MIDIR PROJECT

Contract n° 036708

WP 2:

Integration of concept in real risk management settings in various cultures

Del. 2.4:

Online tools for developing Sustainability and Resilience

Methodology, experience and cost effective solutions from MIDIR EU Research project

Reference code: MIDIR – Del. 2.4

The project is financed by the European Commission by the Sixth Framework Programme, Area "Science & Society", Priority "Integrative approaches to risk governance".

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Title: Multidimensional Integrated Risk Governance

Title of report: Del. 2.4: Online tools for developing Sustainability and Resilience. Methodology, experience and cost effective solutions from MIDIR EU Research project.

Reference code: MIDIR – Del. 2.4

Short Description:

Deliverable 2.4 relates to driving results through collaboration, monitoring and knowledge sharing. It is relevant to environmental sustainability, sustainable development and the resilience of any organisation or community. The report presents a solution to governance and strategy implementation in situations of complexity and change, based on the MIDIR's systematic review of risk and resilience best practices.

The report is divided in two main parts:

- the wider picture of the MIDIR approach, its vision and potential where it can make the most difference;
- use of the electronic support tools for the MIDIR approach, containing both Gaiasoft's Integral Scorecard as well as the on-line questionnaire tool developed by IRPPS.

There is also an appendix which references further materials on the Gaiasoft methodology.

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Summary: Transforming for Resilience & Sustainability

In a time when complexity and interconnectedness are growing and change is accelerating, the MIDIR project addresses the need to move from reacting to issues to being ready and prepared. As unexpected events become the norm, institutions must move from managing risk to managing for resilience.

How can we develop resilient institutions, cities, nations and regions?

How can we accelerate learning by institutions to minimise costs and maximise benefits of widespread change and uncertainty?

The risk governance framework may limit the risks considered and hence the level of resilience achieved. The MIDIR project reviewed 14 Risk Governance projects and frameworks to identify common themes and develop a comprehensive framework for large-scale risk governance.

This deliverable 2.4 relates to driving results through collaboration, monitoring and knowledge sharing. It is relevant to environmental sustainability, sustainable development and the resilience of any organisation or community. This report presents a solution to governance and strategy implementation in situations of complexity and change. The method described is relevant to networks of communities, businesses and government agencies transforming to become effective, sustainable and resilient.

For example:

- Networks of cities wishing to learn from one another's experience in adapting, preparing and responding to climate change;
- Networks of government agencies collaborating to implement national strategy;
- Global and local partners collaborating to implement Millennium Development Goals.

The end point of transformation may not be known – due to emerging technologies of sustainability, challenges and risks. Good practices are systematically gathered, codified and made available for large scale implementation and re-use by a collaborative learning network.

An emerging solution "Pattern Library", and success template is collaboratively developed and used to operationalise objectives, drive implementation and to share knowledge and learnings. The template is flexible and actionable, supported by a body of how-to knowledge. Implementing this approach has the potential to accelerate learning and results for climate change response, government service delivery and sustainable development.

The process is supported by Gaiasoft's unique technology solution which provides for benchmarking, performance management, project management, knowledge management and learning.

The method is based on MIDIR's systematic review of risk and resilience best practices.

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Selection, sources and ownership

The tools and monitoring approach for MIDIR were selected recognising the importance of an "Integral" approach – one addressing both internal (belief and culture) and external (behaviour and structure). Gaiasoft's Integral Scorecard and existing methodology were selected to provide monitoring and management support for the MIDIR project. This document describes this methodology and how it has been adapted and applied by the MIDIR project. This document draws on various sources including MIDIR and Gaiasoft methodology and processes and the work of IRPPS, the MIDIR project partners and the experience of early contributors including Marilyn Hamilton of Integral Cities, Peter Merry and colleagues at the Center for Human Emergence, Netherlands, Barrett Brown of the Integral Institute, Steve Trevino, an expert in resilience. While this document may be freely shared under the Creative Commons Licence, the ownership and rights in the definitions, processes, products and designs referenced or reproduced remain the property of the owners of the respective sources.

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1 Glossary of terms

The following terms provide useful context for this report on the governance of complex systems, including implementation of sustainability, sustainable development and resilience including networks of communities, cities, government agencies and businesses.

- What is **sustainability**?

  Sustainability is a characteristic of a process or state that can be maintained at a certain level indefinitely.

  Sustainable Development is meeting today's needs of development without compromising future generations' ability to develop.

  Source: http://www.dictionary.com

  A **sustainable city** can feed and power itself with minimal reliance on the surrounding countryside, and creates the smallest possible ecological footprint for its residents.

  Source : http://en.wikipedia.org/wiki/Sustainable_city

- What is **resilience**?

  Resilience is the ability to recover readily from adversity, to spring back, to rebound.

  Source: http://www.reference.com

  UK Resilience - The Government's aim is to reduce the risk from emergencies so that people can go about their business freely and with confidence.

  Source: http://www.ukresilience.info/

- What is a **complex system**?

  A **Complex System** is a system composed of interconnected parts that as a whole exhibit one or more properties (behavior among the possible properties) not obvious from the properties of the individual parts.

  Source: http://en.wikipedia.org/wiki/Complex_system

- What is a **Positive Proof Point?**

  A proven, working example which out-performs similar peers and that can be learned from and replicated. (This is Gaiasoft's definition.) Positive Proof Points are found in even the most challenging areas of human problem solving including sustainability, sustainable development and resilience.

  The importance of this approach is based on the established definition of "Positive Deviants": In every community there are certain individuals (the "Positive Deviants") whose special practices/ strategies/ behaviours enable them to find better solutions to prevalent community problems than their neighbours who have access to the same resources.

  Source: http://www.positivedeviance.org

- What is a **Pattern Language**?
- A **Pattern Language** is a structured method of describing good design practices within a field of expertise. It is characterized by:
  - Noticing and naming the common problems in a field of interest,
  - Describing the key characteristics of effective solutions for meeting some stated goal,
  - Helping the designer move from problem to problem in a logical way,
  - And allowing for many different paths through the design process.

  Source: http://en.wikipedia.org/wiki/Pattern_language

2 Necessary and sufficient for transformation

The MIDIR project provides an approach for large-scale implementation and learning for risk governance and resilience. The project has developed specific Part A and Part B risk governance indicators and a step-by-step approach to apply them as documented in MIDIR Deliverable 1.2. This Deliverable 2.4 provides a more general perspective on how the MIDIR approach can be applied to the pressing challenges of governance for sustainability, resilience and sustainable development.

Communities, businesses and government agencies need to transform in order to cope with the major challenges of an interconnected world, as e.g. mitigation and adaptation to climate change, security of public spaces and rising energy and food prices. Together, public sector, private sector and civil society participate a complex system. Accelerating the transformation of complex systems for resilience, sustainability and sustainable development requires a holistic approach.

Our research and experience suggests that successful implementation projects require holistic toolkits for success, collaboration and sharing of knowledge through technology and all-important stakeholder mobilisation and engagement.

In this report, these three success factors are referred to as:

1. A **pattern language**[1] or flexible template indicating how to fast track success.
2. A **technology platform** for monitoring, measuring, collaborating and driving implementation of the pattern language within a particular context, for example one or all of business, community, city or agency.
3. **Stakeholder mobilisation** and engagement.

This report focuses on the development of a pattern language or template and provides the requirements for a technology platform for monitoring and knowledge sharing to support development and implementation of the pattern language in practice. The MIDIR project examples are for risk governance of a psychiatric clinic and for e-commerce risks. In addition, we

[1] We use the words “pattern language” to indicate that any template must be rich and varied to accommodate the rich variety of organisations to which it may be applied.

have developed two examples to show how a pattern language can be applied to sustainable cities and sustainable development:

- What is the pattern language for a resilient and sustainable city or business? Below we provide a demonstration example for monitoring and knowledge sharing for sustainable cities; (See Section 8.2.)
- What is the pattern language for sustainable development or a national government program, provincial deployment and municipal implementation? Below we provide a demonstration example for monitoring and knowledge sharing of national/provincial/district development. (See Section 8.1.).

In developing the MIDIR Approach, different lenses or mental models were considered, so as to provide different perspectives and a holistic view of systems. These perspectives are also supported in the configuration and use of the Gaiasoft M&E software – allowing diverse stakeholders to understand a single system from different perspectives.[2]

Two of the lenses used are described below.

1. The Integral Model, shown in figure 2.1, identifies four quadrants or areas for attention which are internal and external to the individual and collective.

Internal, Individual Leadership, attitudes and beliefs	**External, Individual** Behaviour and practices
Internal, Collective Collective culture and values	**External, Collective** Shared systems and structures

Figure 2.1 Integral Model.

2. The Gaiamap, shown in figure 2.2, extends from individual within organisation to individual within organisation and larger system. The cells of the Gaiamap are described by 9 boxes relating to the performance, transformation and leadership of the individual, organisation and larger/whole system.

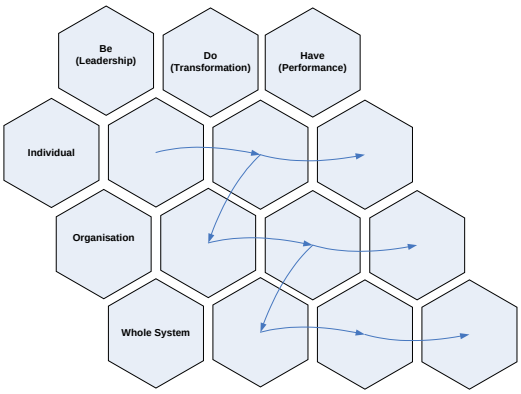


Figure 2.2 Gaiamap.

[2] Lenses provide a way to understand a system from different perspectives. In the popular story, three blind men are asked to describe an elephant. One feels the trunk, another the tail and another the ear. Each describes something different, but each is touching the same elephant. Lenses provide a way for the different stakeholders to experience the elephant in different ways.

3 Extending Monitoring & Evaluation to drive Delivery

Monitoring & Evaluation (M&E) is used to monitor progress and evaluate results. Often M&E is backward looking, reviewing past performance, and hence not predicting or driving future performance.

Using the MIDIR approach, the cost and discipline of Monitoring & Evaluation can deliver substantially more value and benefit. By driving capacity building, culture change and transformation across complex systems this approach addresses the key barriers to success in the important and demanding tasks of building resilience, sustainability and achieving sustainable development.

In best public and practice private sector examples, measurement-based performance management is used to align objectives and delivery from top to bottom of organisations linking personal performance and daily tasks to organisational objectives.

Our experience which combines the Gaiasoft methodology with MIDIR global research in best practice shows that the traditional role of M&E can be extended to support collaborative solution finding, capacity finding and delivery and to enable organisational learning across large systems.

Monitoring & Evaluation tracks progress and results. It takes time and discipline to achieve. The goals of M&E may include: ensuring good governance, keeping programs on track, correcting performance or delivery issues and generally using feedback to ensure delivery. M&E is typically used in the public, development and NGO sectors as a part of the management feedback loop and in the private sector for compliance purposes.

Typically performance management is based on measures of performance that assume a steady state. In a developing or transforming organisation or system, much of the real results are not shown in steady-state performance measures, but in shifts in leadership and culture, the achievement of projects and the development of new processes.

A lens, mental model, or world-view that focuses only on performance will train its users to ignore the causes of performance in leadership and transformation. To measure the development of resilience, sustainability and sustainable development, we must measure transformation and leadership.

A transforming organisation cannot focus only on performance outputs, it must also develop an appropriate culture and processes which requires the building of human capacity. The end to end process described in the next chapter uses the disciplines of M&E to address performance, transformation and leadership, to support large-scale capacity building and organisational learning.

4 End to end process

Deliverable 1.2 reported on Part A and Part B indicators to be developed through a series of steps. This approach has been extended to provide a generic monitoring methodology whereby generic indicators can be developed for sustainability, resilience and sustainable development. MIDIR's general end-to-end process uses and builds on Gaiasoft's

Organisational Learning and Governance Framework represented below in Figure 4.1.

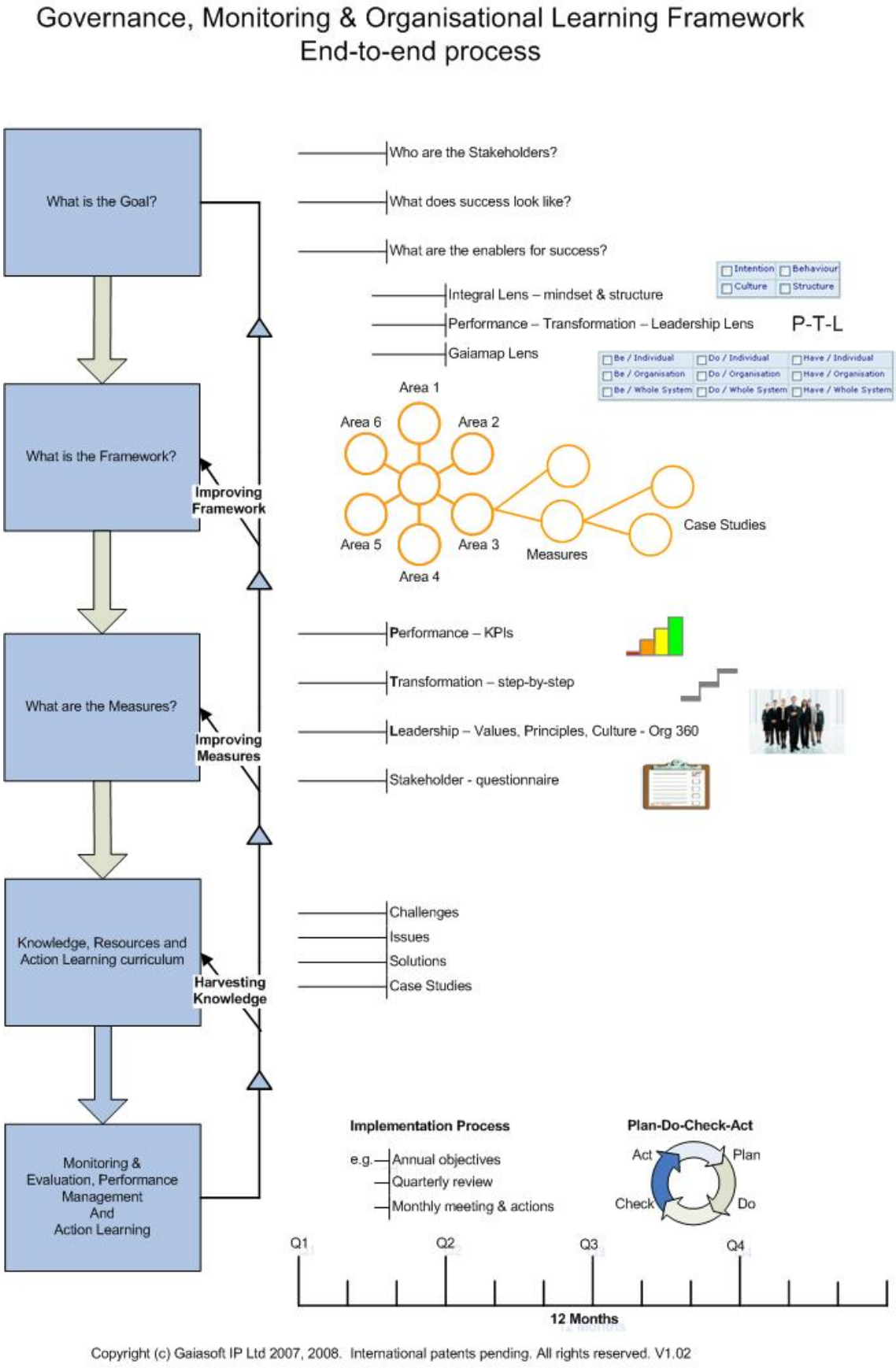


Figure 4.1 Governance Monitoring & Organisational Learning Framework.

Figure 4.1 summary:

Figure 4.1 summarises the process for developing and applying a template or "pattern library" which can be used to drive sustainability, sustainable development or resilience through accountability, monitoring, action management and learning.

Following are the steps from Figure 4.1 with supporting notes.

What is the goal?

Identify the stakeholders, who are the interested parties?

What does success look like in reality? Ensure this is clear.

What is the framework?

What are the enablers that will make success happen?

Refer to success stories, solutions that are already working, the so called 'positive deviants' which we refer to as 'positive proof points'. Use methodologies like the Integral Model, Key Performance Indicators (KPIs), process tracking, survey tools and Gaiamap (Be/Do/Have at the Person, Organisational and Whole System levels). Look through the 'Lenses' to identify enablers, measures and knowledge.

Define the Areas which equate to the high level success enablers and develop a hierarchy or web of goals, success factors, knowledge and success stories.

What are the Measures/Indicators?

Leadership drives transformation drives performance. Define indicators to give a balanced view of performance, transformation and leadership. Refer to other lenses to develop necessary and sufficient measures within the framework.

Survey stakeholders; stakeholder involvement was identified as one of the most important elements for a successful risk governance process. Use a questionnaire as a data collection for the Measures.

Knowledge, Resources and Action Learning curriculum

Tap into the knowledge and expertise of others. Use examples provided by Positive Proof Points. Use Action Learning as a highly effective approach to build capacity through learning by doing.

Monitoring and Evaluation, Performance Management and Action Learning

Use M&E and Performance Management to support personal accountability. Use a performance management process to drive actions and results with a Plan – Do – Check – Act cycle.

Continuous Learning

Ensure continuous learning through feedback and improvement of the goal, framework, measures, knowledge base and performance management process. Learning is accelerated because any new Positive Proof Point in a

member of a collaborating network is shared and available to other members of the network.

5 Feedback and control; scalability and flexibility

The MIDIR project addresses the challenge of management and governance for resilience across complex systems. The Integral Model suggests that any approach must address human change (beliefs and behaviour) as well as collective change (culture, structures and processes). This section addresses issues of scaling good practice across diverse organisations even when the good practice itself is evolving. The following section addresses the requirement for software tools to support this methodology.

Feedback and control

The table in "Figure 6.1 Selection Criteria for software to support large-scale learning and implementation" in the section below is based on fundamental features of feedback and control systems. For a system to be controllable it must be observable – it must be possible to observe or measure what is happening. In a controllable system, there are necessary and sufficient measures. In the case of organisations in transition, it must be possible to measure performance – outcomes, transformation and leadership/culture and values. Feedback occurs when the output (measurement) impacts the input through action taking.

Building a "Pattern Language" from "Positive Proof Points"

The approach described in this report depends on building a pattern language or template that embeds knowledge of Positive Proof Points which can be used to implement change. The approach replaces long research delays by identifying Positive Proof Points and using collective intelligence processes – eliciting knowledge from diverse stakeholders through facilitated 'emergence'. This approach accelerates the identification of patterns and themes which can then be used as a basis for simplifying, standardising and codifying knowledge for re-use.

Contrast this approach of "learning from what is real" to developing solutions theoretically only to find that they are not implementable for example due to limitations of complexity, capacity and resources. In the "Positive Deviance" literature factual but impractical knowledge is referred to as TBU, "true but useless", whereas the proven, workable solution is referred to as a positive deviant. We have adopted the term Positive Proof Point since it accurately describes how exceptional positive performance can be used.

Scaling and flexibility

Templates or re-usable approaches are useful for implementing large-scale change. In this case, the template must be flexible to accommodate the diversity of organisations using it and flexible to accommodate changes in best practices and working conditions with time.

Knowledge for achieving the goals of resilience, sustainability and sustainable development, in a city, business or community is a developing field – new risks and perturbations are emerging, new technologies and processes for sustainability are being developed, new sustainable development approaches are being trialled and proven. The city, business

or community must start somewhere to implement the 'moving target' of its goal. In a large organisation with hundreds of departments or units, best practice may change during the roll-out of the program. The methodology described in this report addresses the need for continuous adaptation by supporting implementation of a pattern language or template which can be applied continuously, improved and upgraded.

What works for one organisation or community will need to adapted for another. The pattern language or flexible template can be applied selectively and appropriately in different contexts. Business units within an organisation or cities within a network refer to a transition template which is upgraded collaboratively to reflect one or more options and subtle variations of emerging best practice. One size does not fit all.

6 Selecting software tool support for methodology

The MIDIR project focuses on risk governance for resilience. In its most general application, the MIDIR methodology provides a solution to the rapid, scalable transformation of complex systems through knowledge sharing and learning. The approach applies directly to collaboration for climate change response, implementation of resilience and sustainable development. Figure 4.1 above depicts a generic end-to-end process from goal to governance system.

To facilitate the implementation of the end to end process described above, an integrated technology platform is required to support accountability, measurement of performance, transformation and culture, management of actions, capturing related knowledge of Positive Proof Points as a reusable template or pattern library. These templates must be implementable as a governance and management system at multiple levels of organisation or governance, for example national, provincial and local.

To facilitate the collaboration across functions and organisations, lenses are required allowing different stakeholder groups to understand through the perspectives of others. Finally the same collaboration platform must be securely, shareable between different stakeholders across boundaries of organisation and function, allowing different groups to receive the information they need, but only what they are entitled to. The suitability of a software tool or platform to support this approach can be assessed using the requirements in Figure 6.1 "Selection Criteria for software to support large-scale learning and implementation."

Requirement	Why it's important	R	Y	G
1. Accountability	Accountability provides the basis for maintaining standards, driving improvement and change.			
2. Measuring performance	Measurement provides the basis for accountability. Performance measures indicate whether a process is delivering. Performance measures are most relevant to a stable organisation. Where structural and cultural transformation is required, the key accountability of leaders may be for transformation and for culture and values.			

3. Measuring transformation	Transformation of an organisation depends on many projects and changes – structures, processes, systems. The management system must be able to measure the transformation of structures, processes and systems.			
4. Measuring culture	Transformation of organisations depends on culture, on trust, on collaboration. The management system must be able to measure the culture of the organisation as it is and the gap between current culture and desired culture.			
5. Action management	Action management is the driver of results and the engine of continuous improvement (through the plan-do-check-act cycle of quality management).			
6. Knowledge: Challenges, Solutions & Case Stories	Knowledge is organised according to the measure it impacts, the 80/20 challenges which must be met to perform in that measure and the 80/20 solutions, supported by case studies.[3]			
7. Reusable templates	Reusable templates consist of measures, knowledge and action learning resources which are used to drive change through a performance management process.			
8. Fractal – multiple levels – National; Provincial; Local	Reusable templates appropriate to different types and levels of organisation, for example business and government at national, provincial and local levels. Management and knowledge management systems enable collaboration and learning between types and levels of organisation. This is a requirement due to the increasing interdependency between different sectors and organisation types.			
9. Lenses – multiple views for different stakeholders	Different stakeholders have different perspectives on the transition – for example, financial, environmental, compliance and regulatory.			
10. Interagency / multi stakeholder – lenses, filters, content	Different stakeholders and supply chain partners require confidential subsets of shared information to allow optimisation and tuning of performance, for example across a network of government agencies or businesses in a supply chain.			

Figure 6.1 Selection Criteria for software to support large-scale learning and implementation.

In comparing and selecting tools, a prospective solution can be rated:

Red/Yellow/Green or

Non-Compliant/Partially Compliant/Compliant

for each of the above requirements using a maturity model/check list.

[3] 80/20 Challenges refer to the small number of key challenges which are barriers to performance. 80/20 solutions refer to the small number of key solutions that address each challenge. Case studies refer to the positive proof points which demonstrate solutions.

7 How the Scorecard tool is applied

The scorecard software supports the Organisational Learning, Governance & Management Framework end-to-end process of Figure 4.1. A core element of the approach is to use templates at different spatial and organisational levels to store, communicate and implement a pattern language for transformation and progress. Portions of the process may be used in different resilience, sustainability and sustainable development settings as appropriate. The concept of a pattern language as defined above may be fully or partially implemented. Our focus here is on software with reference made to the Gaiasoft methodology which MIDIR uses as an electronic management, monitoring and evaluation tool.

The MIDIR project developed specific Part A Indicators and provides a process for developing Part A and Part B Indicators as documented in Deliverable 1.2.

This Deliverable 2.4 shows how the MIDIR approach can be applied generically to sustainability, resilience and sustainable development using the end-to-end process of Figure 4.1. In its most general sense, the end-to-end process refers to three types of indicator – Performance, Transformational and Leadership and to stakeholder surveys. Examples of each kind of indicator and how they are used are described below. These examples do not use the Part A indicators demonstrated in earlier Deliverables to demonstrate the generality of the approach.

Introduction to Scorecard

EXAMPLES BELOW DO NOT USE REAL DATA OR INDICATORS

Gaiasoft Integral Scorecard is used to provide Monitoring & Evaluation (M&E) and knowledge management support for the MIDIR end-to-end process. In this context, the word Integral refers to both the Integral Lens described above and to the integral or holistic approach taken to M&E in addressing performance, transformation and leadership and the embedding of knowledge within the scorecard. The scorecard screen holds a number of different measures. Each measure is typically displayed in a row with coloured cells to indicate performance or progress through a process over time.

A scorecard is used for M&E and based on the appropriate pattern language or template at a particular spatial level.

The first example below in Figure 7.1a shows the MIDIR Part A Indicators in a scorecard. These indicators provide a generic assessment of a risk setting.

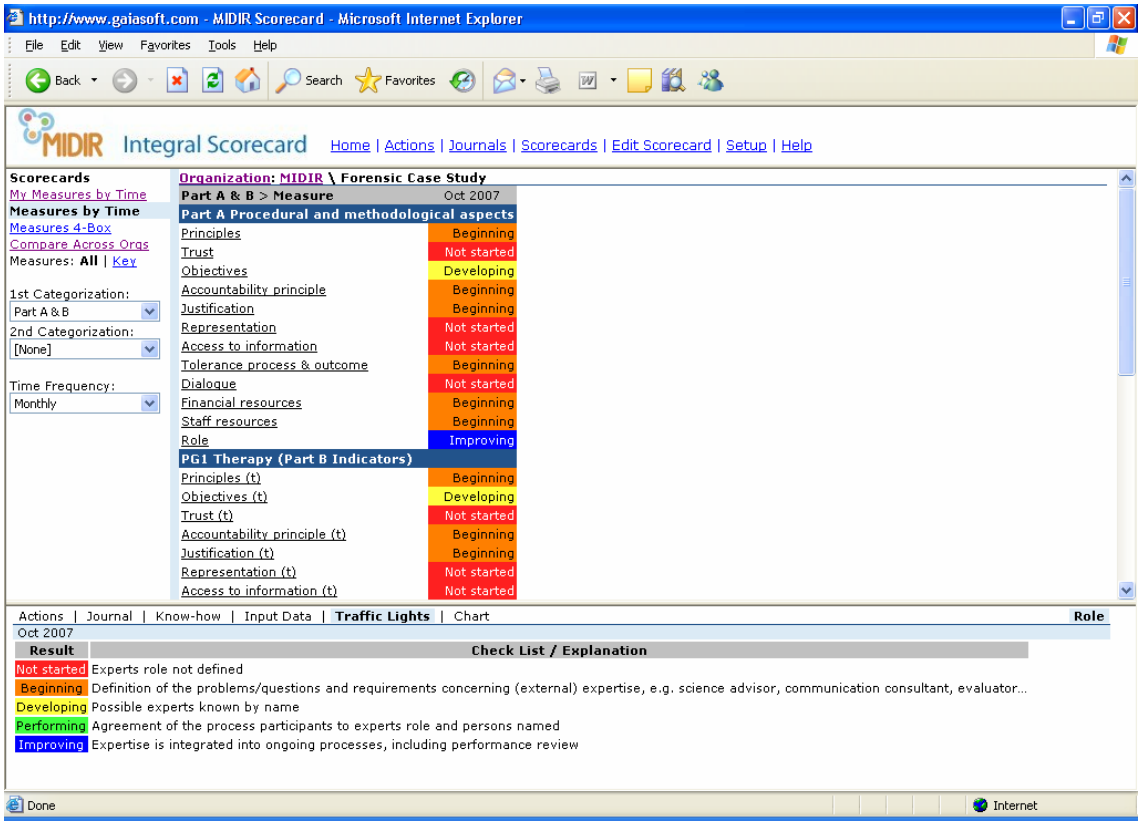


Figure 7.1a MIDIR Part A Indicators example.

As reported in Deliverable 1.2 these generic indicators can be extended with context specific Part B indicators.

In the remainder of this report we give examples of the MIDIR end-to-end process applied with other indicators in other contexts.

An alternate view of resilience is provided by the Performance Web which allows the user to explore the web of areas, measures and knowledge which make up a template for resilience. The example shown below is taken from the http://resilientcities.gaiaspace.org/ web site which uses Gaiasoft's scorecard to provide a collaboration, benchmarking and learning platform for global cities responding to climate change and implementing resilience.

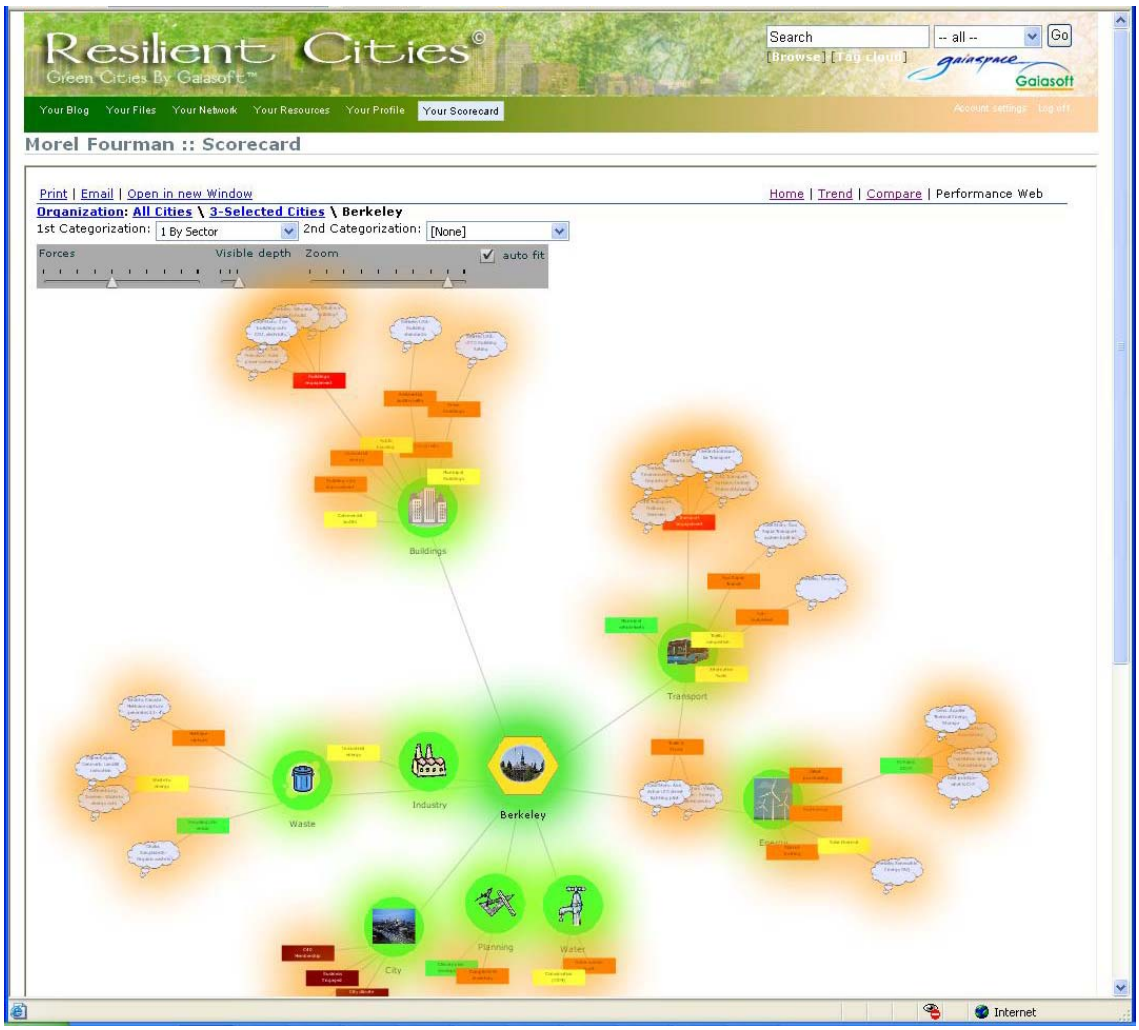


Figure 7.1b Performance Web showing 'positive proof points' as thought bubbles.

The performance web shows a focus city, with areas of resilience, colour-coded measures and related best practice examples (positive proof points) shown as thought bubbles. This performance web uses the lens including hierarchy of categorisations from the C40 cities. A scorecard using the same lens (1 By Sector) and Categorisations (City – Sector – Indicator – Best Practice) is shown below in Figure 8.2.

A template may include multiple lenses. A user can switch between lenses including display formats, categorisations and measure sets for the particular template.

The scorecard is used through a web browser and presents a default display for different stakeholders. In principle all stakeholders can have access to the scorecard, if interested, but with different levels of access rights.

The scorecard example shown below in Figure 7.1c has four frames: top menu for navigation; left side for options or navigation relative to the menu option; main frame contains the indicators or measures; and the lower frame shows data or information relative to a selected indicator or organisation unit (defined in the scorecard organisation hierarchy).

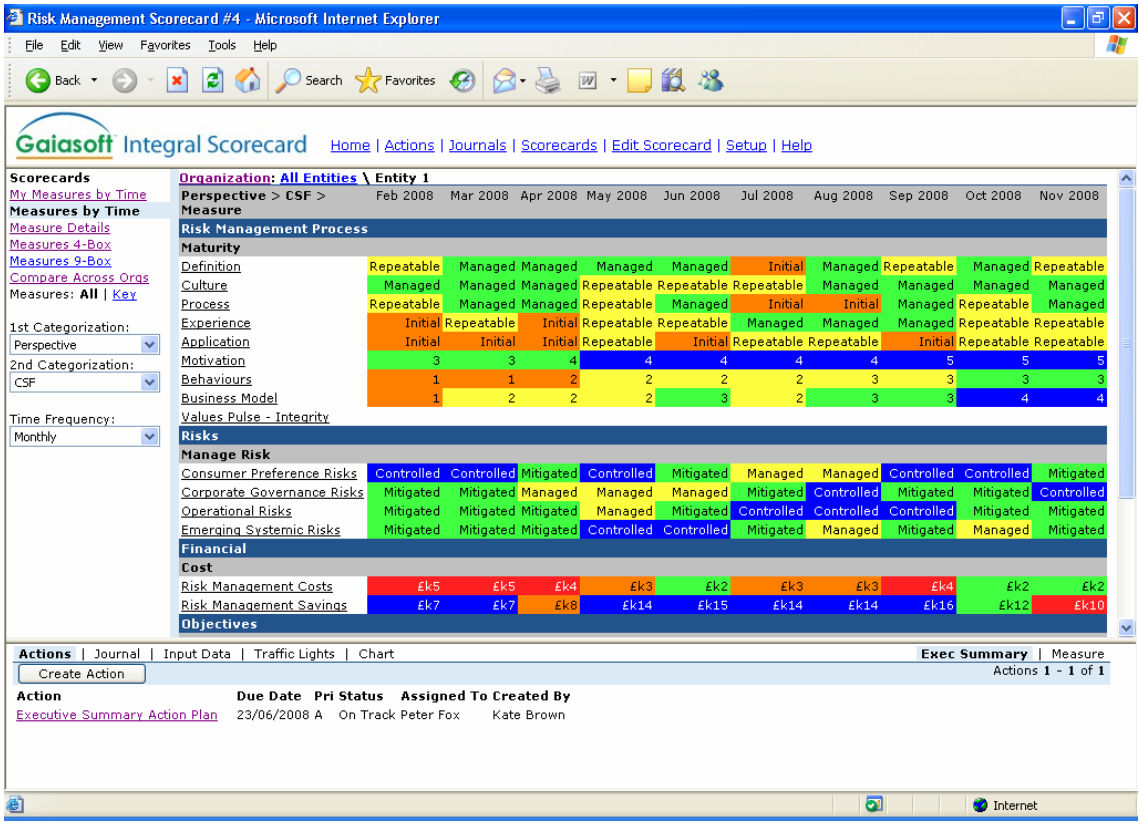


Figure 7.1c Scorecard example.

The indicators can be viewed grouped by a number of Categorisations allowing them to be seen through different 'lenses'. The example in Figure 7.1c is showing the indicators grouped by 'Perspective' (1st Categorisation in left frame and dark blue row in scorecard) and 'CSF' [Critical Success Factor] (as 2nd Categorisation and grey row in scorecard).

Figure 7.2 shows the same measures as in Figure 7.1c now being grouped by 'Integral Quadrant' (1st Categorisation). This ability of switching 'lenses' to suit the scorecard viewer enables the user to monitor in the context of different mental models and mindsets.

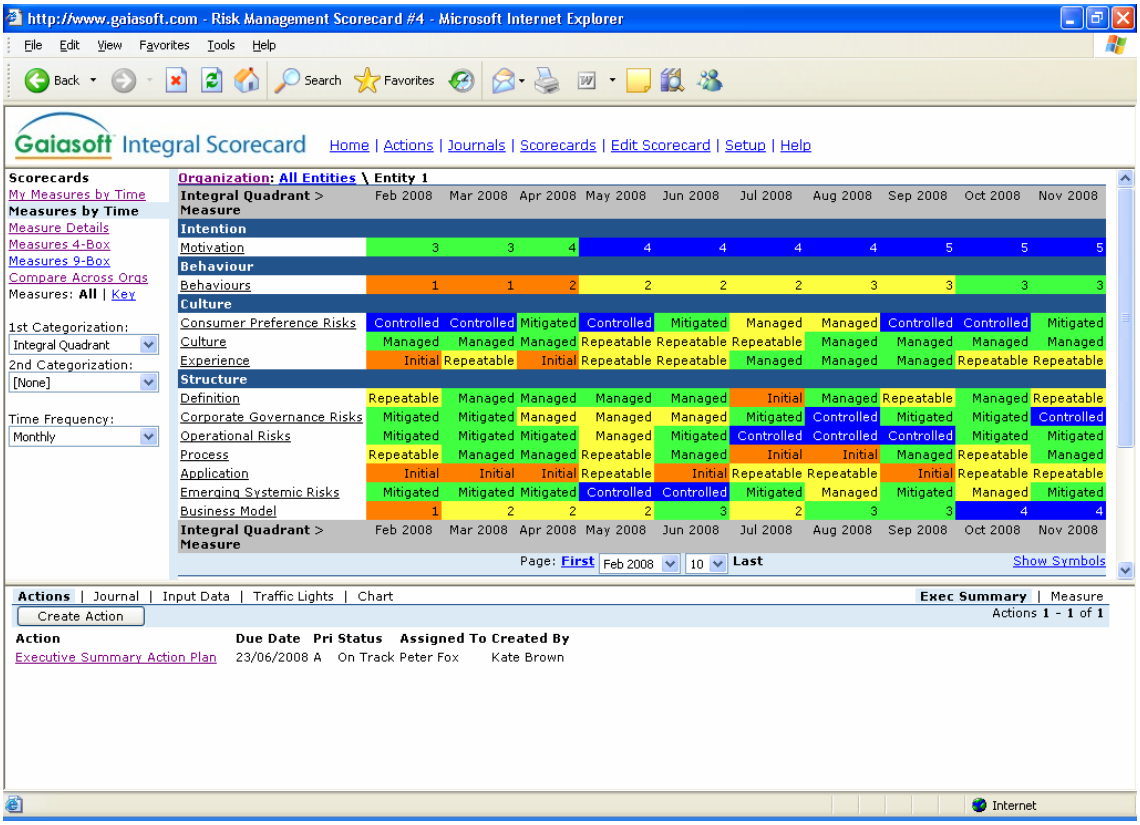


Figure 7.2 Scorecard example showing measures through the 'Integral Quadrant' lens.

Performance Transformation and Leadership

When an organisation transforms to achieve performance, the performance is dependent on the changes that make up the transformation. Transformation requires human engagement and mobilisation which requires leadership and may require a shift in organisational values and culture. Below we focus on different kinds of performance indicators well suited to measuring performance, transformation and leadership.

The following paragraphs describe different measure types in the Gaiasoft methodology and supporting scorecard which has been adopted and used appropriately by the MIDIR project.

Performance Indicator

As defined here, this type of indicator is numeric, the traffic light colours are typically calculated from comparing a number with a fixed or variable value.

Figure 7.3 shows the indicator 'Expenditure' selected and the traffic light conditions displayed with colour explanations in the lower frame:

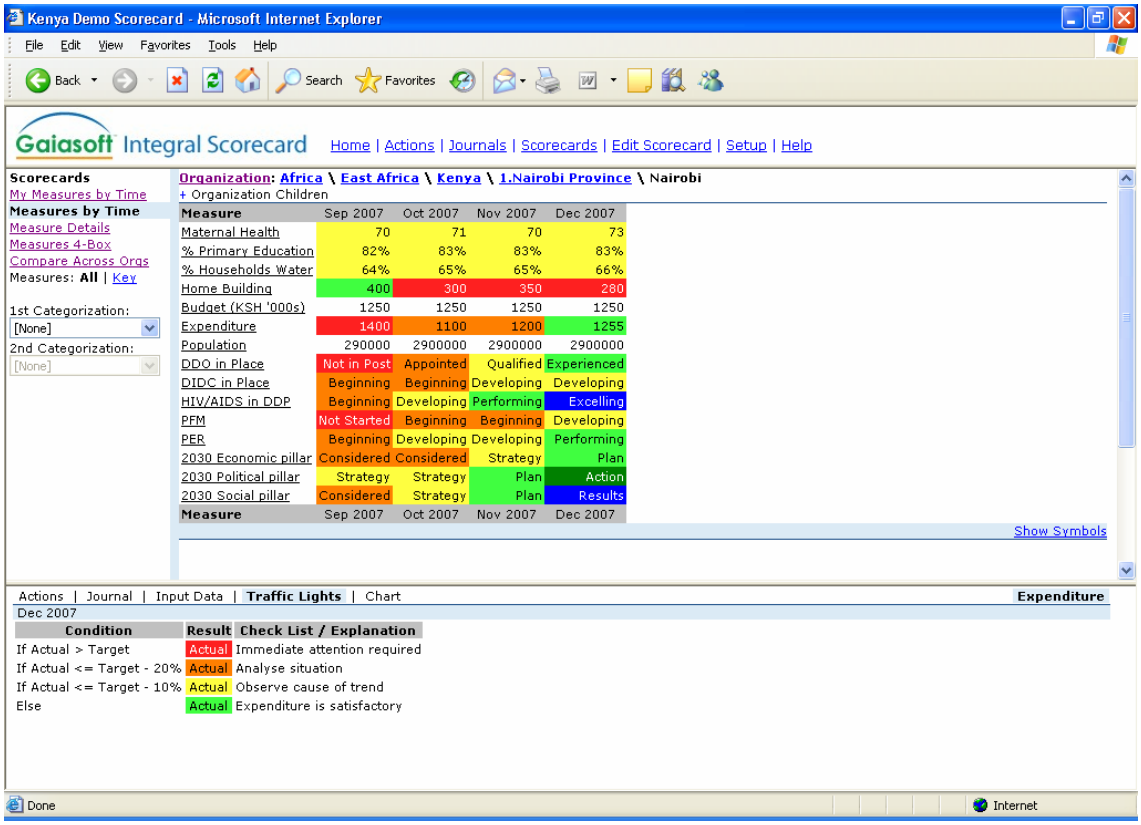


Figure 7.3 Scorecard showing numeric traffic lights for 'Expenditure' indicator.

The main scorecard shows the performance trend of the indicators, from September 2007 to December 2007.

Actions are defined from the 'Actions' tab (in the lower frame) by the owner of the indicator when it is under-performing, an ongoing commentary is available from the 'Journal' tab.

Transformation Indicator

Structural transformation of an organisation consists of many elements: projects, changing accountabilities, capabilities, structures, processes and systems. The scorecard can track multiple indicators showing the progress of these elements using maturity models.[4] Maturity models are used extensively in the MIDIR Part A indicators to assess the presence of 12 generic measures of resilience. This approach has been applied to each of the MIDIR case studies as reported in Deliverables 2.1 and 2.2.

The same approach can be used in many different contexts. For example, the progress of a district in Kenya could be measured with maturity models for different capacity. Figure 7.4 shows an example of a maturity model used to track an element of capacity. The selected indicator 'DDO in place' is the maturity model to show the step-by-step progress of a district in employing a District Development Officer (DDO). Explanations are shown for each 'step' in the lower frame:

[4] Maturity models are measures of progress. For example assessing the presence or maturity of a capability as Red: Beginning, Yellow: Developing, Green: Performing or Blue: Excelling.

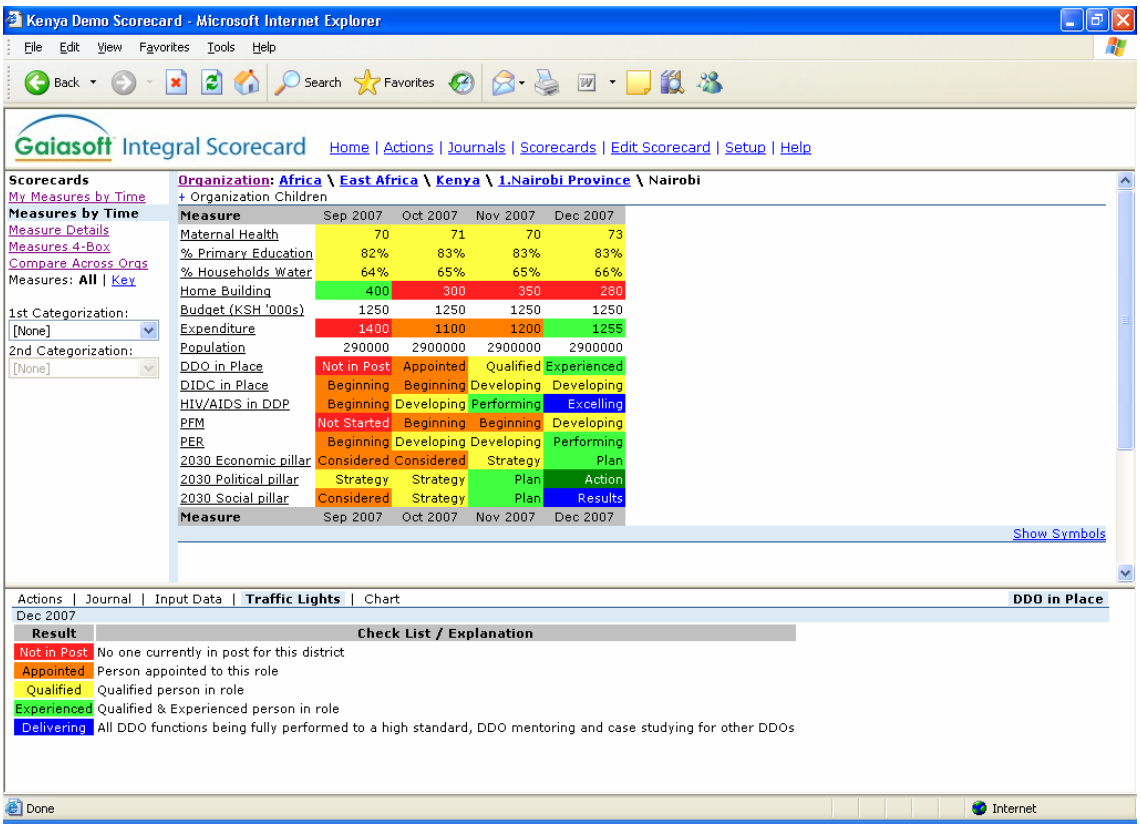


Figure 7.4 Maturity Model for 'DDO in Place' indicator.

Leadership or Cultural Indicator

Leadership and values within an organisation are measured and managed by using group survey indicators as a part of a monitoring and action management system. Group survey indicators assess the cultural climate and hence leadership and values by surveying multiple stakeholders and aggregating results to give a single indicator.

The 'Organisational 360' type indicator is used to gather team feedback and team-to-team feedback. If, for example, feedback is required from a team about their perception of 'Trust', each person in the team is presented with a number of optional answers to the question, as shown in the lower section of Figure 7.5 below:

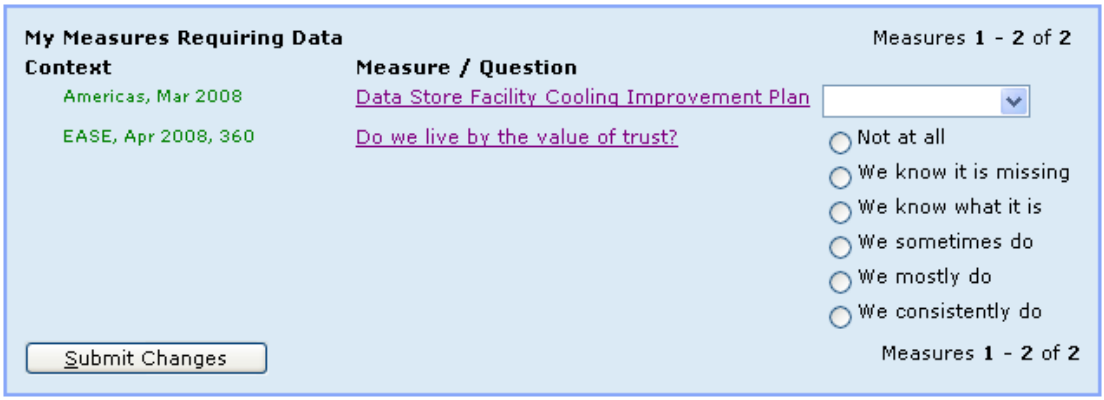


Figure 7.5 Possible answers for 'Do we live by the value of Trust' indicator.

Each person from the team submits their answer, an indicative, aggregate result is calculated by the system and is shown when the submission period is closed. By using this method results can be tracked over time to show the impact of leadership on, for example, the climate of trust.

Contrast this with the public and anonymous stakeholder surveys described below which are used to, for example, assess public opinion to public policy.

Stakeholder Surveys

A clear conclusion from the MIDIR best practice research and project experience is the importance of stakeholder involvement. Stakeholder survey measures can be produced from a flexible on-line questionnaire module. This module allows one-off or regular large-scale stakeholder consultations.

The online questionnaire provides the tool for:

(i) defining the Key Performance Indicators (KPIs), starting from the set of KPIs proposed in the first step of the MIDIR project (Part A Indicators, Part B or other indicators, as defined in Del. 1.2) or other indicators;

(ii) defining the questionnaire to be filled by stakeholders in order to verify their risk perception and to collect relevant data to be used by the scorecard tool.

The resulting KPIs can then be linked into the scorecard as a part of a monitoring template.

The Stakeholder Survey capability developed for the MIDIR project is documented in Section 9 below.

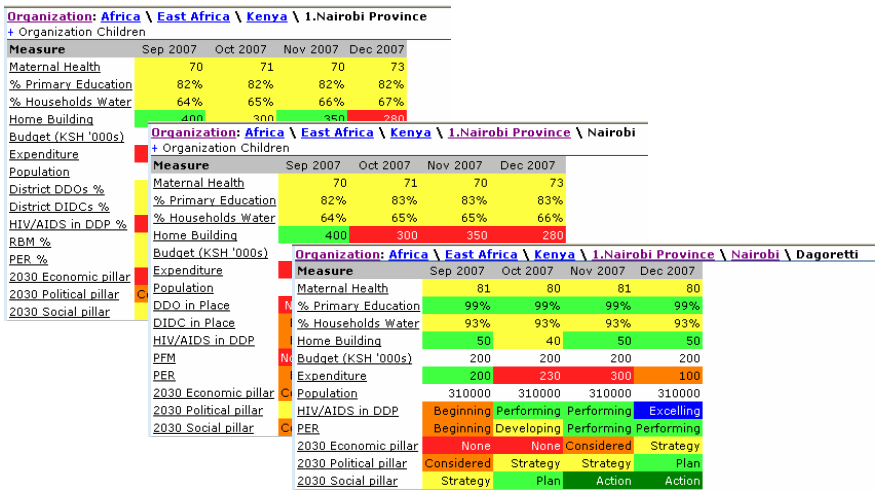
8 Using templates at multiple spatial or organisation levels

The MIDIR approach, using templates, can be used to extend the value of monitoring and evaluation to build capability and capacity at various spatial or organisation levels, for example national, province and local. Different templates are appropriate at different levels: the role of a province is different to that of a local municipality and hence different measures of performance, transformation and leadership apply. There will be common indicators at multiple spatial levels and specific indicators for a particular spatial level.

One benefit of the MIDIR Part A Indicators is that they are applicable at different regional or spatial levels. Even in the most general application of the MIDIR methodology where context specific indicators are used, there are likely to be common indicators at different levels.

8.1 Sustainable Development: National-Provincial-District-Local

Figure 8.1 shows both common indicators and indicators specific to different levels.



Organization: Africa \ East Africa \ Kenya \ 1.Nairobi Province
+ Organization Children

Measure	Sep 2007	Oct 2007	Nov 2007	Dec 2007
Maternal Health	70	71	70	73
% Primary Education	82%	82%	82%	82%
% Households Water	64%	65%	66%	67%
Home Building	400	300	350	280
Budget (KSH '000s)				
Expenditure				
Population				
District DDOs %				
District DIDCs %				
HIV/AIDS in DDP %				
RBM %				
PER %				
2030 Economic pillar				
2030 Political pillar				
2030 Social pillar				

Organization: Africa \ East Africa \ Kenya \ 1.Nairobi Province \ Nairobi
+ Organization Children

Measure	Sep 2007	Oct 2007	Nov 2007	Dec 2007
Maternal Health	70	71	70	73
% Primary Education	82%	83%	83%	83%
% Households Water	64%	65%	65%	66%
Home Building	400	300	350	280
Budget (KSH '000s)				
Expenditure				
Population				
DDO in Place				
DIDC in Place				
HIV/AIDS in DDP				
PFM				
PER				
2030 Economic pillar				
2030 Political pillar				
2030 Social pillar				

Organization: Africa \ East Africa \ Kenya \ 1.Nairobi Province \ Nairobi \ Dagoretti

Measure	Sep 2007	Oct 2007	Nov 2007	Dec 2007
Maternal Health	81	80	81	80
% Primary Education	99%	99%	99%	99%
% Households Water	93%	93%	93%	93%
Home Building	50	40	50	50
Budget (KSH '000s)	200	200	200	200
Expenditure	200	230	300	100
Population	310000	310000	310000	310000
HIV/AIDS in DDP	Beginning	Performing	Performing	Excelling
PER	Beginning	Developing	Performing	Performing
2030 Economic pillar	None	None	Considered	Strategy
2030 Political pillar	Considered	Strategy	Strategy	Plan
2030 Social pillar	Strategy	Plan	Action	Action

Figure 8.1 Common and Level-Specific Indicators.

At each level, the M&E system can be used to support Action Learning, facilitation and mentoring to develop collaboration, knowledge sharing and organisational learning. Preparing Action Learning to support the Part A Indicators would be a natural development to systematise the MIDIR approach.

When the MIDIR approach with general indicators is applied to large-scale service delivery, pilots are used to test and refine templates at each spatial or organisation level. The experience from pilots is used to improve the template and the support environment for all future implementations at that spatial level.

The resulting template can then be implemented to scale service delivery rapidly and measurably across an organisation with oversight and support from a collaborative support team.

As an example, the MIDIR Part A indicators could be applied to developing resilience for multiple public administrations simultaneously. Action Learning could then be used to build large-scale capacity to use the MIDIR approach and the particular Part A Indicators.

This section describes a demonstration developed to show how the MIDIR learnings and experience can be applied to fast track achievement of sustainability through use of sustainability templates.

Every city is different and so each city will take a unique approach to sustainability, yet the opportunity exists to develop a pattern language enabling cities to share knowledge to fast track transformation for sustainability. The potential is to accelerate sustainability of every city, by learning from a global body of knowledge and experience. The C40 is a group of the world's largest cities committed to tackling climate change. A set of indicators is used to track progress for each city in the following sectors: Transport, Buildings, Industry, Energy, Waste, Water and Planning.

A demonstrator has been developed to show how the best practice approach of this paper can be applied to fast track sustainability in the C40 and other cities.

In this example, the general methodology has been simplified to develop a template of areas and sub-areas for development of sustainable cities. This shows the flexibility and practicality of the MIDIR approach and electronic management, monitoring and evaluation tools.

An example a sustainable city scorecard (not actual data) is shown in Figure 8.2.

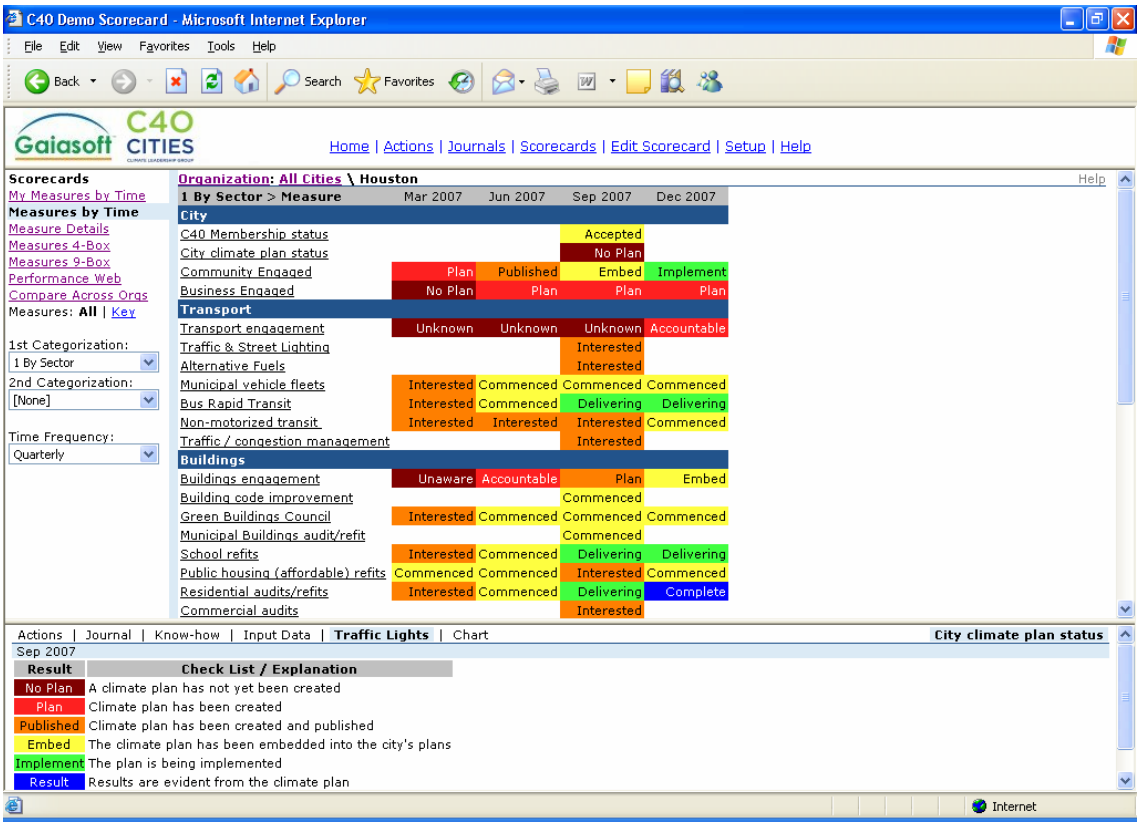


Figure 8.2 C40 Cities Scorecard.

Each of the indicators uses a maturity model to show the progress of the city in the particular area. The lower frame in Figure 8.2 shows the 6 steps of the maturity model for the indicator 'City climate plan status', they are: No Plan; Plan; Published; Embed; Implement; Result. An explanation is also shown to give detail for each step. An authorised owner of the indicator updates the indicator on a monthly basis and the trend of the indicator is displayed in the main scorecard.

8.2 Comparing progress across cities

The progress of measures can be tracked within a city or used for benchmarking and comparing between cities.[5] When multiple cities focus on the same template, pattern language, scorecard and knowledge base, there is potential for rapid learning between cities. Cities can learn from the

[5] It is important to note that where qualitative assessments are made, the values given may depend on the culture or motivation of the user of the rating system.

experiences of one another by selecting a measure in an adjacent column and examining the journal of experience and tracking actions taken. Knowledge can also be shared and accessed in the library of 'know-how.' According to the Integral Model presented in Figure 2.1 above and based on the MIDIR case study experience, building a culture of trust is a foundation for collaboration and improves learning. On the other hand, even with trust and an appropriate learning culture, there is need for knowledge sharing structures and processes to optimise learning. For this reason, the MIDIR approach recognises both the need for building trust and providing supporting software knowledge sharing and learning infrastructure.

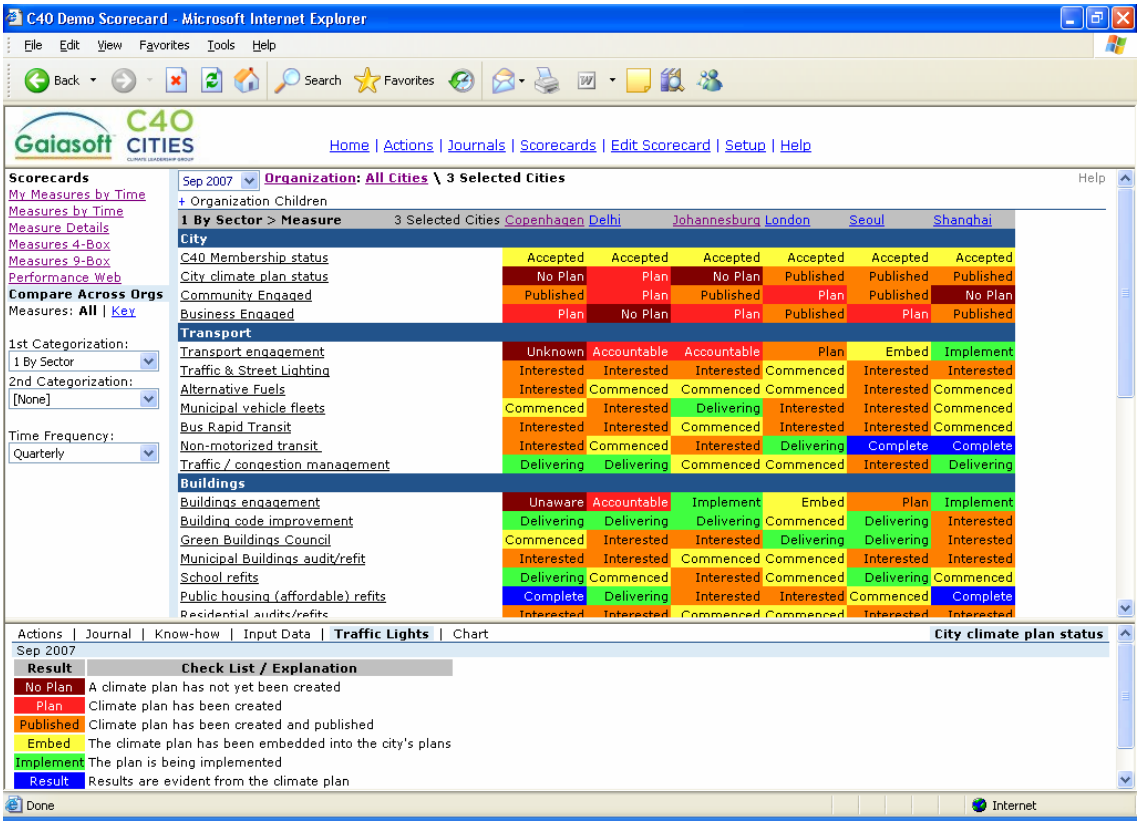


Figure 8.3 C40 Scorecard – comparing cities.

8.3 Recommendation: Resilience, Sustainability and Sustainable Development

This knowledge base can be continuously and collaboratively improved by communities of practice focussed on different areas and indicators within the template. The software and methodology support multiple communities mirroring the structure of the template. The software facilitates structured collaboration of communities of practice to develop, together, a pattern language to meet a common goal, in this instance, to develop sustainable cities.

With this approach, every city can learn from every other, creating an efficient and cost effective peer-to-peer learning network. This can be contrasted with the more common and inefficient approach of 'hub-and-spoke' knowledge management often taken by networks of government

organisations or agencies where all knowledge is processed through a central hub.

9 Online Questionnaire for Stakeholder Surveys

The online questionnaire provides a way to:

i. define the Key Performance Indicators (KPIs), starting from the set of KPIs proposed in the first step of the MIDIR project (Part A Indicators), and extending and improving this set according to the specific risk to be addressed (Part B Indicators), as defined in MIDIR Del. 1.2;

ii. define the questionnaire to be completed by stakeholders in order to verify their risk perception and to collect relevant data to be used by the scorecard tool.

A central administrator has access to all data and manages the secondary (MIDIR partner) administrators and stakeholders.

Secondary administrators have access to the data of their own stakeholders, manage their questionnaires, indicators and statistics transparently without seeing the data of other administrators and stakeholders.

Moreover, the system supports a great number of stakeholders that can fill in questionnaires provided by their administrators.

The system, due to its versatility, efficiency and portability, allows a transparent management of collected data and can be integrated with other existing systems (scorecard tool) for a more detailed data analysis.

The data is collected at various dates over time and can bring out important and interesting factors of change and evolution. When a stakeholder opens a questionnaire, the system displays a list of questions with various answers in increasing order, from the worst (red colour) to the best (blue colour). Interesting data processing can be performed: the peak, the average, the temporal density of answers and their evolution.

Using a completely automated structure, the administrators can manage their stakeholders, insert indicators and questionnaires, decide periods in which to collect the data of interest, display statistics on the collected data, compare temporal trends.

Stakeholder meta data is managed by the system, the secondary administrator can either enable or disable a user from accessing the system.

The questionnaire content, opening and closing dates and status is managed by an administrator.

The full Online Questionnaire User Manual is in Appendix 2.

10 Conclusion

The MIDIR approach and related monitoring, knowledge sharing and collaboration tools provide the basis for developing resilience, sustainability and sustainable development. A pattern language is focussed on defining a

re-usable process and blueprint or template which can be continuously improved, implemented and tested in multiple contexts. This approach systematically identifies the enablers of success and how they can be achieved. This systematic approach allows matching people with shared interests across organisation boundaries to increase the value of knowledge sharing for every participant.

The MIDIR project set out to address risk governance for resilience. Since the project was planned, there has been an increased recognition of emerging systemic risks including climate change, natural disasters, security and public health risks. It has become increasingly clear that resilience is a necessary goal of public and private institutions, whether focussed on sustainability, service delivery or sustainable development.

In summary, the peer-to-peer template-based approach to monitoring & evaluation described here is recommended for M&E generally and for today's major transformation challenges: sustainability, resilience and sustainable development.

11 References

Integral Model

Wilber, Ken, (2000): A Theory of Everything - An Integral Vision for Business, Politics, Science and Spirituality.

Positive Deviants

Bloch, Susan. (2000) "Positive Deviants and their Power on Transformational Leadership" Journal of Change Management 1(3): 273-279.

12 Appendix 1: Related Gaiasoft materials

The following related Gaiasoft materials provide further detail on topics covered in this deliverable.

12.1 White Paper: Complexity Performance Management and Global Corporate Citizenship.

12.2 Brochure: Green Cities Transition Template.

Both documents are part of the original version only.