technology and facilities that are attractive to the community, thus increasing the participation and interaction at all relevant levels.

THEME5

Talent
Management

THEME 5 : Talent Management

Talent Management

Desired Result:
Institutionalising an attractive ecosystem for Creative & Innovative Talent

Theme Definition :

This theme centers on building engagement with the community and the industry in order to contribute to society and community within national boundaries.

Boosting potentials in this context would mean to significantly improve the quality of life (social & welfare, employability, work life, health & wellness). It is UTeM's aim to create projects for the community through technology transfer and to identify solutions that will impact the community's economy and enhance their well-being.

We foresee a two-phase implementation, where
- in short term, UTeM expects to be the interfacing hub to facilitate community development;
- By 2020, UTeM desires to be the centre of reference for community well-being which encompasses knowledge transfer, Corporate Social Responsibility (CSR) funding and a one-stop-center for community programmes.

The strategic talent UTeM needs to realise our 2020 goals are :

- Qualified and well trained subject matter experts in techducation;
- Innovative and creative research experts/inventors in UTeM's focus areas;
- Skillful and experienced mentors in the field of techno/entrepreneurship;
- Passionate workforce who consistently take the lead in community development;

Theme 5 Strategy Story :

- With the four core themes identified to move UTeM to a higher position in technical education industry, the people of UTeM must be ready to forge forward and make the necessary adjustment and change.

- It is highly vital that all UTeM staff be truly outstanding in their job performance in order to fulfill the strategic roles required by the 2020 transformational journey.

- Specifically, UTeM's Talent Management strategies include developing competent and passionate scholars & scientists, grooming entrepreneurship mentors, and nurturing leaders & change agents who have passion in community development work.

Above all, it is imperative to institutionalize an attractive ecosystem for talent to grow and remain in UTeM. These underpinning strategies of Theme 5 can be summarised and visualised though the following "mini strategy map" as shown in Figure 9.
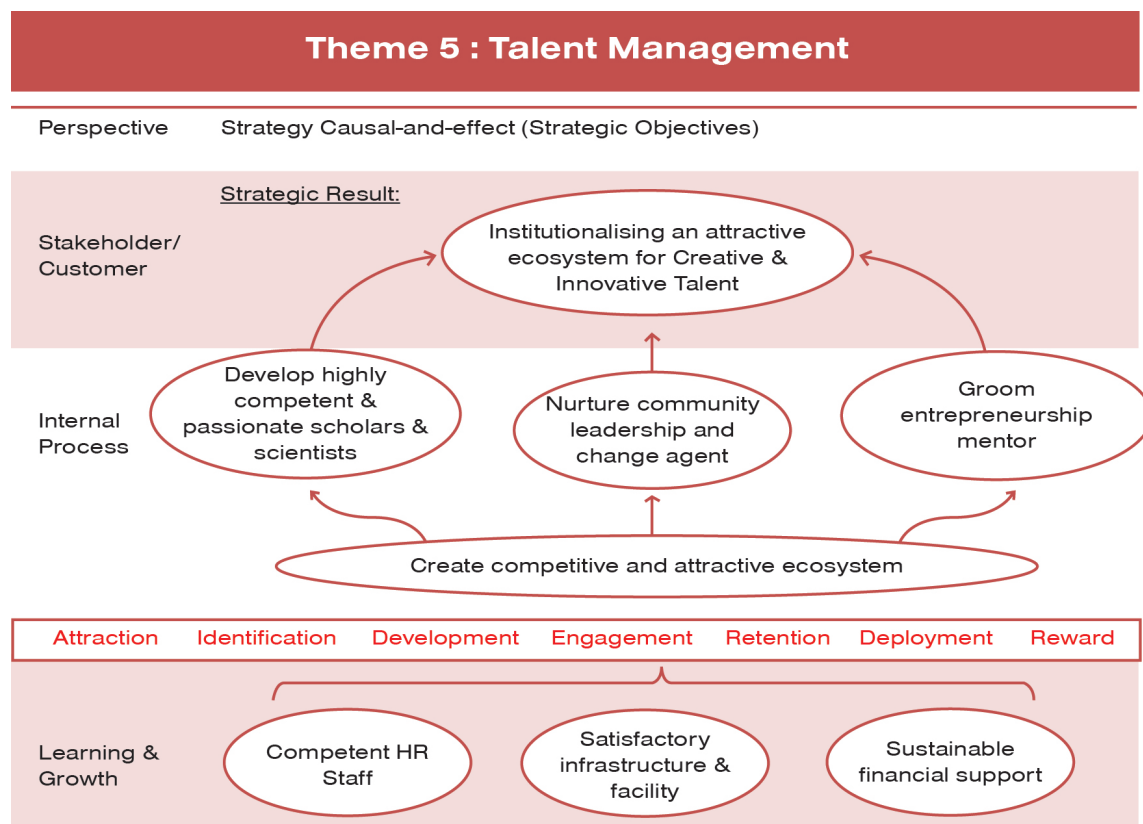

Figure 9 : Strategic Theme 5 Mini Strategy Map

It is clearly depicted above that the strategic objectives in the Internal Process perspective are imperative to drive the outcome.

Nonetheless, it cannot be denied that there are critical enablers for those strategies to be successfully implemented. We the identified three strategic objectives as shown in the Learning & Growth perspective :

- Competent HR staff–even though personal development is the responsibility of every individual, the HR team of UTeM must drive Talent Management strategies and pro actively innovate in the efforts to managing strategic talents.

- Satisfactory infrastructure & facility–this refers to people development facilities, unique to the individual set of strategic talent listed earlier.

- Sustainable financial support–UTeM must separate operational budget from strategic budget where the latter is to support strategic talent management, beyond the normal and statutory human resource development processes.

THEME6

Financial
Independence

THEME 6 : Financial Independence

Financial Independence

Desired Result:

Less dependent on Government funding

Theme Definition :

This final theme is another critical enabler in support of the 4 earlier strategic themes. As the saying goes, "money isn't everything, but everything needs money". UTeM aims to be self-sufficient by 2020 to be less reliance on Government's grant. It is expected that government funding will be reduced substantially and UTeM needs to increase self-generated income as well as practicing holistic cost savings initiatives. This theme is the responsibility of every office and every individual in UTeM including UTeM Holdings Sdn. Bhd. and its subsidiaries, through collective efforts of all Departments and Faculties.

Theme 6 Strategy Story :

• It is best for UTeM to be less dependent on the funding from the federal government.

• Strategically, to increase income, UTeM must intensify income generation from multiple sources. This strategy requires many sub-strategies at the operational level by different departments/offices. They include, but not limited to :

  • Student fees collection
  • Diversification of investment products
  • Optimum utilisation of internal resources/expertise
  • Commercialisation of high impact R&D products

• On the other hand, it is vital that existing resources are effectively and efficiently managed. Significant cost savings is another strategy and must be implemented by the entire campus community. Everyone must be willing to go for shared resources and not to be territorial in their activities. It is imperative that high impact programmes on campus are executed with minimal cost and high returns, while we continue to reduce/ eliminate low impact programmes.

• Finally, UTeM strategises to creatively leverage on smart partnerships for programmes that bring value for money and preferably an opportunity for income generation.

These underpinning strategies of Theme 6 can be summarised and visualised though the following "mini strategy map" as depicted in Figure 10.
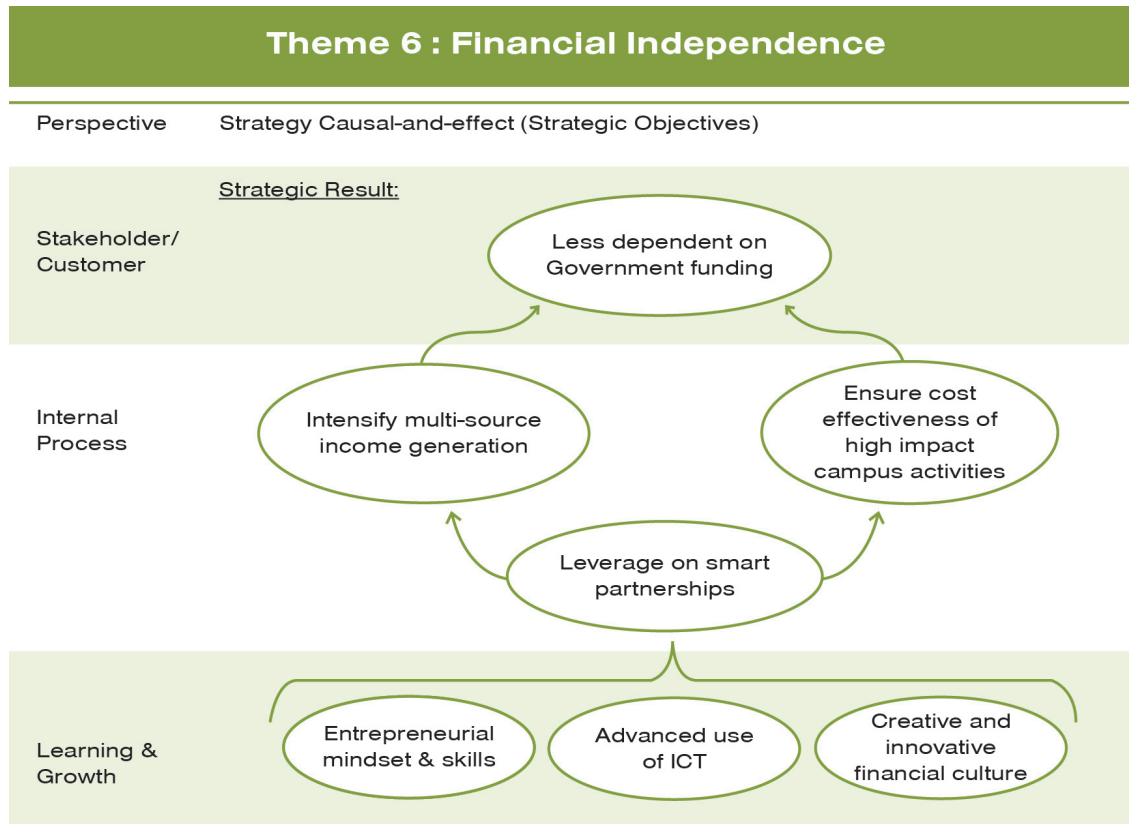
Theme 6 : Financial Independence

| Perspective | Strategy Causal-and-effect (Strategic Objectives) |

Strategic Result:

Stakeholder/Customer

Less dependent on Government funding

Internal Process

Intensify multi-source income generation

Ensure cost effectiveness of high impact campus activities

Leverage on smart partnerships

Learning & Growth

Entrepreneurial mindset & skills

Advanced use of ICT

Creative and innovative financial culture

Figure 10 : Strategic Theme 6 Mini Strategy Map

It is clearly depicted above that the strategic objectives in the Internal Process perspective are imperative to drive the outcome.

Nonetheless, it cannot be denied that there are critical enablers for those strategies to be successfully implemented. The identified three strategic objectives as shown in the Learning & Growth perspective :

- Entrepreneurial mindset & skills–just as this skillset is vital for Theme 3, it is just as vital for Theme 6 that strives for financial independence. The more UTeM staff, academics and administrators alike, are equipped with this skillset, the better chance for this theme to succeed.

- Advanced use of ICT–in the context of optimising technology to save cost on physical resources. It also refers to a fully automated and integrated financial system to closely monitor and manage escalating cost.

- Creative & innovative financial management culture–it is the most crucial enabler. This work culture would mean that everyone is expected to have exposure to basic financial literacy, and the bursary team will be driving this awareness and training, internally.

Strategy Map 2012–2020

Having defined and elaborated the six strategic themes for UTeM towards the year 2020, collectively those strategies can be summarised by the following Strategy Map as shown in Figure 11. This one-page view describes the direction UTeM envisions and the strategies to be deployed.
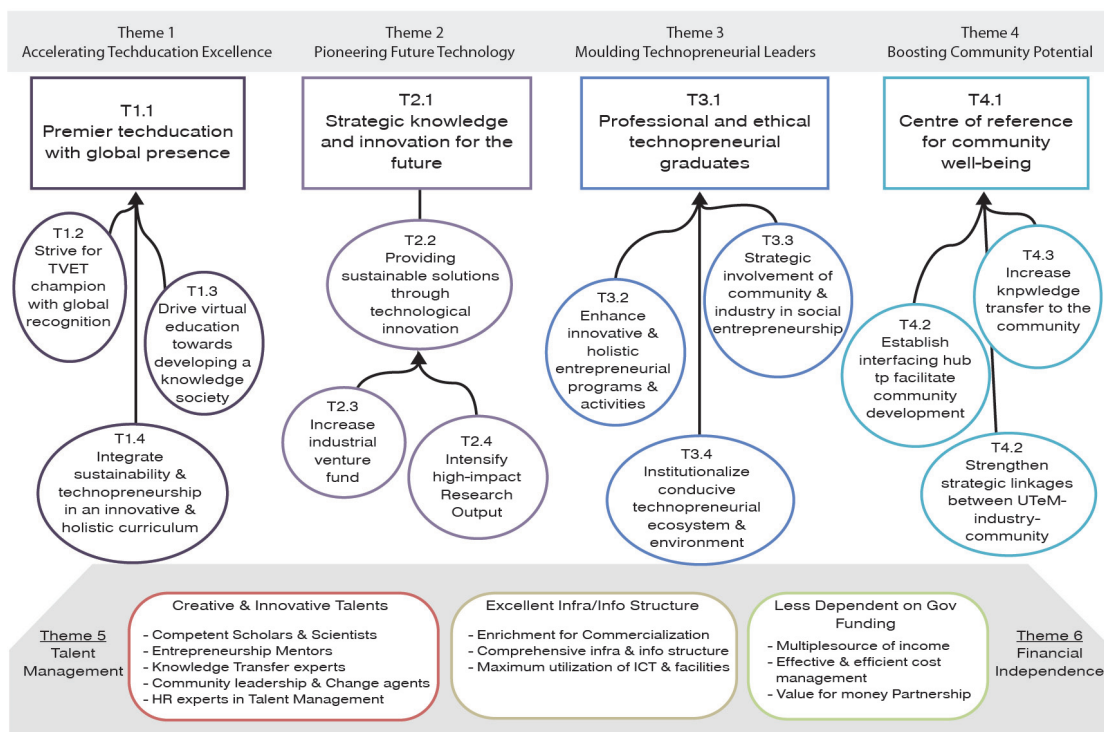

Figure 11 : Collection of All the Mini Strategy Maps into One Big Strategy Map

There are obvious inter-linkages between themes as depicted in the strategy stories, but for the purpose of focus and theme clarity, the strategy map above primarily shows the major causal and effect relationship by the respective theme, with the secondary causal and effect shown in the lighter dotted line.

Headline Key Performance Indicators (KPI)

Each strategic objectives and for each of the strategic themes, KPI and target are quantified expected to be achieved by 2020. For this strategic plan duration, UTeM has chosen a set of strategic indicators as the most vital outcome indicators to focus on. The 2012 achievement will form the baseline to measure the transformation expected for the next eight years where the year-on-year target will be established.

Figure 12 below shows UTeM's top-most strategic indicators expected to be delivered as year 2020 targets.
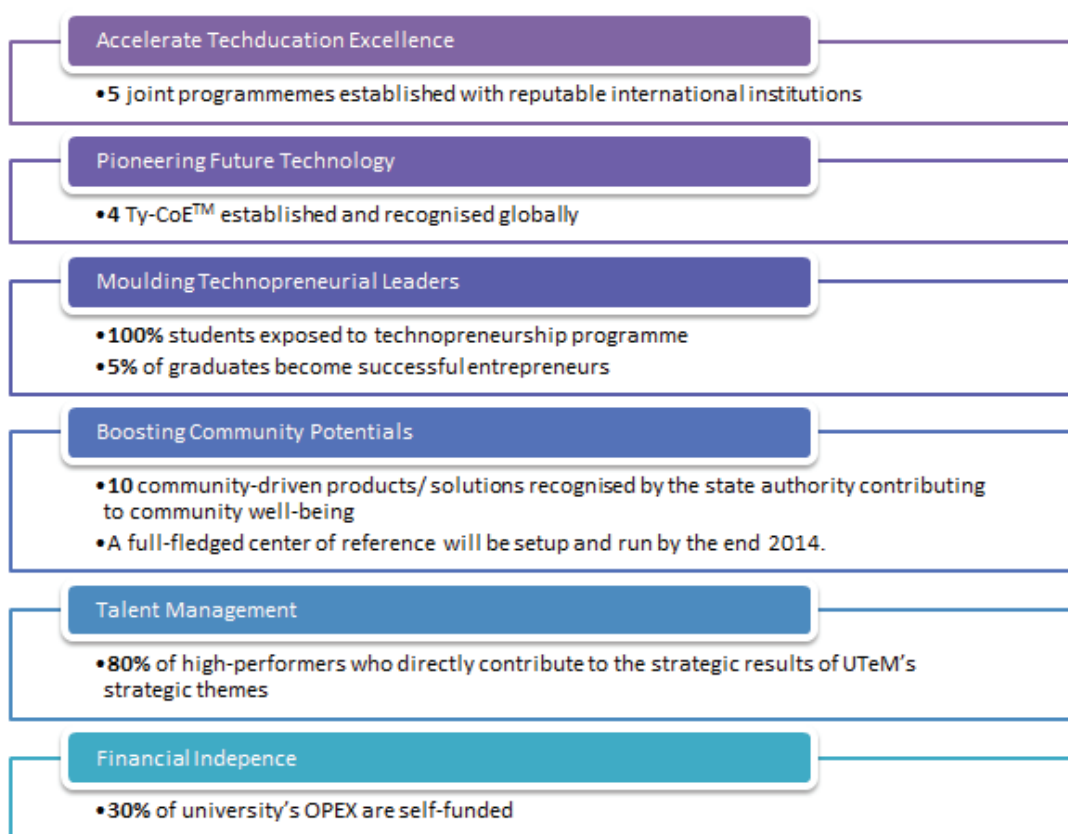

Accelerate Techducation Excellence
- 5 joint programmemes established with reputable international institutions

Pioneering Future Technology
- 4 Ty-CoE™ established and recognised globally

Moulding Technopreneurial Leaders
- 100% students exposed to technopreneurship programme
- 5% of graduates become successful entrepreneurs

Boosting Community Potentials
- 10 community-driven products/ solutions recognised by the state authority contributing to community well-being
- A full-fledged center of reference will be setup and run by the end 2014.

Talent Management
- 80% of high-performers who directly contribute to the strategic results of UTeM's strategic themes

Financial Indepence
- 30% of university's OPEX are self-funded

Figure 12 : UTeM Strategic Indicators by Themes

High Impact Initiatives

If objectives are what we aim for and KPIs are how we measure the outcome of our objectives, initiatives are the efforts to influence the outcome. Initiatives are the most dynamic of all the strategic elements and the most "real" because they represent the actual changes that will happen within the organisation. Simply defined, initiatives are intervention projects, with definite scope and time, identified to help achieve the strategic objectives and consequently provide the strategic results each theme desires.

The strategic planning committee has endorsed the following as "high impact" initiatives from the many initiative candidates discussed throughout the strategic planning process. As such, these initiatives will be given priority in allocation of resources for year 2013-2014.

Theme 1 : Accelerate Techducation Excellence

- Establishment of attractive programmes for professional talents (local and international) to serve the nation through UTeM.

- Collaboration with feeder institutions (KKTM, AdTech, Polytechnics and Community Colleges).

- Enhancement of existing curriculum with innovative inclusion of sustainability development and technopreneurship elements.

- Enhancement of current engineering programmes by providing options for students.

- Strengthening of APEL by establishing mechanisms of prior experience & learning recognition.

- Creation of Personalised Learning Environment (PLE) that will lead to Virtual Education.

Theme 2 : Pioneering Future Technology

- Establishment of multi-faculty research groups
  - bottom up process by auditing the existing capability
  - top-bottom process by forecasting strategic industry needs.

- Identification of products from existing research output that have potentials for immediate commercialisation.

- Tactical planning to source for venture funds from the industry, local as well as international.

- Specific plan to increase the annual number of journals published by each academic member.

- Creation of new office responsible for Ty-COE^{TM} .

Theme 3 : Moulding Technopreneurial Leaders

- Design of UTeM's signature student programme to enhance the "technopreneurial attributes" that can address each and every UTeM student (this initiative will strongly complement initiative in Theme 1 which focuses on technopreneurial element being integrated into the academic curriculum).

- Design of instrument to measure technopreneurial attributes of students.

- Establishment of social entrepreneurship programmes with industry for selected community involving students and staff.

- Implementation of mentorship programme for students with successful alumni / industry / community leaders.

- Establishment of SMI Incubator Park as part of the entrepreneur ecosystem on campus to encourage entrepreneurship amongst students.

Theme 4 : Boosting Community Potentials

- Community Centric Products: Identification of suitable research projects for technology transfer to the community.

- Net Worth Networking Programmes: Symbiotic relationship between UTeM and high net worth organization and individuals.

- Service-based Learning Programmes: Involving students to create high-impact projects which will impact the community's economy and enhance their well-being.

- Melaka Straits Community (MSC): Tourism and food-based products that leverage on Melaka Bandaraya Bersejarah for community wealth creation.

- MyHOME Bootcamp Programme: Experiencing university life for under-privileged and disadvantaged community.

Theme 5 : Talent Management

- Integration of Human Resource and Career Development programme.

- Collaboration with strategic HR Provider (such as Talent Corp., etc).

- Enhancement of leadership/ entrepreneurial skills and knowledge which suit UTeM needs via AKEPT or other Training Centers.

- Establishment of Suitable Assessment for Succession Planning and Staff Development.

- Development of attractive policies and schemes for strategic talent.

- Development of consolidated and formalised policies on Talent Management.

- Participation of Staff with management roles in University Leadership Development Programme (ULDP).

Theme 6 : Financial Independence

- Provision of creative and innovative financial literacy courses to all staff.

- Exposure on strategic entrepreneurship courses to executive staff.

- Enhancement of campus-wide cost saving initiatives focusing on shared resources.

- Aggressive promotion (overseas) by UTeM Holdings Sdn Bhd. to enrol more fee-paying students.

- Introduction of attractive package for post-graduate students.

- Deployment of educational tourism (UTeM-Ministry-State Government) to generate revenue.

- Plan of action for fund raising activities.

- Promotion of R&D products online.

- Formation of commercialisation groups/units.

- Introduction of more attractive incentive to researchers.

Chapter 3 : Strategy Management

UTeM Leadership is committed to ensuring that the strategies outlined in Chapter 2 will be executed and will be managing the strategic initiatives continuously. It must be constantly reminded that by having a strategic plan, the work is only just beginning. It is more important to ensure the plans are implemented, the expected improvements are realised and the impacts are felt. UTeM Strategy Management is completing the entire cycle from strategising to executing strategies to managing the process to achieve the desired KPIs.

Clearly, the basis of this strategic plan is the Balanced Scorecard (BSC) methodology as a framework for strategy management which translates strategy into operational objectives that drives performance. The strategies for each Theme are defined by the "mini strategy map" based on cause-effect relationship which eliminates ambiguity and clarifies responsibility. UTeM's experience in implementing BSC since 2010 would undoubtedly link strategic objectives of the respective Themes to the activities necessary to achieve the desired results.

Strategy-Focused Transformation (SFT)

UTeM's 2011 Theme was "Strategy Focused Transformation" with very clear top level BSC Strategy Map encompassing strategies and objectives that span key organisational functions in the University. Each owner is required to monitor their KPIs for operational effectiveness and reports the progress to the Vice Chancellor during the monthly Executive Meetings. For UTeM, the cascading levels follow closely the organisational structure. However, the challenges faced have been the alignment and the cascading of the top level Strategy Map to that of the University's management team who were not able to visualize and internalise the BSC principles.

UTeM was one of the earliest BSC adopters by having a BSC system in place but only a few are able to realise the full benefits of BSC. More often than not, BSC was adopted as a Performance Measurement System (PMS), not as a Strategy Management System. While PMS focus on having KPIs per se, the latter helps organisations to focus on the strategies formulated and align every component and activity of the organisation around the strategy. This is still a challenge at UTeM and efforts through workshops and invited speakers create more awareness of the benefits of the BSC system. However, theoretically, "Strategy focused Transformation" is meant to guide organisations when managing strategy particularly using the Balanced Scorecard framework.

Strategy Management Cycle

It is imperative to integrate strategic planning and operational planning when talking about strategy management. Executing the strategies must be "operation friendly". Following closely the Kaplan-Norton practice, Figure 13 clearly depicts the 6-step strategy management process flow for UTeM, taking into consideration the strategic planning and operational planning linkage.
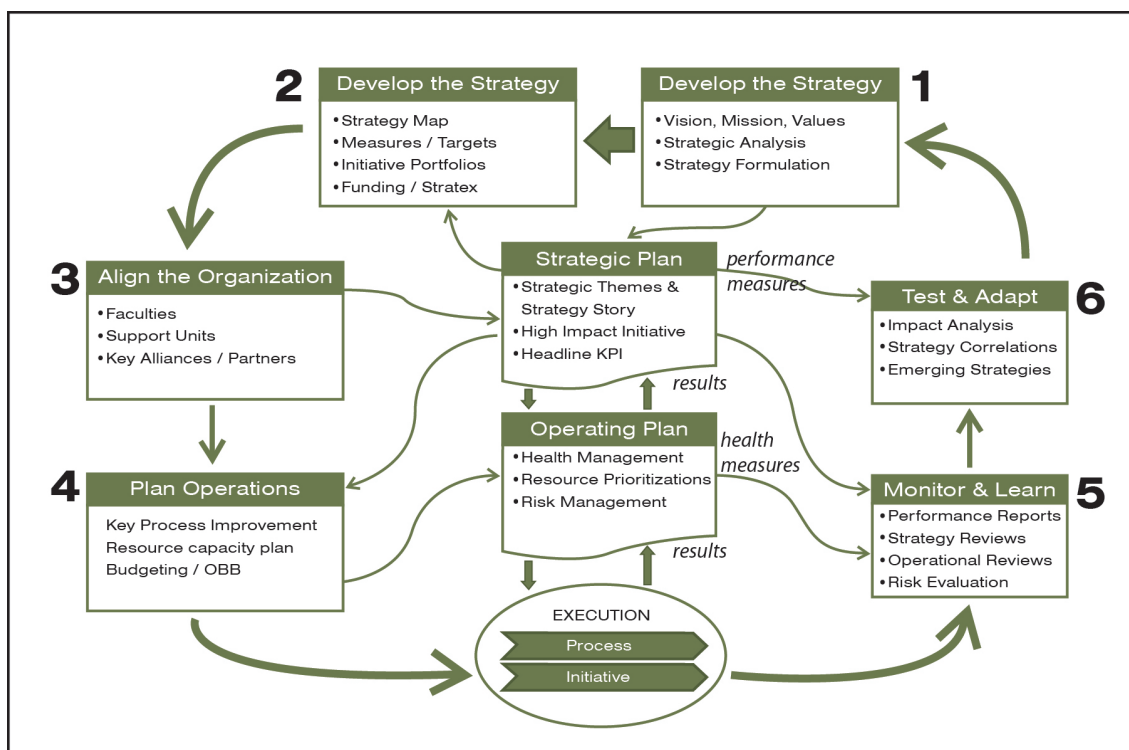

Figure 13 : 6 Step Strategy Management Process Flow

While Process 1 is done generally every 5-10 years as a major review of the strategic plan, Process 2-6 shall adhere to an annual cycle. The ability to execute this cycle seamlessly is what the management expert, Kaplan & Norton term as "Execution Premium".

In conclusion, it is the hope of the University's leadership that every employee of UTeM will appreciate and internalise the essence of this strategic plan document and work closely as a team, guided by our core values, to succeed as a strategy-focused higher learning institution, and make our 2020 destiny a reality.

Acknowledgements

Our heartfelt gratitude to everyone who diligently worked towards developing the University Strategic Plan 2012-2020.

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STRATEGIC
PLAN

UTeM

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2012-2020