



China
Productivity Center

Business Excellence Service Teams



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Consulting Institute**



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Industry Business Excellence Service Teams

Strategic Thinking for Next-Gen National Competitive Edge

The Taiwan Economic Miracle of the country's past serves as a model for the economic development of developing countries. The China Productivity Center (CPC) was there during the prosperous times to witness history with Taiwan's businesses. In 1982, the Industrial Automation Service Team, comprising experts from industry, government, academia, and research sectors, focused on four aspects: operation rationalization, process standardization, production automation, management informatization, to bring about a revolution of productivity. The Service Team was merged into the CPC in 1987 to continue its efforts in improving Taiwan's overall industry competitiveness.

In 2006, the national competitiveness that was once the pride of Taiwan showed signs of decline, a warning that the growth of Taiwan's competitiveness is falling far behind that of other countries. As an organization dedicated to increasing industry productivity and quality, it is the CPC's duty to shoulder the responsibility of boosting industry competitiveness. The CPC has inherited the spirit of the Industrial Automation Service Team with the aim to create another miracle.

In response to this need, the CPC launched the Industry Business Excellence Service Teams in 2007 to help enterprises overcome bottlenecks in business management and pursue excellence. By providing enterprises with business management services such as self-assessment, best practice learning, knowledge innovation, information technology, industry consulting, education and training, and talent cultivation, the CPC has been devoted to elevating Taiwan's SMEs to become enterprises of excellence.

From providing consulting services, achieving client satisfaction, to creating customer success

Strategic thinking

- Second Productivity Movement and Productivity Again as objectives
- Segmenting across industry and targeting service groups
- Service covers tertiary industries and interdisciplinary integration

Implementing method

- Coordinating industry, government, academia, and research: Consolidating resources for a comprehensive modular service
- Grasping customer needs: One-stop and real-time responsive service
- Establishing business excellence models: Providing customized service through assessments such as Productivity Again for businesses

Productivity Again

Business Excellence Service Team



With total productivity at the core, supported by lean production methods, the Productivity Again Business Excellence Service Team helps enterprises to perform self-diagnosis, plan roadmaps, and implement smart production and services. The Team leverages technologies and systems such as IoT and MES+ to establish a smart management and production system infused with technology that optimizes production operating costs and maximize value, thereby improving business competitiveness.

The Team can help businesses cope with the impact of Industry 4.0 by equipping businesses with the correct understanding and effectively introduce transformation and upgrades relating to smart manufacturing and services. Businesses can explore the Industry 4.0 iBench Productivity Again Readiness Assessment (the "4.0 iBench") system by visiting the CPC official website and clicking the "ME Bench" platform to enter 4.0 iBench for self-assessment to better understand their current productivity level and devise measures for enhancement.



The Team is dedicated to the continued improvement of enterprise productivity. With 4.0 iBench as the starting point, we work with industry associations and resources from information technology service providers to offer businesses expert diagnosis, and consulting services. The Team provides a customized service according to the different businesses and operating status, helps businesses to apply for relevant R&D financial subsidy from the government, and offers professionals to help businesses draft a development blueprint for smart manufacturing and services to accelerate the push for Taiwanese industries to develop Industry 4.0.

Consulting / Assistance Examples

Electronics Manufacturing

Planned smart manufacturing development roadmaps through the use of assessments. Adopted lean production improvements starting from a single process. Implemented real-time monitoring of quality and efficiency by connecting IoT equipment parameters to quality control and production control. Introduced experimental plans to optimize quality and performance. Developed technical service platforms, integrating up/downstream information to automatically respond and take orders.

Metal Processing

Adopted lean production to lower inactive time. Implemented automatic retrieval of key equipment parameters that are collected and transmitted via IoT networks. Used data analysis methods to tally utilization rate and production output to present the overall equipment effectiveness (OEE), including utilization, performance, and yield. Displayed production abnormalities to perform causal factor analysis for improvements and effectively increase OEE of production and processing.

Electronics Assembly

Implemented lean production and established one-piece flow production lines. Introduced automated assembly equipment after standardizing production to significantly reduce manual operations. Reviewed delivery statuses to identify causes of variations and patterns to select the optimal mathematical models. Applying AI analysis modules and measures for effectively understanding downstream requirements. Flexibly adjusted production schedule through the platform to lower inventory and improve on-time delivery.

Cables and Wires

Modified the traditional mass-production model and created a job/process cost management system. Implemented IoT to automatically capture the use of precious copper materials in real-time by job and by process. Obtained material usage data in real-time to identify the causes and root causes of material overuse and implemented improvements. Significantly modified push production management plans to aim for a pull production model that reduced works-in-progress and finished product inventory.

Machining

Assessed the core of the business. Provided professional assistance in planning a development roadmap for smart manufacturing services. Reviewed and summarized precious professional experience within the company to systematically classify expertise. Leveraged learning platforms to allow timely professional training to better facilitate the transfer of the experiences of seasoned employees. Implemented active monitoring of machines through IoT and platform to stay on top of equipment utilization around the world at all times.

Electronic Component Processing

Planned and implemented lean production and one-piece flow production lines. Made adjustments to the traditional push batch production model to significantly shorten production time and lower the amount of work in progress. Implemented IoT to automatically collect equipment management parameters to display production and equipment anomalies in real-time. Established a quality control circle where everyone participates in proactively correcting equipment abnormalities to improve OEE.

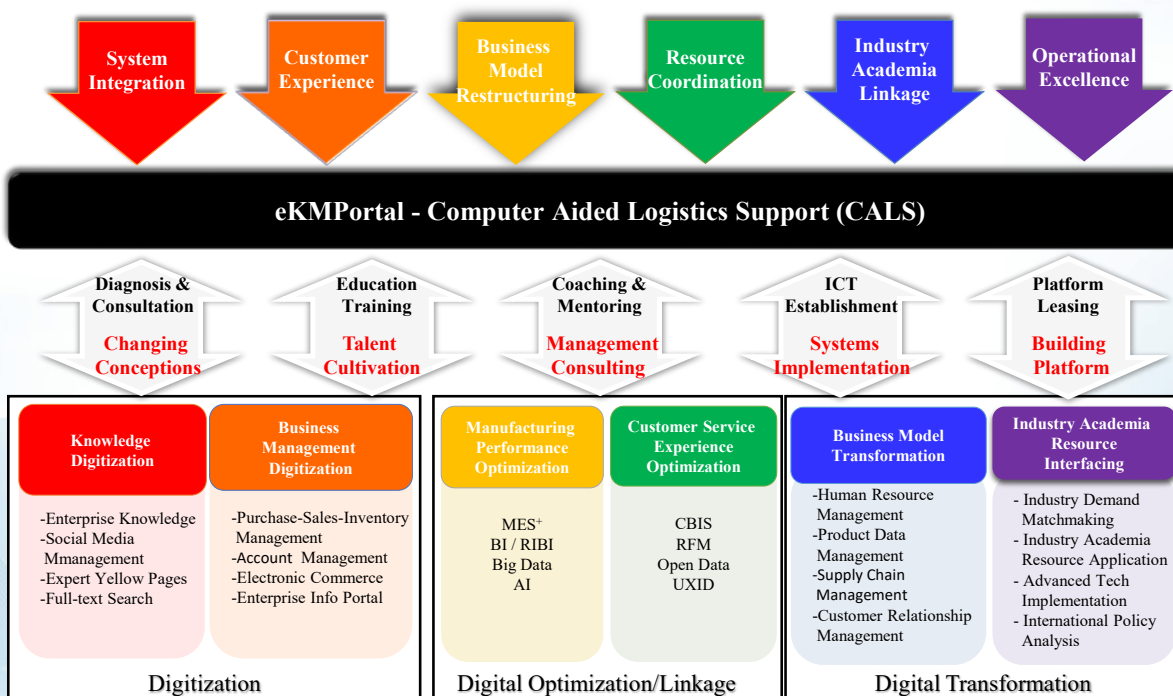
Digital Transformation

Business Excellence Service Team



At the core, the Digital Transformation Business Excellence Service Team aims to promote digital transformation to create the optimal value chain for enterprises by incorporating management expertise into the design of smart systems, assisting businesses to create a roadmap for transformation, and applying technologies such as big data, BI, AI, cloud platform, and 5G in conjunction with new business models to devise a profit-generating formula for digital transformation.

Digital Transformation Business Excellence Service Team



The Team establishes a knowledge supply chain system supported by social media activity. In addition, the Team plans a cloud system platform using the Internet with a shared database to improve management performance and service quality. By utilizing cross-system integration technology and a visualized management system supported by the vertical and horizontal integration of the industry value chains, along with mobile app support, an effective digital transformation service is achieved.

Consulting / Assistance Examples

Injection Molding

Achieved articulation with a knowledge management platform through digitization of quality control system forms. Implemented full-text search with a WYSIWYG UI. Integrated mobile devices and improved digitized applications to achieve zero data latency.

Food Processing

Helped to establish communication between contract poultry farms and slaughterhouses. Established forecast of supply and demand through a poultry management system and a slaughtering management system to improve production decision-making efficiency and effectiveness.

Textiles and Clothing Industry

- Established knowledge object categorization and document search to enhance standardization of knowledge and sharing mechanisms. Established database of experts and expertise grading to create a brand new eKM platform and a channel for passing on tacit knowledge. Integrated "Supplier zone" and value-added eKM mobile app into EIP.
- Implemented S-OJT (On-the-Job Training) system by performing demand and task analysis in advance as well as training of trainers and developing training evaluation modules.

Government Sector

- National public sewerage database: GIS image review, flood season disaster prevention preparedness management and overview of national statistics.
- National public wastewater plant operations management: Facility operations management, monitoring and exception alert notification for influent and effluent water quality.
- National sewerage user service management: Wastewater user data management and regular maintenance operations notification.

Retail Channel and Services

Established a precision marketing system. Developed client behavior prediction models by identifying consumption record data correlations and patterns that are effective, innovative, and have potential value.

Bicycle and related components

Implemented MES+ system to establish smart machine factories. Established lean production assembling line and pull-system material supply for demonstration. Established one-piece flow cell processing line for demonstration.

Local Revitalization

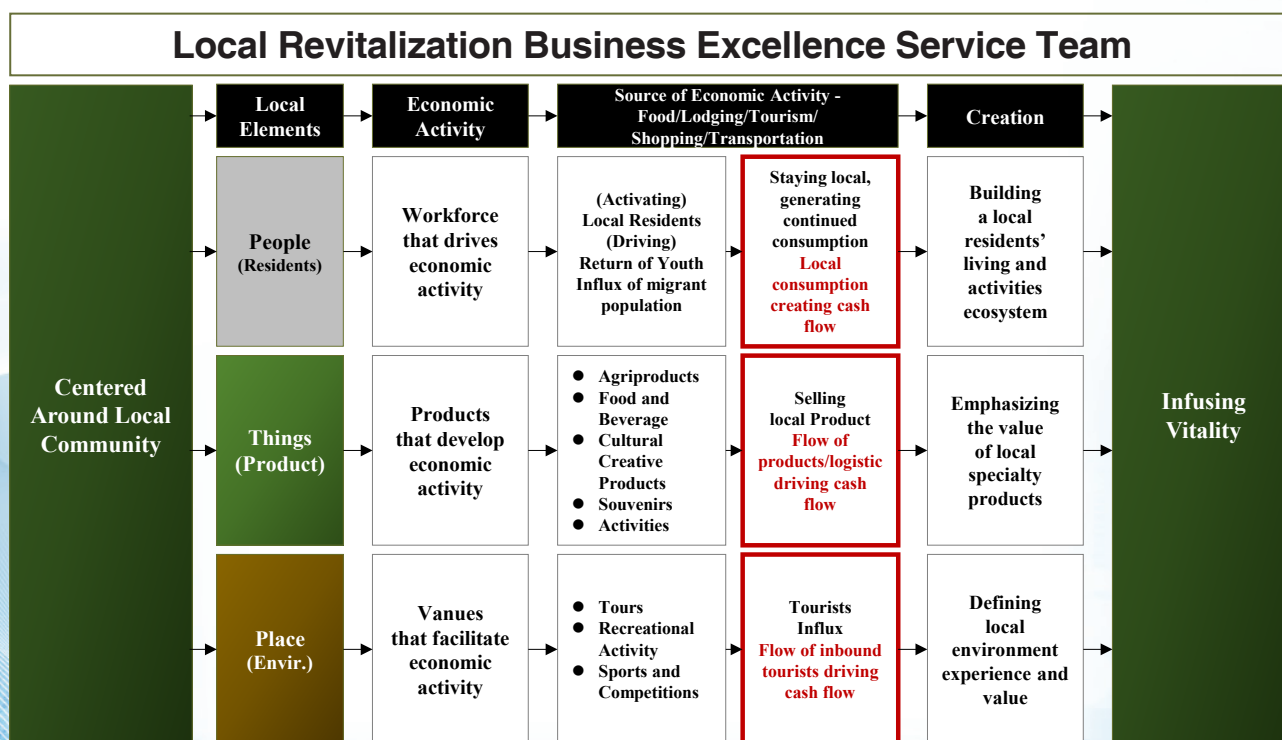
Business Excellence Service Team



The Local Revitalization Business Excellence Service Team reviews the local cultural assets, intellectual capital, and environment resources while adopting a philosophy that benefits the people, things, and environment centered around the local community. The Team leverages information technology and collaborates with industry, government, academia, and research sectors to create industries that truly belong to the local community while highlighting and passing on the local culture. The team infuses the local community with energy while seeking balance, growth, and symbiosis simultaneously.

The Team's core activities include:

1. Building cross-field integration platform for the local ecosystem
2. Strengthening local industry resources for cultivating innovative new businesses
3. Promoting local social community and friendly networks
4. Promoting digital transformation of local industries, accelerating innovative business models
5. Assisting local industries to enter the international market



Services offered :

1. Planning and consulting for local revitalization and local survey studies
2. Consulting for startup businesses and industry cluster for indigenous people
3. Evaluations for traditional markets and marketing consulting for night markets and commercial districts
4. Training and consulting for business model innovation for microenterprises/agribusinesses
5. Systematic food and farming education. Implementation of Japan's food educator training and certification system
6. Entrepreneurship consulting and overseas benchmarking for young farmers
7. Smart agriculture and productivity evaluation and diagnosis
8. GIS field survey for agriculture and international benchmarking

Consulting / Assistance Examples

Startup businesses of indigenous people

The team assisted indigenous people's business to optimize its' production process and equipment while they were receiving subsidies from a project of the Council of Indigenous Peoples. By increasing the farmland area for khasya trichodesma (*Trichodesma calycosum*) while improving quantity and quality of products not only expanded the business, connecting it to both domestic and international major distribution channels, but also provided the tribe members with more local and second career employment opportunities.

Agricultural biotechnology company in Changhua

The team assisted agribusinesses to obtain financial aid from the AGTech Program from the Council of Agriculture. Introduced MES and ERP at microorganism culture facility to improve operational processes, such as production management and PSI (Purchase, Sales, Inventory). Consolidated cultivation knowledge to establish business management information center by collecting environmental data. Thus optimizing the traditional production process and increasing youth willingness to return for farming.

Agribusiness of young farmer in Chiayi County

The team helped agribusiness of young farmer to design solutions to improve the production and marketing process. Stating the rights and responsibilities of the supplying farmers and connecting the supply end to retail via a digital platform. Moreover, assisting them with the initiation of online to offline marketing model. Offered consulting services to agribusinesses to collaborate on creating a central mill and satellite farm system.

Bangka night market district, Taipei

The team helped night market district businesses to build their own delivery service. Working with IT companies to develop food ordering system, which allows consumers to order online from various booths simultaneously to enjoy a multitude of gourmet dishes for merely one delivery fee. This had increased the monthly revenue by more than NTD 450,000 (~USD 16,000) and create 2 deliveryman employment opportunities in the early phase.

Promotion of systematic food and farming education

The team helped schools, communities, farming organizations, and enterprises to develop on site promotion strategies for food and farming education corresponding to different stages of life to strengthen education method for connecting food and agriculture.

Flower production coop in Chiayi County

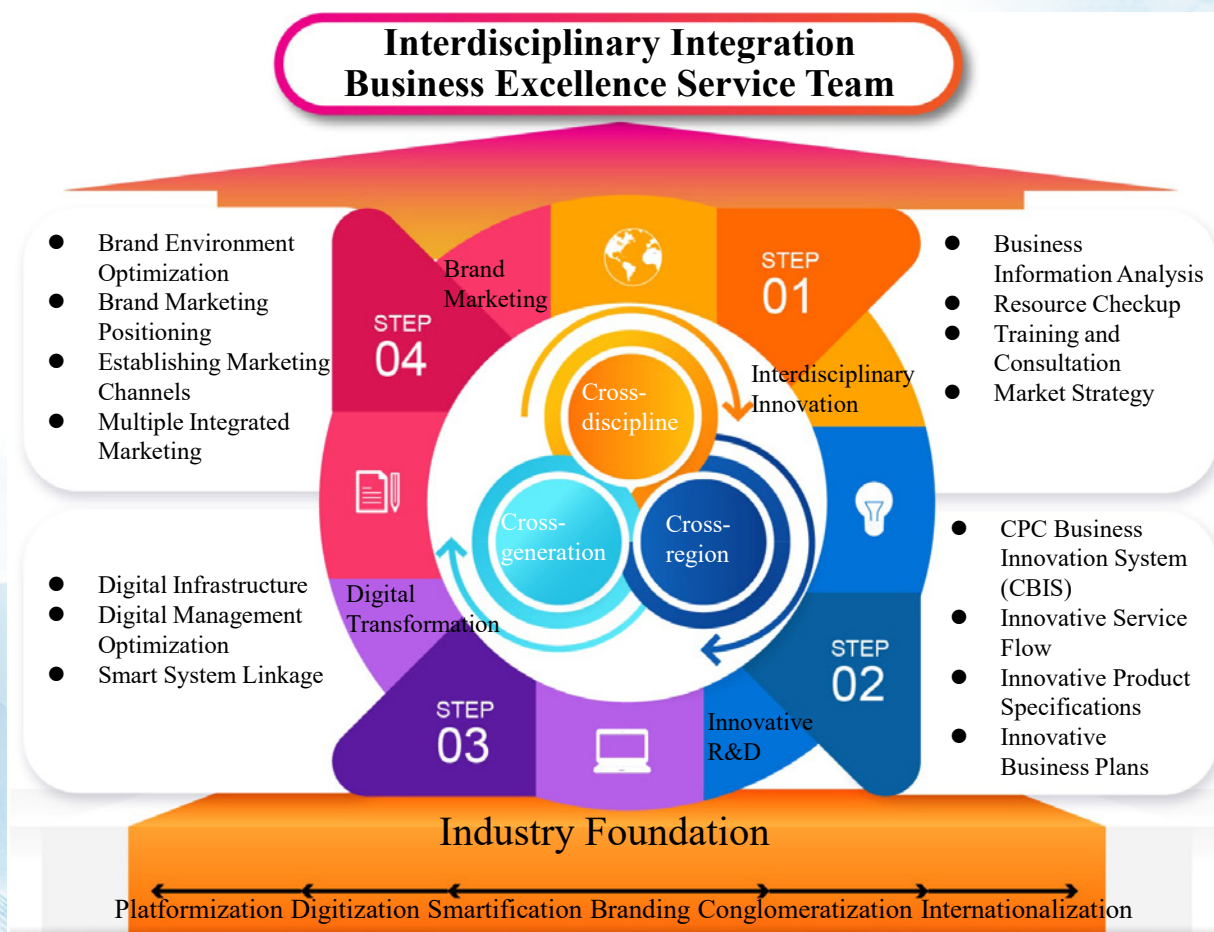
The team assisted co-op with its' establishment and corporation management plan, optimizing their production and marketing processes. Moreover, helped with the planning of demonstration sites, flower brands, retail business models and brokered enterprises to sponsor regular flower purchases in the office.

Interdisciplinary Integration

Business Excellence Service Team



The Interdisciplinary Integration Business Excellence Service Team adopts “cross-discipline, cross-region, cross-generation” as its core ideal and uses an ecosystem framework in the restructuring of enterprise value chains. The Team aims to identify blue ocean markets for businesses through services such as conglomerate management strategic planning, building innovative business models, establishing brand marketing and distribution channels, and devising international deployment strategies.



At the heart of the Service Team is a new interdisciplinary thinking. From there, the Team offers businesses assistance in areas such as conglomerate business strategy, empowerment, brand and channel building, and international deployment. The Team also combines key technologies and systems such as smart manufacturing and digital drives, performs innovative research and development based on new ecosystems, and builds new modes of interdisciplinary cooperation based on digital transformation, brand marketing, and distribution channels. It serves as an accelerator for business upgrades and transformations as well as the partner in achieving business excellence.

Consulting / Assistance Examples

Pioneering global Velcro brand and manufacturer

Ensured market adaptability and product service capacity and invested in expansions to establish the Yunlin smart factory. Cooperated with partners and clients upstream and downstream in the industry chain. Implemented digital technologies such as real-time monitoring, big data analysis, RFID product tracking, quality inspection and production job reporting, and AI image analysis. Optimized incoming material inspection, manufacturing, and shipping. Proactively optimized operational performance and quality of product and services through digital technology and satisfying customer demand by differentiating competitiveness. Established a vision to become the global leader to develop industry standards.

Global premium plumbing hardware brand and manufacturer

Created the Justime brand and won over 100 international design awards over the decade, with operations across the world as it became the dedicated premium kitchen and bathroom system integration vendor for various well-known international construction companies. Focused on the goal of providing “the best plumbing hardware user experience”. Took advantage of the comprehensive plumbing industry community in Lukang to form a new interdisciplinary ecosystem that connects the entire production value chain. Through the system’s digital platform and smart automated production line, combined with the outstanding suppliers in the vicinity, the ability to flexibly quick response to various complex designs has become a major asset for the development of the brand while creating a positive cycle for the industry community.

Advanced smart manufacturing and pioneer in new-energy pneumatic components

The first Pneumatic Components Energy-saving Intelligent R&D Center in the country was awarded in the Ministry of Economic Affairs’ A+ Industrial Innovative R&D Program. The center focuses on research of pneumatic components for smart factories and aims to develop completely new technology and spearhead industry transformation. To improve company production technology and R&D capacity, the company participated in the Industrial Development Bureau’s Conventional Industry Technology Development program to facilitate the implementation of innovative methods, starting with R&D of new products, consolidation of product development flow and improvement of performance management. To that end, the company developed advanced new technologies, improved technical autonomy, lowered development cost, and moved from prototype to mass production to enhance market competitiveness and brand value in the pneumatic and electronic control automated component market.

Leader in chain meal box membership and multiple payment method integration

Established more than 20 years ago, the largest lunchbox chain in Taiwan received help with shop renovation, devising brand marketing strategy, reshaping CIS brand identification system and applications (e.g. signage and flyers), and building a flagship demo shop. Introduced cloud membership management system and converted and integrated membership cards in response to consumer behavior. Developed mobile device delivery check-out system and charity platform functions and added cloud payment function for orders to optimize operations and enhance member relations. Performed precision marketing to bring the best consumer experience and improve operational profitability.

Learning and Growth

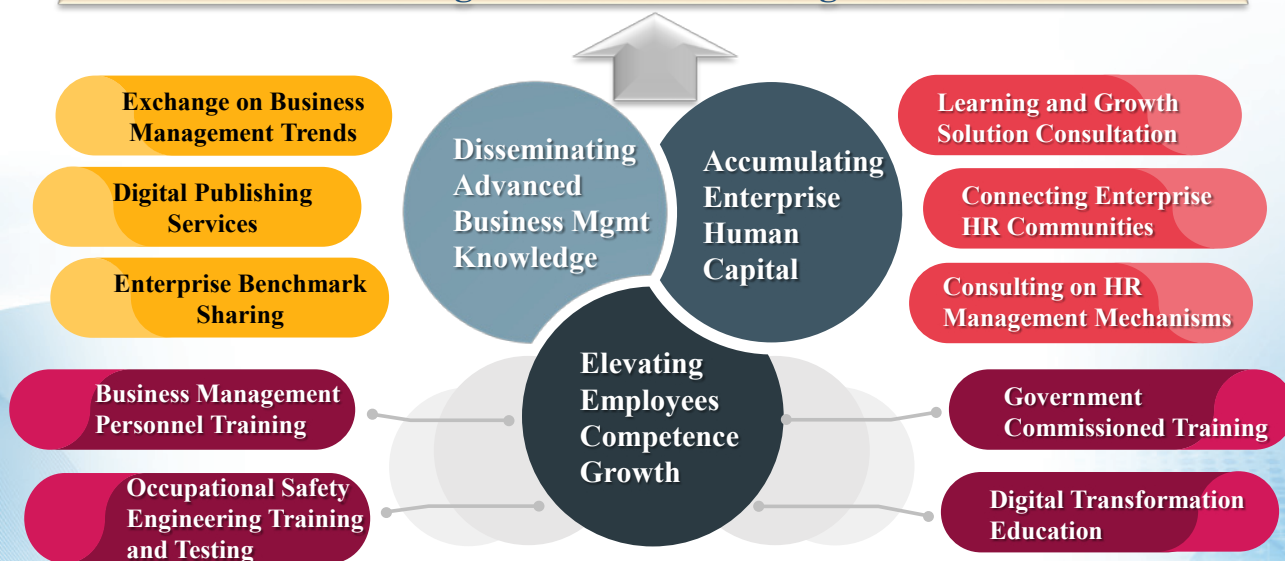
Business Excellence Service Team



With spearheading advanced learning and creating value from knowledge as its core ideal, the Team disseminates forward-looking business knowledge to guide enterprises to learn in advance while deepening a culture of learning within the organization. It helps improve enterprise human capital with the help of great learning and government resources to infuse a drive for sustainable growth.

Learning and Growth Business Excellence Service Team

Driver of Business Excellence Learning and Growth
Spearheading Forward-looking Learning and Growth Culture
Promoting Innovative Knowledge Solutions



The Team promotes expert business management knowledge through online and offline "Knowledge Feast" events. It provides business management (management, professional knowledge, general knowledge) and certification (regulations, vocational training, examination) training courses through a one-stop service. It also builds smart manufacturing expertise and occupational training venue combined with consultation and medium services for government training programs and aids. Helping enterprises train over 100,000 people each year, the Team plays the role as a partner in business learning and personnel growth.

Talent Development and Training Service Examples

Staff Training for Smart Manufacturing Technology

Offered technical training for cyber-physical systems, IoT, sensors, big data, and AI applications. Established the APO Center of Excellence on Smart Manufacturing (COE on SM) in 2019. Contracted by Ministry of Labor Taichung-Changhua-Nantou Regional Branch to set up smart automation industry base, training more than 1,500 people annually.

Digital Service for Media Publishing

Published books and magazine that received the Golden Book Award and Golden Tripod Award, across both digital and traditional paper medium. Introduced advanced international trends in business management. Connected local benchmarking enterprises and helped enterprises to drive market trend through advanced innovative thinking.

Professional Personnel Certification for Vocational Training

The vocational training professional certification courses that cover three major areas: occupational health and safety, construction, and fire safety. Helped enterprises train outstanding talent in various fields. Received recognition from government agencies over the years as an excellent enterprise training organization.

Open Class for Job Skill Improvement

Planned the level and functional learning map for various industries developing human capital, including practical courses on leadership and management, production, sales, human resources, research and development, finance, quality, and innovative applications.

In-house Training for Business Management Talent

Companies, in seeking sustainable development, encountered different competence needs in cultivating its staff. Identified key competence shortcomings, designed a tailored training program, and brought in an experienced team of consultants, lecturers, and industry experts to help companies with personnel cultivation, satisfying their need for human capital development. Scope of service: traditional manufacturing companies, business service providers, healthcare service providers, financial sector, and publicly traded companies.

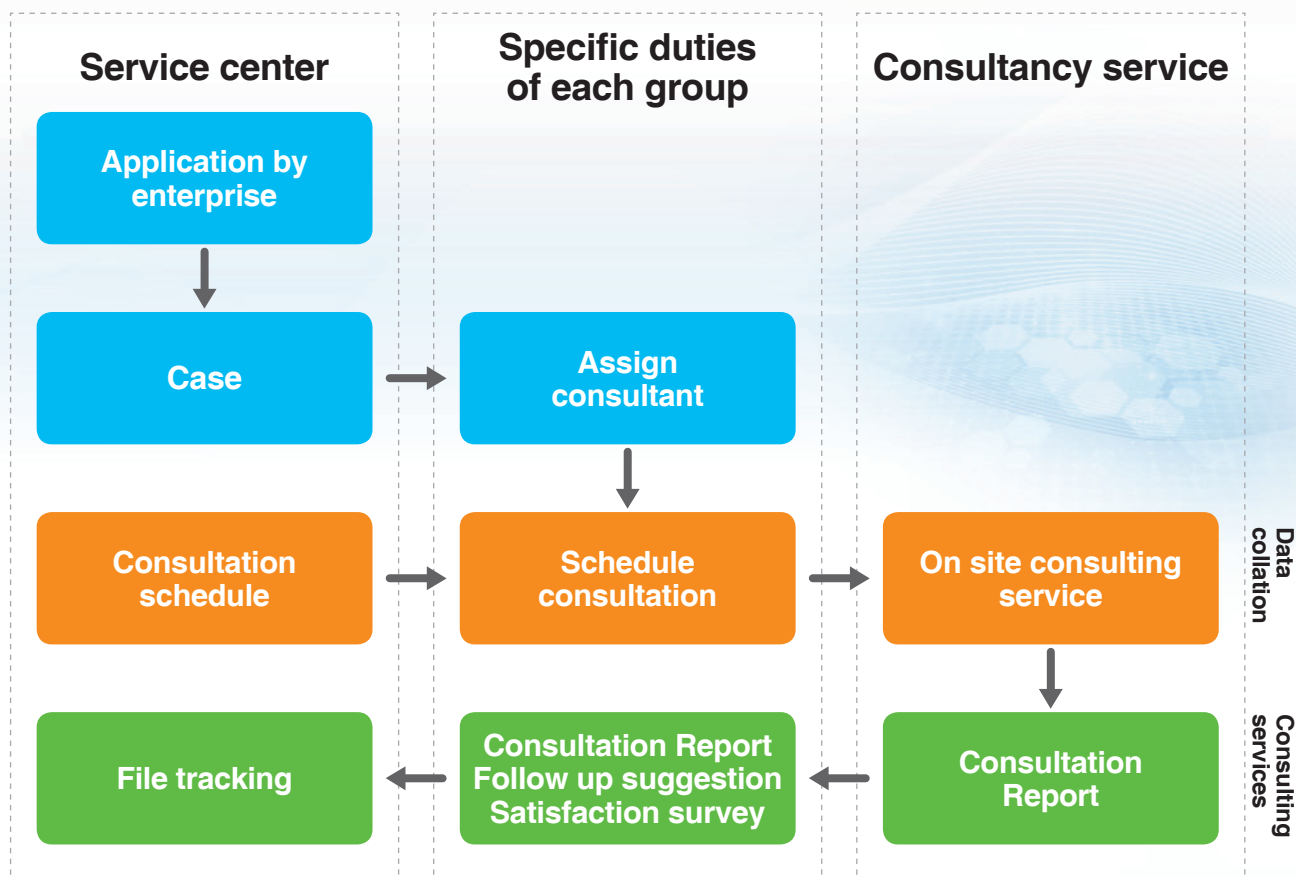
Change, brand marketing and innovation need passion, persistence and professionalism. Welcome to contact us!

Service application of service groups



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