PROGRAMME IN ENTERPRISE AND TECHNOLOGY MANAGEMENT (PETM)

I.T.S.I.

BACKGROUND

The Programme in Enterprise and Technology Management (PETM) is proposed as part of Programmes furthering the competencies of targeted candidates and improving their ability of accelerated succession planning within the business. It is designed for current and future leaders and specifically targeted participants within the organisation and aims to create an understanding of the dynamics between the business environment and the integration of technology and the role the latter plays in terms of taking the business forward.

The programme therefore focuses on enterprise issues such as finances, human capital, marketing and customers as well as technology issues. Participants will integrate the learnings and present that as a Business Case to the organisation towards the end of the programme.

OUTCOMES OF THE PROGRAMME

The programme outcomes are defined around the two core areas of (i) Technology and (ii) Enterprise (Business). The objectives of the PETM are amongst others to:

1. Develop a pool of specialists for the core business areas of the organisation.
2. Create an opportunity for candidates with a generic technical degree to develop competence in the telecommunications environment.
3. Focus on the development of technical and engineering skills in terms of design, development and maintenance of mobile telecommunication systems.
4. Raise both the candidate's commercial awareness as well as their interpersonal skills to new levels so that they are able to perform effectively within a dynamic organisational environment.

The specific outcomes of the programme are the following:

1. Participants will understand their role within the organisation and within teams, and will be able to manage themselves and their teams.
2. Understand the ICT business environment in terms of the forces and dynamics that play a role in this environment.
3. Analyse and manage the enterprise through applying sound Management principles.
4. Understand the mobile environment and the technology that drives that environment.
5. Apply the enterprise's Business models in a practical sense.
6. Learn to optimise technology and innovation strategies.
7. Obtain presentation skills to effectively present their ideas in front of an audience.

8. Present a Business Case to the company through the application of the learning matter.

MODULES DEFINED AND DEBRIEFED

The different modules suggested for the programme are listed below. Local top experts from the academic environment as well as from industry are used to present and facilitate the sessions.

Module Name	Duration (days)
Orientation	1.0
Dynamics and forces in the ICT environment	0.5
The Technological Playing Field	0.5
Business Case briefing	0.5
Management of Mobile Networks	1.0
Self and Team Management	1.0
Coaching and Mentoring others	1.0
Applied Human Capital Management	1.0
Brands and Branding in the mobile environment	1.0
Managing the Mobile Customer	1.0
Business Models in the Mobile Environment	1.0
Operations Management in a Mobile Operator	1.0
Finance for Non-Financial Managers	2.0
Preliminary presentations	1.0
Final presentations	1.0

A short description of each of the modules and its outcomes are given below:

Section A: Introduction to Telecommunications Management

Description:

In this section the following modules are presented:

- Orientation and motivation;
- Dynamics and forces in the ICT environment;
- The Technological Playing Field; and
- Management of Mobile Networks.

Orientation and motivation

Description:

In this module the participants are given an overview of the programme. A Learning-to-Learn intervention is conducted to equip them with the necessary tools and mindsets to make a success of the learning journey. The members of the teams are also introduced to one another and roles within the teams are defined.

Outcomes:

- Understand the learning process as predominantly a mindset-driven process.
- Define your role in the team for purposes of optimisation of effectiveness and efficiency.
- Have a holistic and detail view of the programme.
- Understand your company in terms of its strategy, operations and processes.
- Appreciate the challenges and opportunities that the business face.

Dynamics and forces in the ICT Environment

Description:

In this module the participants are made to understand trends in the marketplace and how these drive ICT companies towards Converged Services. The notion of scenario planning is discussed and different scenarios are debriefed to enlighten participants in terms of possibilities, opportunities and challenges.

Outcomes:

- Display a deeper knowledge of Convergence and the impact this will have on the marketplace.
- Explain the concept of Disruptive Technology.
- Describe possible technology of the near future.
- Discuss the telecommunication marketplaces in the rest of Africa.
- Explain the impact on telecommunications environment if the trends that were highlighted are taken into consideration.
- Display a deeper knowledge of the Competitor activity and how to respond to them.
- Discuss the most important challengers in the telecommunication field.
- Discuss the change in your company's business model if bandwidth becomes more readily available.
- Discuss the changes in customer requirements once more bandwidth becomes available.
- Discuss Competitor activity and how your company should to respond to them.
- Discuss the business models that your company's competitors may embrace to disrupt the current status quo.
- Discuss the most important challengers in the telecommunications field.
- Discuss the changes that your company will have to undergo taking into consideration the changes in the regulatory, customer, competitor and telecommunication spheres.
- Explain the impact on the telecommunications environment if these competitors enter the marketplace.

Description:

In this module the participants are given a view of future technological advances. The changing technologies that inform the ICT environment are discussed.

Outcomes:

- Discuss the design philosophy of the Internet and how it is different from the traditional telecommunication infrastructure.
- Demonstrate knowledge and insight into the changes that are being undergone due to the abundance of processing power, storage space and bandwidth.
- Apply the perspectives of abundance and scarcity on new business opportunities.
- Understand and discuss the economic understanding of abundances and scarcities.
- Explain the impact that an abundance of processing power, storage space and bandwidth will have on the world of telecommunications.
- Explain the impact that an abundance of processing power, storage space and bandwidth will have on new business models.
- Demonstrate knowledge and insight regarding the difference between the intelligent and dumb networks.
- Demonstrate knowledge regarding the advantages and disadvantages of each network.
- Debate on factors that are associated the business models that can originate out of the dumb network.
- Understand and discuss the influences that contribute to the increasing importance of the dumb network.
- Explain why the seven layers of the OSI model will collapse into the 4 layers of the IP model (according to Gilder).
- Discuss the new ecosystem in a world of bandwidth abundance.
- Analyse the challenges that traditional telecommunication companies will face in this new paradigm.
- Discuss the opportunity of home automation.
- Discuss the opportunities for Triple and Quad play services.
- Discuss the opportunities of RFID.
- Discuss new applications that might appear on the Internet in the near future.
- Discuss the implications of the era of transparency.
- Evaluate the input that telecommunication companies can make on the Telemetry industry.
- Describe and analyse the different access technologies that can be used in the local loop environment.
- Explain why some access technologies are better than others in different environments.
- Categorise the different access technologies related to their standardised or proprietary nature, as well as describing the nature and background on the different standardisation bodies.

Management of Mobile Networks

Description:

This introductory intervention into the Management of Mobile Networks gives a helicopter view of the different layers comprising a mobile network and how that all contributes towards getting voice, data, video, etc to the end-user! Strategic and operational issues are discussed.

Outcomes:

- Understand the key distinctions and tradeoffs between circuit-based networks, and packet-based networks.
- Understand the role of the OSI model and why layering is used.
- Define the present network in broad conceptual terms, including distinctions between Core, Edge and Access, monitoring, management and control, and the most important kinds of elements in the Core.
- Understand how TCP/IP addressing and packet routing works.
- Understand Bandwidth, Fibre, and core transmission technologies (SDH, WDM).
- Understand what happens when you surf a web page in an IP network.
- Understand what happens when you make a voice call using Voice over IP.
- Discuss the changing nature of the network – Do we migrate towards simple dumb networks, or more complex intelligent ones.
- Discuss future networks.
- Understand what aspects of IP are most problematic for Telcos.
- Understand what happens to IP during network congestion.
- Understand why packet networks have become so important if IP has all these problems.
- Understand why is it sensible to try to modify IP networks for carrier-scale quality and service IP was never designed for that in the first place.

Section B: Personal and People Management

Description:

In this section the participants will be exposed to the following:

- ■ Self and Team Management;
- ■ Coaching and Mentoring others; and
- ■ Applied Human Capital Management.

Self and Team Management

Description:

This module emphasises the uniqueness of individuals in their dealing with others members of the organisation. It heightens the level of self-awareness and strives to increase the awareness of the

uniqueness and the diversity of individuals in the team. Team dynamics and others are discussed to ensure engagement by all team members to enhance effectiveness for business successes.

Outcomes:

- Understand myself in the context of the company.
- Gain a perspective of the current state in the workplace as well as the corporate memory through a narrative technique called Future Backwards.
- Show an understanding for the EQ Difference.
- Display characteristics of Self-Management.
- Show an understanding for the Hersey & Blanchard situational Management model.
- Understand engagement and the impact it has on company results.
- Enforce a self-awareness that all actions start with "me".
- Become accountable in getting people engaged and committed towards shared goals.
- Define the relevance of Mindsets (attitude), Skills and Knowledge.
- Equip managers to build teams that subscribe to the principle of synergy and will act as a cohesive unit to maximise shareholder value.
- Understand the components that influence a team's operation.
- Understand the team effectiveness process.

Coaching and Mentoring others

Description:

Building on the previous module, this module introduces participants to the areas of coaching and mentoring. These roles are pivotal to organisational growth and enable individuals to learn, unlearn, relearn and teach others. This ensures that organisational capacity is build.

Outcomes:

- Understand the coaching process.
- Have good listening skills.
- Know the communication process and use those skills.
- Approach your role of the influential coach optimally.
- Grow through applying the GROW model.
- Understand succession planning for individuals according to the Human Resource Management practices of the Company .
- Guide yourself and others to unlock their potential by influence or being influenced.
- Apply different skills and mindsets to elevate this to efficiency, efficacy and effectiveness.
- Enhance your skills with empowerment skills.

Applied Human Capital Management

Description:

A company's most valuable asset is its people! This module focuses on the premise that it is up to us as Managers and Leaders to inspire people and make them believe that they can contribute towards the goals and objectives of the company. The aim in this module is to provide you with the necessary knowledge, skills and mindsets to apply that and to navigate these turbulent times!

Outcomes:

- Appreciate "Management: The Art of Possibility".
- Apply Management principles.
- Know and apply the Gung-Ho principles.
- Understand Individual Growth Processes in the Diverse Human Capital Environment.
- Understand and leverage the economic value of diversity.
- Analyse Group Involvements and Social Roles in a firm.
- Understand Physiological and Emotional Wellness of employees.
- Understand Identity and Social Roles in diversity.
- Understand the Learning Cycle.
- Understand the current emphasis on Human Capital and be able to leverage Human Capital in your area of influence.
- Understand the importance of talent and be able to define the strategic talent requirements (core capabilities) of your area of influence.
- Understand the importance of Diversity and be able to define the actions necessary to entrench Diversity in your area of influence.

Section C: Business Management

Description:

In this section the participants will be exposed to the following modules:

- Brands and Branding in the mobile environment;
- Managing the Mobile Customer;
- Business Models in the Mobile Environment;
- Operations Management in a Mobile Operator; and
- Finance for Non-Financial Managers.

Brands and Branding in the mobile environment

Description:

This module will provide participants with an overview of the role and activities of marketing and branding as well as its multiple applications. It is important to understand and expand your brand and

get customers to be loyal to your brand. The power of the Brand is also discussed and emphasis is placed on retaining brand loyalty. After examining the role of marketing in the organisation the module exposes participants to themes around segmentation, the marketing mix and the requirements of developing a market-focused organisation.

Outcomes:
- Understand the concept of branding and how it is used by several organisations.
- Identify ways of using the brand to differentiate both the company and its products.
- Understand the concepts of brand promises and how it is used.
- Understand main brand strategies and the way it can be implemented in organisations.
- Benchmark your positioning against that of competitor products in the marketplace.

Managing the Mobile Customer

Description:
This module aims to develop an understanding of the value of customer-centricity and how to optimise customer relationships within the organisation. The module provides a focused look at various customer-centred strategies and positions these strategies in a meaningful coherent picture, where all is aligned to best serve the most important asset, your - customer. In summary: "It's about how you make them feel!" Customer management may be seen as the application of customer knowledge across the organisation to maximise mutual value.

Outcomes:
- Identify ways of getting and keeping the right customers.
- Understand the concepts of customer lifetime value and how to use it.
- Motivate employees to understand the personal benefit they will derive from focusing on customer relationship.
- Benchmark your performance against those who are successful at establishing and maintaining profitable relationships.

Business Models in the Mobile Environment

Description:
The module introduces participants to the Business Model Canvas and how it can be used to define not only a Value Proposition of a company, but also that of a new product. Participants will be exposed to the various types of Value Propositions as defined by its Value Discipline. This insight will later be used to define the Value Propositions and Value Discipline of the Operator and all its competitors. This will lead to a better understanding of your competitors and how it competes within the marketplace.

Outcomes:

▶ Apply the perspectives of abundance gorilla and king games in analysing a company's position in the value chain.

▶ Explain the different network evaluation methodologies.

▶ Analyse and explain the differences between the following business models.

- ✚ Traditional Fixed line communication business models.
- ✚ Different telecommunication business models in a Converged Environment.
- ✚ Local Loop Unbundling Strategies.
- ✚ Mobile Virtual Network Operator business model.
- ✚ VOIP provider business model.
- ✚ Application Service Provider Business model.
- ✚ Triple Play & IPTV Strategies.
- ✚ Set top Box strategies.
- ✚ Digital Content Sale Strategies.

▶ Understand the Digital Value Chain concepts.

▶ Discuss the Communication Value Chain.

▶ Discuss the Wireless Value Chain.

▶ Discuss Value Chain functions in the mobile industry structure.

▶ Explain the term innovation with reference to the telecommunication industry.

▶ Explain disruptive innovation.

▶ Describe methods for disruptive innovation.

▶ Discuss current attitudes in the fixed mobile network.

▶ Discuss various fixed mobile scenarios.

▶ Identify main problems in the Telco industry.

▶ Discuss various solutions for today's Telco industry.

▶ Explain customer-centric networks.

▶ Discuss possible needs that drive customers.

▶ Discuss risk and reward in the mobile services network.

▶ Identify the various components of the entertainment market.

▶ Discuss how the entertainment value chain evolved.

▶ Discuss the importance of understanding your customer.

▶ Discuss the Best Practice Operations Framework.

Operations Management in a Mobile Operator

Description:

Operations management is broadly defined as "the design, execution, and control of operations that convert resources into desired goods and services, and implement a company's business strategy" (http://www.businessdictionary.com/definition/operations.html). This module will use various games and scenarios to model operational processes. It also encapsulates Process management, Quality control and implementation of Corporate Strategy.

Outcomes:

- ▶ Explain the role of operations and its relationship with the other functional areas of a business organisation.
- ▶ Analyse operation processes from a variety of perspectives such as productivity, workflow, and quality.
- ▶ Apply the "Transformation Model" as a construct for understanding the relationship between the inputs, processes, and outputs of an organisation.
- ▶ Explain techniques and methodologies for managing an organisation's productive resources.
- ▶ Apply basic design principles to determine appropriate facility location and layout.
- ▶ Explain quality management and apply quality management principles to continuous improvement in operations management.
- ▶ Discuss the goal of Supply Chain Management and its application in a variety of organisational settings.
- ▶ Identify the critical factors involved in inventory control systems.
- ▶ Identify the operational processes in your company.

Finance for non-Financial Managers

Description:

The primary objective of every business enterprise is to make a profit, which is used to compensate the owner for the use of his capital and/or to reinvest in the enterprise. This module provides the participant with an overview of the basic inputs to ratio analysis and the general types of ratio comparisons. It also focuses on the use of various techniques in a certain environment to evaluate capital expenditure proposals for decision-making purposes. It also introduces the participants to both financial and management accounting concepts that are critical to the successful understanding of and participation in operating a business undertaking. The aim is to supply participants with a working knowledge of techniques and to apply this to specific environment financial planning and analysis. Budgetary planning and control, as well as alignment of asset depreciation strategies with the overall corporate financial strategy will also be discussed.

Outcomes:

- ▶ Understand the language of finance and be able to engage with financial professionals inside and outside the company.
- ▶ Explain the main purpose of Financial Reporting.
- ▶ Outline fundamental concepts underlying all financial reporting.
- ▶ Examine the financial health of the specific business unit and collaborate on resolutions to improve financial performance.
- ▶ Interpret key non-financial performance measures.
- ▶ Identify financial management cycles and systems e.g. budgets.
- ▶ Understand the legislation related to financial management.
- ▶ Interpret financial statements.
- ▶ Interpret basic bookkeeping and accounting systems.

- Identify risk management within the organisation.
- Explain balance sheets, income statements, cash flow statements and accounting policies.
- Do financial ratio analysis.
- Understand costing and measures of performance including EBITDA, ROE, RONA and EVA(r).
- Develop the ability to construct a financial plan and establish its financial feasibility.
- Identify the main users of financial information and their needs.
- Prepare and interpret a cost-volume-profit (CVP) graph.
- Compute the break-even point.
- Understand present value concepts and the use of present value tables.
- Understand cost of capital.
- Understand different valuing methods to rank projects.

FACULTY

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DELIVERY METHODOLOGY

The principle of customisation was taken into account with the development of this programme customising the learning interventions to the level of the target group and also to the outcomes to be achieved. One of the critical attitudes for success is one's relation to learning and development. Interventions with the correct emphasis on the relationship between Knowledge, Skills and Mindsets were therefore constructed. All interventions are based on constructivist learning, accommodating multiple intelligences. This briefly means experiential learning and development with an emphasis also on peer-to-peer assistance and evaluation. Facilitator and expert intervention is central to the process for guidance and outcomes purposes.

Most, if not all, of the interventions will be delivered through physical contact sessions. Where circumstances dictate and technology is available, delivery via video conferencing will take place.

Each of the modules will have a study guide and related support documentation. In some of the instances textbooks will also be supplied as well as relevant articles.

ASSESSMENT

The assessment framework of the PETM is built around the following:

❖ Individual and group assignments to assess the understanding of the key concepts and that will be relevant to the applicant's functional environment.
❖ An Action Learning Project (Business Case).
❖ Peer-to-peer assessment is conducted in the contact sessions and is facilitated by the presenter/facilitator. Reflection is done to ensure an understanding of the knowledge areas that are covered.

DURATION AND STATUS

The programme consists of 15 contact days (13 facilitated days and 2 days for the Action Learning Project) and will be presented over a period of approximately 9 months i.e. 2 days per month. The programme is accredited through North-West University (NWU) and registered with the Council for Higher Education at NQF Level 6 (7) with 500 study hours (50 credits). The Institute for Technology Strategy and Innovation (ITSI) will be the project management vehicle of the programme.

CONCLUSION

The purpose of this document is to give a brief summary of the sections and modules that constitute the programme. The most important characteristic of this programme is that the knowledge transferred to the students is of such a nature that it can be practically applied. Although the programme encapsulates the latest thinking, both in a technology and management sense, the content of each of the modules is both practical and immediately implementable within the organisation. The facilitators on this programme have extensive experience in the academic world as well as in the Telecommunications environment and will therefore convey the content in such a way that the participants do not experience any gap between the reality they face every day and the content within the course.