

Governance Consulting Services and Tools: Transition Planning and Implementation for Collaborative Networked Organisations in the Cyber Domain

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ABSTRACT:

This study aimed to develop a methodology for governance model implementation and transition for a collaborative networked organisation in the cyber domain by establishing effective stakeholder management and customer satisfaction assessment program. The article summarises the findings, describing the identified services for governance consulting and presenting the developed proprietary tools in the phase of transition and stakeholder management. The relation between the theoretical model for governance model change management, required tools, and implementation as a service support the exploitation strategy of the ECHO Governance Consulting Services asset. It provides an example of designing the processes and business model for the functional service group for governance consulting and potential federation with other network assets. Special attention is paid to stakeholder management for the success of the service provision.

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Introduction: Institution Building and Change Management for Collaborative Networked Organisations

The effort to consolidate the European Union's (EU) capacity in the area of cyber security research, development and offering of competitive products and services includes the contractual public private partnerships resulted in European Cyber Security Organisation (ECSO). This was followed by four pilot projects funded under the EU's Horizon 2020 and tasked to explore models for networking among centres of competence for the development of innovative cyber solutions.¹ Identifying new technologies and respective roadmaps to market penetration is a very solid base for innovation. Addressing the issue of fragmentation between sectors and member states, however, requires a different level of research on effectiveness, efficiency and resilience of networked organisations, based on trust and collaboration – cross sector, cross country, cross technology. Coping with the challenges in cyber domain in EU will require combining the top-down policy approach with bottom-up institutionalisation of the collaboration among different types of organisations – industry, academia, non-governmental organisations in relation to national and EU level public bodies.

Our studies under ECHO project identified Collaborative Networked Organisations (CNO) as the most suitable model for consolidation and optimization of operations. We developed tools to provide design services for the governance model of such CNO, including a business model and related processes and organisational elements, discussed in another work.²

This paper links to the previous work and focuses on the transition planning and implementation of the designed governance model conceptualised as a process of institution building and managing the change from the identified current operating model to the designed target operating model. The goal is to extract the lessons learned into a usable methodology and tools that can be further utilised in practice. It presents the scope of governance consulting services to support transition planning and implementation with a reference to developed tools to perform these services. Institution building and change management framework for ICT/Cyber collaborative network organisations, presented in another paper³ is the base for the services and tools covered here.

The next section presents the methodology applied. The second section discussed the results from transition planning within ECHO project. The results presented in this paper focus on two outcomes of the project work: (1) lessons learned and tools that can be applied for implementing transition and change management plan to a CNO, and (2) lessons learned during the development of the ECHO asset Governance Consulting Services (E-GCS). The resulting tools and approach could be applied in similar settings for the implementation of CNO in cyber and technological domains.

A case study of performing these services and testing the exploitation strategy is considered in the paper to demonstrate viability of the approach. Focus

is on establishing relations with the key stakeholders and a variety of customers and assessing the success through customer satisfaction program.

The conclusion presents an organisation of a service group to deliver governance consulting services, supported by training services and certification services. Thus, the full cycle from needs and objectives' analysis to customer satisfaction in delivering support to institution building and change management of CNO on ICT/Cyber domain is covered.

Methods

The methodology applied to design the transition and change management plan is developed and tested during the implementation of ECHO project. It is aligned with the major challenges identified in relation to the transition from a project organisation to a Collaborative Networked Organisation. Among these are ensuring buy-in in the various project organisations and aligning to a single model regarding organisational structure, decision making, performance metrics, responsibilities and authorities. Change management literature and practical advancements informed the design of project methodology.

The method used for the development of this paper largely relied on the ECHO project experience and related research. The method followed here is as follows:

- Review of ECHO project activities to draw lessons learned that can be extrapolated to a usable methodology for designing transition plans in complex settings (such as multi-partner project organisations)
- Map project findings to organisational change literature advancements
- Assess preliminary project results on the way to ECHO transitioning from project to CNO organisation
- Formulate a methodology based on the above that can be further deployed by the ECHO governance team, as well as used to inform other theoretical or practical research in similar settings.

The ECHO partners identified the need to design a transition plan to ensure sustainability after the end of the project. The key challenges it aims to address stem from the diversity and complexity of the domain. It is important to note the differences in experience, ambitions, structures, and capabilities of the consortium partner organisations as well as their number. Preparation of the transition plan thus aimed to allow for individual assessment of the organisations' change capacity and readiness to proceed with deepening the collaboration, as well as to identify the necessary actions to ensure alignment and smooth transition. The instruments and tools applied are described in the second section of this paper.

The approach applied to planning the transition and change is presented on Figure 1.

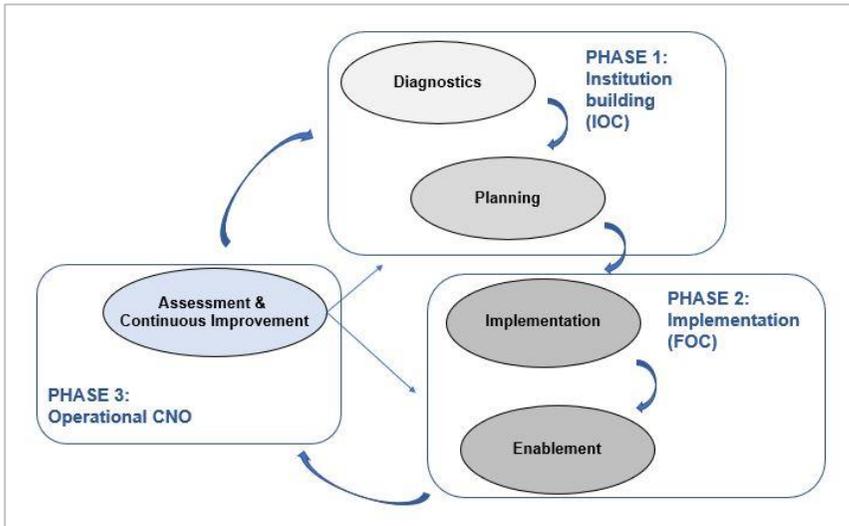


Figure 1: Approach to transition planning and managing change.

The transition to a CNO involves change at least two levels – individual partners’ organisations and ECHO Network level.³ Thus, transition planning requires adjusting the change management approach to the (possibly) varying levels of support for the change required. The diagnostics of the shared support for the envisaged change employs the ADKAR model which describes a sequence of five elements to manage the people side of change:⁴ Awareness (of the need to change), Desire (to support and participate in the change), Knowledge (of how to change), Ability (to implement required skills and behaviours), and Reinforcement (to sustain the change).

Transition planning is closely related to the design stage and marks the scope and content of the institution building steps and stages of change from initial operating capability to final operating capability of the target operating model. The transition plan is structured around five steps which are grouped into two phases. The first phase includes active institution building to achieve initial operating capability. It is followed by change management efforts during the second phase in order get the CNO to a final operating capability and provide the necessary support and enablement for all partner organisations involved. Implementation is a longer period of practical steps to apply the transition plan and embed the new CNO in the environment of stakeholders and customers. The third phase is the actual operation of the CNO governance model after achieving final operating capability of the target operating model. It establishes a process of continuous improvement (until next big change is decided).

Assessment of the transition and change management is performed continuously during all phases and could be summarised and feed into further improvements once the governance model is operational (Phases 1 and 2).

Based on the above project work, the ECHO team involved in design and implementation of the governance model distilled the lessons learned and expertise gathered into an exploitable asset – Governance Consulting Services in the cyber domain. The approach applied to structure this asset is illustrated on Figure 2.

Design, transition planning and practical implementation of the governance consulting asset are linked with the parameters of the exploitation strategy and capacity to maintain relations with the stakeholders and customers. That is why the development of the potential business plan for the service group (asset) is informing the final refinement of the design and transition planning and implementation. For the case of governance consulting asset, the close collaboration between project work packages on training, certification, multisector analysis and business planning is supporting such an iterative approach for design and testing of the service group. Figure 2 captures the role of exploitation strategy to refine the offering and business model, based on market analysis and coordinated approach with other service groups, contributing to the overall ECHO exploitation strategy.

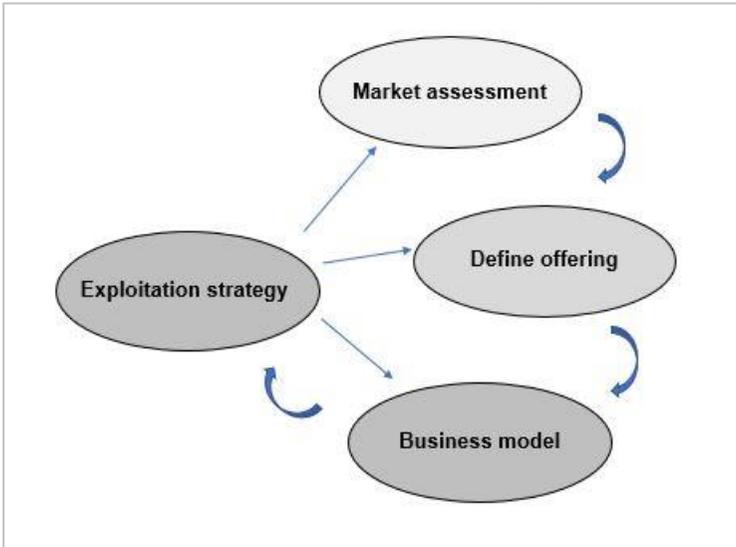


Figure 2: Approach to developing governance consulting services in cyber domain.

Market assessment was performed to identify the demand and supply of governance consulting services in cyber and technological domains. Based on the project experience of the governance team, two events were held to extract the services offering – Ideathon and Hackathon – with representatives of most of the ECHO partners. The inputs are used to refine the business model and exploitation strategy.

Transition Planning and Implementation – Governance Consulting Services and Tools

The EU prioritisation of technological and global competitiveness in cyber domain has led to exploring and experimenting with new forms of organising national and trans-national cooperation between different types of organisations. And while there are several technologies that can support such collaboration from operational point of view, the governance aspects of such networks remain challenging.⁵

All four pilot projects funded under the EU's Horizon 2020 – ECHO, Sparta, CyberSec4Europe and Concordia – engaged separately and jointly in exploring the appropriate governance models in response to the EU calls for a sustainable and effective cybersecurity ecosystem. Each of the projects developed its own approach to governance challenges, documented and published on the projects' websites. The four pilots also participate in a governance group to join forces in formulating proposals and recommendations to the European Commission, as well as to the European Cybersecurity Industrial, Technology and Research Competence Centre (ECCC) and the Network of National Coordination Centres (NCC) established under the Regulation (EC) 2021/887.⁶ The governance challenges in the EU cyber domain are explored by other related initiatives and bodies, such as ECSO. Two Convergence events were held in 2020 and 2022 with the participation of relevant bodies to share achievements and discuss future alignment, including in the governance area.⁷

The approach to the governance challenges employed by ECHO was marked by a systematic review of available best practices and theoretical advancements,⁸ assessment of governance needs and objectives,⁵ definition of alternatives and selection of applicable governance model.⁹ The decision-making process at each step aimed to involve and engage all ECHO partner organisations, while reaching out to relevant stakeholders wherever possible.

This remainder of this section describes the envisaged consulting process, as well as the services and tools resulting from the application of the above methodology during the ECHO project. These could be further employed to solve similar challenges in cyber and related technology domains.

Consulting services in support of the transition planning

Transition (and change management planning) is based on the results of the diagnostics of the change capacity of the current operating model arrangements. It reflects the challenges to reach the target operating model in two steps – initial operating capability and final operating capability. The aim is to reach initial operating capability at the end of the ECHO project (January 2023) which represents the turning point between ECHO project and ECHO Network.

When planning change, one of the first challenges organisations face is to recognise when change is necessary¹⁰ - understanding the drivers helps define the context and scope of the changes. The process starts with an induction

training on governance model design and decisions aimed to raise the initial level of common understanding of the challenge amongst the partner organisations. Induction training is based on the knowledge generated during the previous phases of the consulting process², and provides information related to the development of alternatives, their assessment, selection, design of the governance model. This induction training is a prerequisite for the diagnostics of the shared support for the envisaged change assessed according to the ADKAR model. The levels of awareness and desire to change are assessed through dedicated tools and manifested in the decision taken by the partner organisations.

The governance services are based on specific tools, described below. These tools are designed to support potential customers in the development of a CNO. The resulting tailored transition plan will enable the future CNO to achieve the goals of its strategic plan, to grow through effective partnership development, and to optimise the relations with its stakeholders and customers.

Transition and change management planning could be based on implementation of the ADKAR for processes and organisational elements identified. It should include a comprehensive effort for overall transition from current operating model to target operating model.

Tools in support of the transition planning

Defining the desired future helps identify the gap between the current and future state and plan the steps to close that gap. Strategy is an important input to a transition plan design and change management. Change may be necessary because of both objective and subjectively perceived reasons. The perception and the legitimacy of the reasons influence the motivation and support of the organisational members, and respectively the success of the change.¹¹ And one of the success factors is the shared vision – as well as shared understanding of why change is necessary, and what the consequences of not to change are.

The ADKAR model suggests a lifecycle for implementation of the change. Providing information (through induction training and other internal communication platforms), planning and designing the change require assessing and building the levels of Awareness and Desire. The tools employed for the development of the transition plan aim to actively engage the partners and communicate in order to facilitate the agreement on the shared vision of the future. The tools are conceptually defined below and are accompanied by proprietary templates and instructions.

The content of each tool (such as questions asked) should be tailored to a particular consulting case to reflect the specific background, starting point, diversity and ambition of potential clients. Moreover, the consequent application of the tools allows for feedback to be incorporated in the follow-up ones and thus reflect the levels of ADKAR elements assessed during the process.

(1) *Kick-off meeting.* The aim of the kick-off meeting is to agree on roles and involvement in the planning process activities. A kick-off meeting agenda and

participation is designed to enable initial view on the awareness of the change required. The content of the kick-off meeting agenda is designed to:

- Assess initial level of awareness with regards to the change;
- Agree on composition of core team to drive the process;
- Agree on management and monitoring of the process;
- Agree on next steps and timeline.

The kick-off meeting outcomes are used to adjust the content of the activities to follow, based on the initial understanding and commitment of the involved organisations

(2) *Focus group*. The focus group aims to allow for more in-depth understanding of opinions and attitudes of the involved organisations through a guided discussion. It results in understanding of the initial level of awareness concerns and requirements but is also a way to start building the awareness level. The content of the focus group is designed to:

- Understand all involved organisations' initial attitudes towards the proposed change (CNO);
- Identify factors that could support or hamper the transition process;
- Identify initial requirements from the involved organisations for engagement in closer integration into a CNO;
- Initiate a discussion on how the proposed changes align with internal strategies and aspirations of each involved organisation;
- Obtain insights to inform the process of designing the appropriate interventions and activities into the transition plan to ensure its success.

The focus group outcomes are used to adjust the activities to follow, and especially interviews with key decision makers and stakeholders.

(3) *Structured interviews with key decision-makers*. Structured interviews are aimed at reaching out to key decision-makers within the partner organisations to get understanding of their level of awareness and possible requirements of information to decide in favour of joining the future CNO. Involving – and ensuring the support of – key decision-makers as early as possible in the planning process is seen as one of the key success factors in leading change initiatives. The content of the structured interviews is designed to:

- Obtain inputs to design appropriate interventions in the transition plan – based on the assessment of awareness, desire and knowledge levels;
- Obtain inputs to the discussion on how the proposed changes align with internal strategies and aspirations of each involved organisation;
- Outline quantifiable advantages and disadvantages to allow for informed choice and decision by each partner organisation.

The outcomes are used to design the interventions within the transition plan, based on the assessed levels of awareness, desire and knowledge.

(4) *Structured interviews with key stakeholders.* Structured interviews with key stakeholders follow the same approach as the above. These are extended to key stakeholders outside the involved organisations. The design of the content draws on the above activities and allows for defining the context and expectations for the CNO.

Other tools that apply to the development of the transition and change management planning include simulation games of key processes².

Consulting the implementation process for CNO governance model

The implementation starts after the institution building phase and is based on reaching an agreement on the transition and change management activities. While the success of the actual implementation depends on the active effort by the customer itself, it could benefit from external consulting support to facilitate the change. The benefits of using external consulting services include expert non-biased opinion along the process, support in processing feedback and using it for adapting the plans, and most of all support through training and conflict resolution. As the change to a CNO includes a process of onboarding current and potential new partners and services, it requires an accreditation procedure to be effectively integrated into the governance model. After the induction training in governance and management of CNOs, focussed sessions for different roles will be required with related certification. The key governance and management processes should be supported by key systems such as e-Customer Catalogue and e-Portal for information sharing.

While building the CNO, one critical service is to establish customer (stakeholder) relationship management (CRM) as a core of the overall governance and management system. CRM is seen as an additional system to the ones mentioned above and allows the CNO to better understand its environment. One essential part of the CRM is the satisfaction assessment program to be established. The satisfaction assessment should provide regular feedback, but also acts as a platform for strategic communication and consultations with the key stakeholders and customers.

The implementation process would require consulting on activation of the key services' specific governance and management. Thus, the implementation plan should facilitate a close cooperation amongst other e-assets or service groups, including with external providers, that are selected to support key products and services in the customer services catalogue of the CNO.

The implementation includes the development of the Mission, Vision, Strategy, Implementation Plan, Customer catalogue. Thus, the consulting services during this phase need to support through different tools the efforts to develop the respective elements of the governance system. The implementation of the governance model could include the development of an external web site as well as internal collaboration portal for information sharing and support of the key governance and management processes as designed during the consulting phase covered in another paper². Analysis of the current operating model for the ECHO project with respective external website and internal Sharepoint

portal gives a view on the starting point and required changes to transition to the target operating model with a minimum of consulting services.

Implementation is a practical process as compared to the design and planning of transition of the governance model. It means the real assessment of the content of required services and tools to support them could be done when a first project – development of the ECHO Service Group Governance Consulting Services and potentially one National Hub of the ECHO CNO – are accomplished at end of the 2022.

Key support tools for implementation of the CNO transition plan

The transition plan should include the interventions necessary to further assess and develop the levels of ADKAR elements, as stated above. It should pay special focus on increasing the levels of knowledge (of how to change), ability (to implement required skills and behaviours), and reinforcement (to sustain the change). The tools employed for the implementation of the transition plan aim to continue communicating the vision and workplan how to get there, broaden the coalition of supporters, empower and motivate the involved organisations, minimise uncertainty throughout the process. The tools are conceptually defined below and are accompanied by proprietary templates and instructions.

The content of each tool should be tailored to a particular consulting case to reflect the specific background, ambition and transition plan details. The consequent application of the tools allows for feedback to be incorporated in assessment and continuous improvement phase.

(1) *Kick-off transition plan implementation.* A formal kick-off meeting to initiate the implementation of the transition plan serves several purposes, including:

- Communicate the vision. Communication of the change is a constant effort throughout the planning and implementation phases. Change management literature suggests it should not be a one-time, one-direction instance;
- Increase the levels of support for the change through active participation and involvement of the organisations;
- Confirm the workplan with roles, responsibilities, key milestones and decision-making process.

(2) *Focus groups, trainings.* Focus groups and trainings are designed based on the assessed levels of knowledge and ability to implement the change.

(3) *Strategic planning workshop.* Detailing the strategic plan based on the shared vision is a key element in the transition plan.

(4) *Internal communication tools.* Regular communication should accompany the implementation of the transition plan. Agreed upon media, such as intranet, newsletter, etc. should provide information on the progress throughout the involved organisations, manifest achievements and celebrate success.

(5) *Specifically designed rewards and acknowledgments* to reinforce the change implementation

Other tools that apply to the implementation of the transition and change management include focus groups, structured interviews, and simulation games of key processes (detailed in the previous section).

Exploitation strategy for the governance consulting services with a focus on stakeholder and customer relationship management

Upon finalisation, the E-GCS Exploitation Strategy will become a part of the overall ECHO Network Strategic Plan 2030 and ECHO Network Business Plan 2023-2025.

The key ingredients of the E-GCS Exploitation Strategy include:

- GCS catalogue description with required service architecture and proprietary tools to support the service delivery – highlights described in the previous sections of this paper;
- GCS customer base and its segmentation – especially per country and per sector. The segmentation could use the three main groups identified (EU public funding; national public funding; and pure commercial, market funding) and further refine it;
- GCS business model with costing policy and operational level agreements with other ECHO assets that could complement each other's exploitation to be detailed in the framework of the agreed ECHO Business model;
- Customer relations management strategy to gain interest, maintain customer satisfaction and retain customers (through ECHO National Hubs) is a critical aspect of the exploitation strategy;
- Partnership development to extend the capacity for service provision and innovate in service design, transition and operation (using national hubs) – will be further explored separately as the partnership development task is a very fundamental aspect of growing the network and customer base.

E-GCS Exploitation Strategy is based on the updated demand assessment resulting from the market analysis. The demand assessment should provide inputs on the potential value for services per type of service, type of customer, geographic base, and time frame. This will help to plan and to manage the capacity for E-GCS exploitation.

The E-GCS strategy is a spiral one with several waves of development:

- Test the exploitation model inside ECHO and with other 3 pilots using established funding for the projects: support with GCS the establishment of National Hubs and Service Groups, development of processes and business models, establishment of CRM for ECHO network;
- Form the E-GCS – legally represented by one of the project partners (IICT-BAS) through “star-architecture” agreements with contributing partners to offer the value proposition as initial operating capability of the target operating model;
- Experiment during the last six-eight ECHO project months with the National Hub in Bulgaria and national Ministry of e-Governance (notified to EC as

NCC) in supporting the Regulation (EC) 2021/887 implementation as a case for dealing with the external customers (public, national);

- Exploit the Convergence meetings between the four pilot projects, especially the Focus Group on Governance to promote the value proposition and seek partners and customers;
- Use the DIGILIENCE 2022 conference for finalising the Governance White Paper to ECCC/European Commission as a platform for defining the market in EU and member states for governance consulting services in cyber domain;
- Identify the growth of governance consulting services outside pure cyber CNO to other ICT and technology related CNO in EU or member states.

The standard elements for the E-GCS Exploitation Strategy to be further developed based on the identified services are:

- Value proposition to the customers and all the stakeholders;
- Catalogue of products, services and expertise (competencies);
- Market analysis – customer segmentation, demand assessment;
- Potential Program of Work with a Financial plan for the years 2023 to 2025.

One key element of the E-GCS Exploitation strategy is the induction training for customers and partners (developed within Work Package 2 of the ECHO project) and reference to other areas of ECHO Catalogue of Services offerings.

To build the necessary capacity, the E-GCS will rely on the core team involved in the governance model project work, attract and train colleagues from all partners to join the GCS expert pool and focus the team on active promotion of the value proposition to obtain project or service-based funding and extend exploitation.

E-GCS is developing its intellectual property during the ECHO project implementation, that would support the asset exploitation. All the tools developed to support the services (initial research to develop the governance model, process design, organisational design, and transition planning) and related templates and instructions are proprietary and will be kept and further developed by the core team under legal agreements required.

The vision of the functional E-GCS is a highly motivated and competent consulting team, able to partner with a customer for a successful cyber resilient digital endeavour in all sectors with strong reliance of the solutions developed by ECHO, but not limited to them.

As such the vision is largely dependent on strategic communications, excellent customer and stakeholder management and inclusive customer satisfaction assessment program. The academic background of the team fosters the focus on research, training and academic collaboration which are deeply rooted in the culture of exploitation.

E-GCS will gradually seek recognition in the ECHO team, the four pilots community and larger customer base.

The strategy is developed based on the studies of:

- EU strategy in the Cyber domain and respective regulations;
- ECHO Strategy agreed by the ECHO General Assembly;
- Catalogue of products, services and expertise;
- Market assessment;
- Business model instruments for financial break-even;
- Ideathon and Hackathon on exploitation of the E-GCS asset and in relation with the exploitation of the other ECHO assets, enabling its harmonisation with the other assets' exploitation strategies.

There are specific tools for exploitation strategy development under the respective ECHO Work Package 9 ownership.

Conclusions: Evolving Governance Consulting Organisation in Support of CNO Development

One of the focus areas of ECHO project lies in design of a governance model and its implementation for a complex collaborative network of excellence centres in several EU Member states and several non-EU partners in Ukraine and North Macedonia. Exploring different existing models⁵, a comprehensive approach was developed. It covers the whole cycle – development of governance model alternatives, their assessment and selection of the appropriate alternative, detailed process and organisational design, transition and change management planning, maturity assessment from current operating model to initial operating capability and final operating capability of target operating model. This effort provides an opportunity to identify a set of consulting services and related proprietary tools to support them, that together with the competencies of the people involved (core team and complementary pool of experts) could form a viable consulting organisation for CNO development.

In the case of ECHO project, building the consulting services means transition from a work-package project team organisation through ECHO Asset and as a final step Service Group on Governance Consulting Services (SG GCS). SG GCS will specialise in the development of CNO in technology intensive domains such as ICT and Cyber. It will aim to gradually extend to other domains like Space where similar developments are occurring and expected to see an increase in collaborative networked organisations. Such a service group is closely related with other ECHO assets and service groups through the Catalogue of services and products – not limited to supporting the design of CNOs. Close cooperation with the other three pilots, ECSO and the European Union Agency for Cybersecurity (ENISA) throughout the established Focus Group on Governance provides an excellent opportunity to operate in an eco-system specialising on regional or sector basis.

Good opportunity is to implement the governance services in design of the SG GCS itself and in such a way to prove the viability of proposed approach.

Following the study results on governance model the legal entity of the SG could be an ECHO Hub, one of the National Hubs or one of the partners, contributing to the core team (or pool of experts). Another legal option is to register a separate new non-for-profit organisation (with participation of for-profit organisations, contributing to the catalogue of services under operational agreement and pricing policy).

The business model is based on the principles of service-based, customer funded organisation with break-even (non-for-profit) in a three-year period (supported by an operation fund). Core (fees-based) funding could be agreed with the ECHO Central Hub or National Hubs, or potentially directly NCCs/ECCC. Intellectual property rights stay with a legal body under which the SG operates.

The Governance Consulting Service group could support customers on project base. In addition, it could develop service level agreement for baseline support. Similar to other consulting services, the effectiveness and efficiency would depend on the level of maturity of customer and stakeholder relationship management as well as the opportunity to combine consulting with easily accessible training and certification. At the same time continuous research in the governance matters provides for the quality of services delivered, including training.

International character of the service group as well as multi-sector experience of the core team and pool of experts provide for tailored approach to the requirements of the customers and internal knowledge development of cross-EU and inter-sector nature.

One important validation effort of the services and tools for governance consulting is to successfully establish the multinational and multisector service group of governance consulting itself. The most evident first set of projects and services of the consulting group is to facilitate the implementation of the Regulation 887/2021 in the member states and EU large.

The transition planning methodology described in this paper may have at least several practical implications. First, it draws a methodological approach for designing transition plan in complex settings of loose (project) partnership of numerous organisations with different sector, legal form, and country backgrounds. This approach could be used – with the necessary adjustments – in consulting similar endeavours. Second, it highlights key requirements and success factors based on literature review and confirmed during the project work. Third, it lists useful tools that could help similar endeavours.

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