

Total Quality Management for Sustainable Governance

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The Ministry of Education (MOE) of Taiwan has embarked on the SPROUT 2.0 project this year for a 5-year period of all higher-education institutions. This is a comprehensive project encompassing education, research, industrial collaboration, social responsibilities, sustainable development as well as diversity, equality and inclusiveness. To ensure total quality management (TQM) for sustained progress, Nation Yang Ming Chiao Tung University (NYCU) reemphasized the importance of it in a recent project kick-off meeting of all first-line managers. I was called upon to make a summary report about the basics and the nature of PDCA (Planning, Do, Check, Act) in the TQM exercise; I also laid out some details of the strategy in the implementation of PDCA in the SPROUT 2.0 project at NYCU.

The table of content of my report is shown below; it first reviewed the goal-driven planning process and the PDCA cycle, followed by ways/mechanisms for continuous improvement, concluded by the sustainable model and realization of TQM.

全品管永續治理 Total Quality Management (TQM) for Sustainability

- Goal-driven Planning 目標導向之規畫
- TQM PDCA Cycle 循環式全品管
- Deming Cycle: Continuous Improvement Deming 滾動式向上持續改善
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- Sustainable Model of TQM 全面品管(TQM)永續發展模式
- Realization of TQM 全面品質管理的實踐

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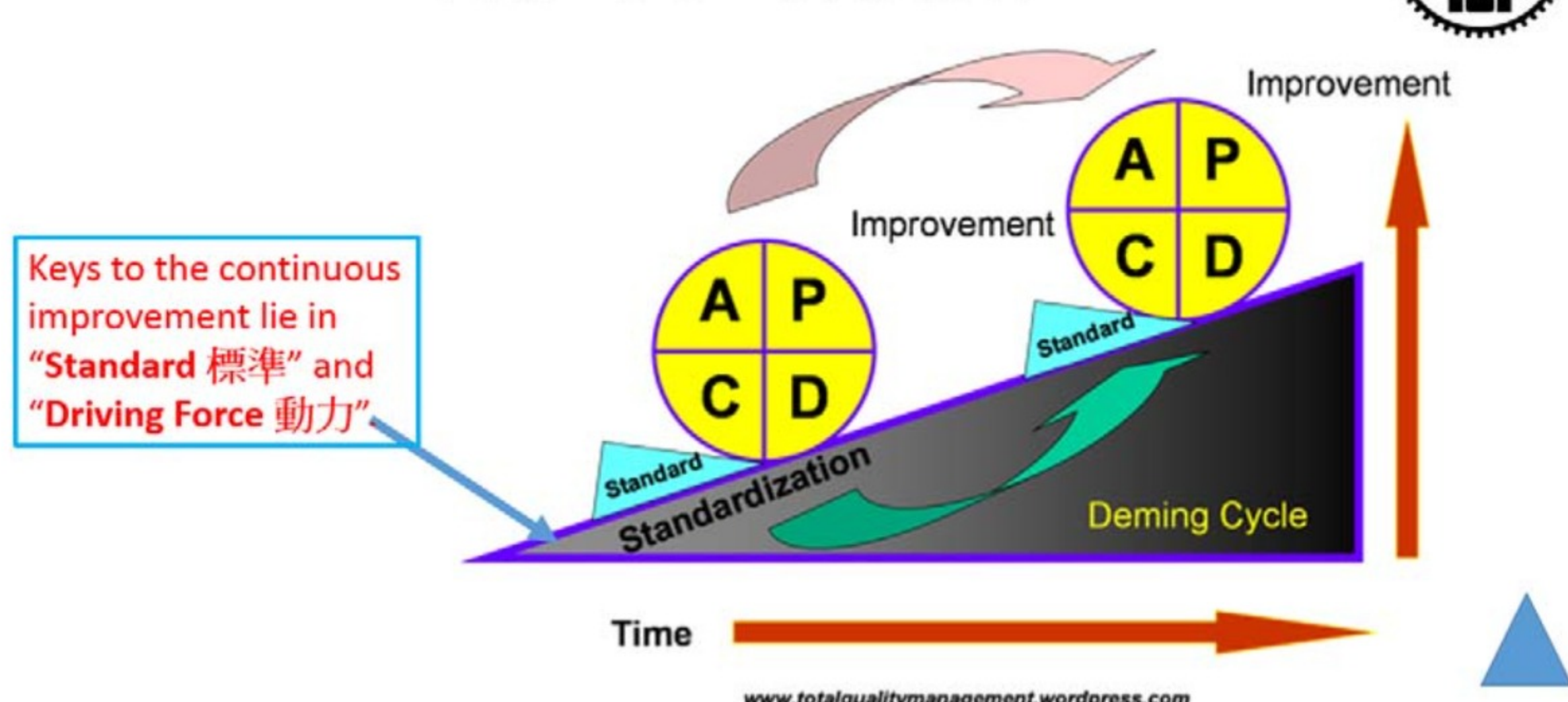
Needless to say, most managers are familiar with the goal-driven planning as shown in a figure below by setting the goals, designing strategies, planning actions then implementing them to the best ability. However this part only involves the first two steps of the PDCA, i.e. P and D. What need be emphasized in the TQM is the complete cycle of PDCA, especially the last two parts of C and A which are commonly ignored.

Goal-driven Planning 目標導向之規畫



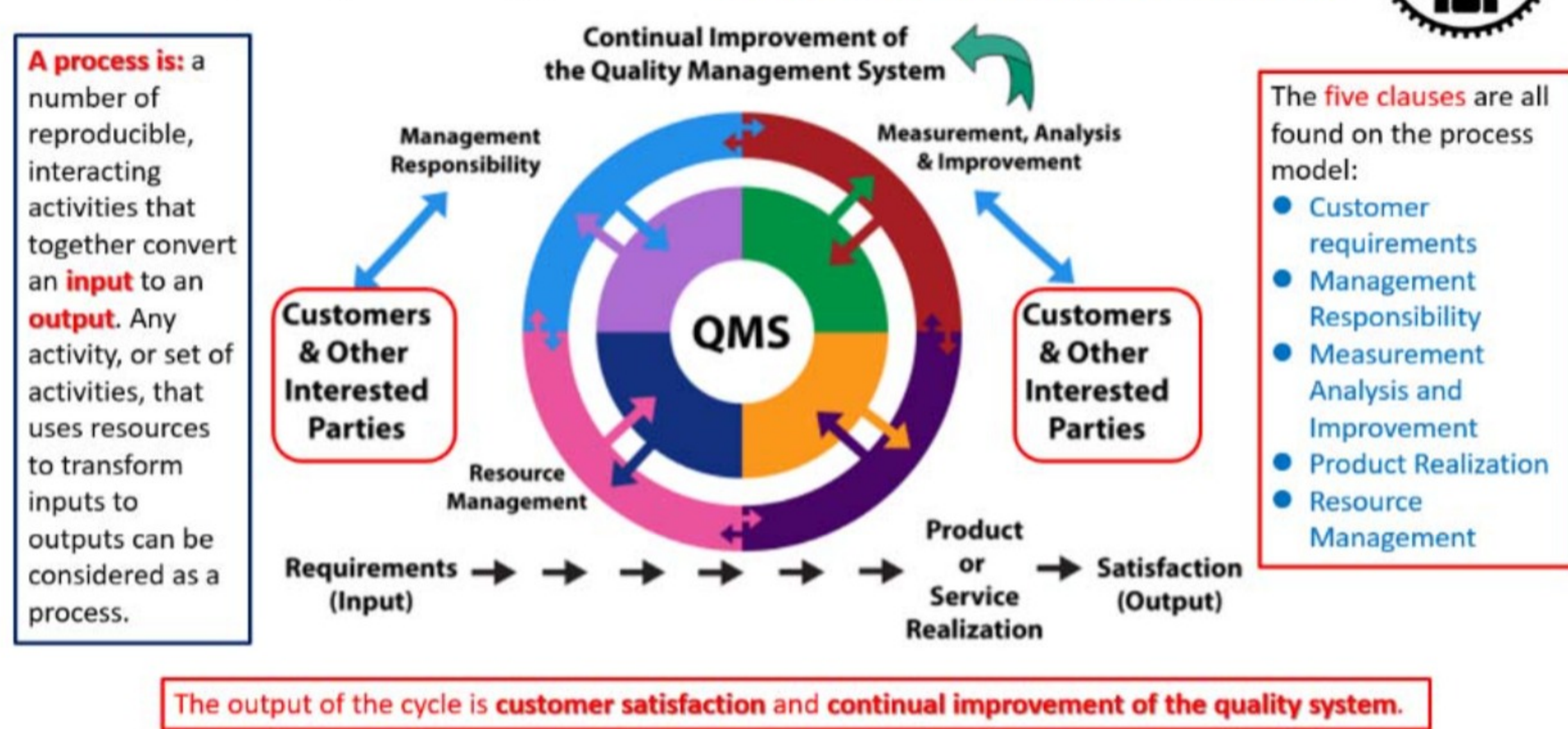
Deming cycle as shown below represents the key to continual improvements of the PDCA exercises, which is achieved by setting improved/suitable "standards" added by driving forces (i.e. resources and policies, etc.) to keep the upward momentum.

Deming Cycle: The Wheel of Continuous Improvement 滾動式向上持續改善



How to achieve continual improvement must be addressed. For a complicated system/institution composed of a large number of units, projects, rules and policies, plus people and organization structure, the strategy is to adopt the concept of QMS (Quality Management System) and consider each task as a "Process" that can be big or small. The definition of a "Process" is a number of reproducible, interacting activities that together convert "inputs" to an "outputs". Any activity, or set of activities, that uses resources to transform inputs to outputs is considered as a "Process". The output of the cycle is determined by the customer satisfaction and notable improvement of the quality system.

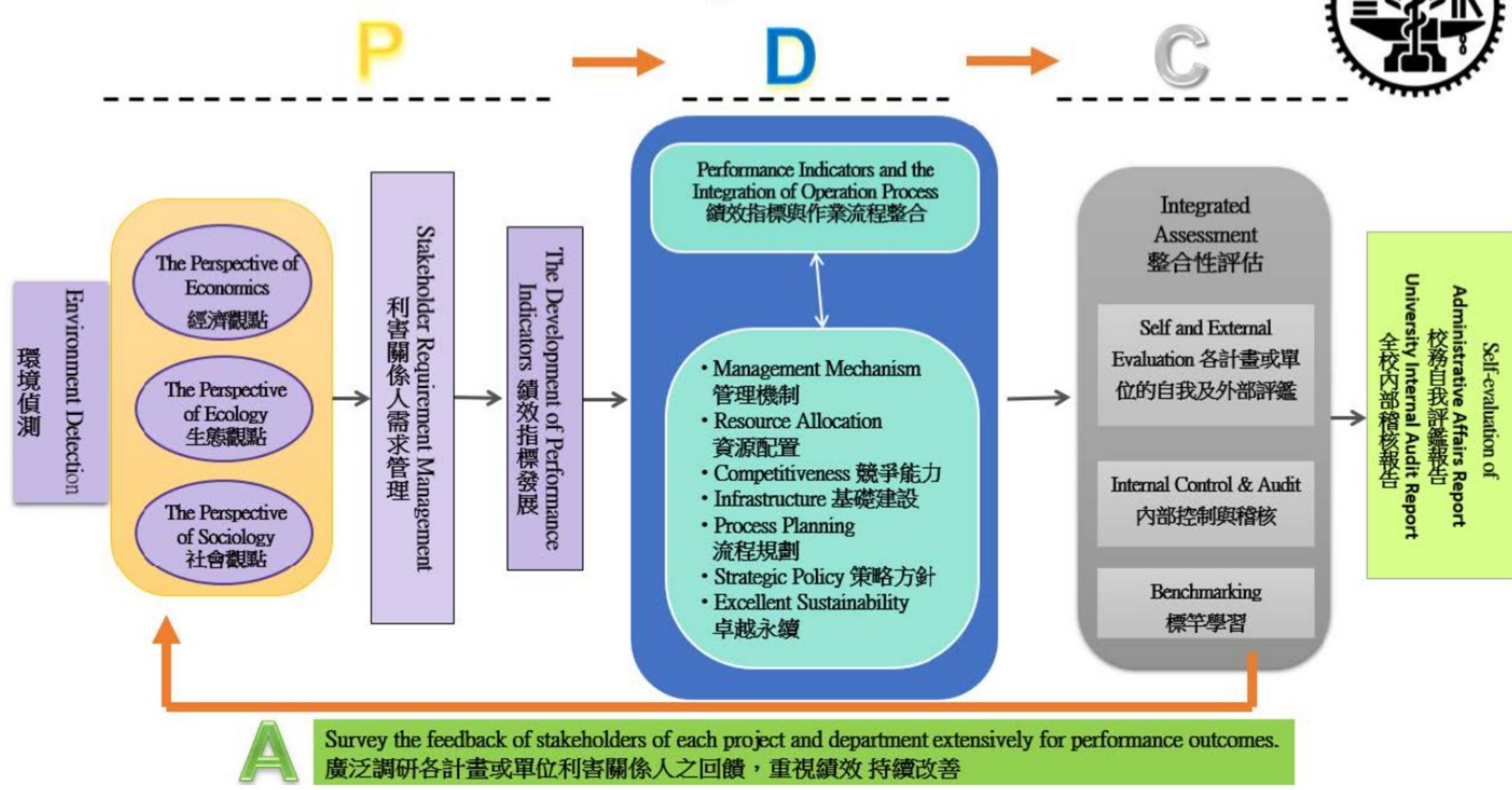
Mechanism for Continual Improvement of Quality Management 全品管持續改善之機制



After a "Process" is defined, continual improvement will be determined by "five clauses"; they are i) customer requirements, ii) management responsibility, iii) measurement analysis and improvement, iv) product realization, v) resource management. The interplay of the above five clauses sets the standards and generates driving forces/momentum to continuously improve.

Coming to the actual implementation of TQM in a higher-education institution, the following flow chart proves useful. It gives a rather concise but essential perspectives of most involved elements that must be taken into planning during a PDCA exercise cycle. The cycle starts with P in a "Process" by which one needs to exam and evaluate all the factors that would enter into the equation of the "Process" so as to enable it to move forward and achieve set objectives. These factors include people, places, funding, environment, society expectations, stakeholder requirements, etc. Naturally the demands from the customer side cannot be overlooked and must be carefully acquired. After these "inputs" are in place, team can begin to design the work pattern and define KPI (Key Performance Indicators) or OKR (Objective Key Results) as performance guidelines and standards.

Sustainable Model of TQM 全面品管(TQM)永續發展模式



Thereafter, it goes into the "D" stage for which integration of all working parameters plus the OKR must be always kept in the mind. The implementation entails many key elements: management mechanism, resource allocation, competitive abilities, infrastructure, process flow planning, policies and directions, sustainability of excellence.

Next steps involve C and A, where assessments, evaluations of performance results must take place by collecting evidences via various means, both through quantitative data or qualitative feedbacks like surveys, interviews etc. These data, after analyses and reductive means to result in general conclusions as well as specific comments, shall be utilized to adjust/redefine the KPI (OKR), i.e. to reset the standards in the Deming cycle. The origins for the causes of the over- or under-performance outcomes can then be determined for the start of the second cycle of PDCA, thereby the upward "momentum" can be created in the Deming cycle.

In conclusion, the realization of TQM is deeply rooted in the complete commitment in the belief of the PDCA method for continual improvement. The spirit of TQM requires the following six factors working in concert so that the PDCA exercise can work effectively to reach its set objectives. These factors as shown if the figure are:

- Leadership Commitment:** full consensus and total commitment from the President and the first line managers,
- Total Involvement:** all faculty, staff and students must buy into the ideas, undergo training/education, participate in the exercise and with TQM sprits and mindset,
- Process Management:** continual involvement of all academic and administrative units throughout the repetitive PDCA cycles,
- Management by-facts:** assessments and analytics of results to be collected, both in quantity and quality data,
- Customer Satisfaction:** feedback for all stakeholders, faculty, staff, students, alumni and employers,
- Continuous Improvement:** good practices from others by benchmarking and visitations to other education

Realization of TQM : The Basic Spirit of TQM 全面品質管理的實踐：TQM 基本精神

