

Digital-enabled Service Transformation in Public Sector: Institutionalization as a Product of Interplay Between Actors and Structures during Organisational Change

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ABSTRACT

In this paper, we describe the formatting guidelines for ACM SIG Proceedings. The derailment of large scale Digitally-Enabled Service Transformation Projects (DEST) in public sector has generated much attention and debate among the research community. However, most of the debates focus on the technology imperatives and / or strategic choices view. The micro-process of institutionalisation involving interplays between actors and structures in forming an institutionalised approach is hardly brought to the surface. Complex structure of government institutions, interaction of actors from various contexts and integration of multiple resources during DEST implementation has made the process of institutionalisation difficult. Combination of Institutional Theory (IT) and Structuration Theory (ST) concepts are used in this paper to examine an exemplar DEST project in the UK – ‘Tell Us Once’ (TUO). Findings show that actors and structures played significant roles throughout the institutionalisation stages. The actors reinforced or modified existing structures to suit their actions, and in return, the structure governed the actors’ actions, to form desired behaviour. This social phenomenon happened recursively over period of time until a common practice emerged and the desired objective is achieved. The findings provide useful insights on good institutionalisation practices concerning the role of actors and structures within the institutionalisation process.

CCS Concepts

• **Information systems** → **Information systems applications** • **Social and professional topics** → **Professional topics** → **Management of computing and information systems**

Keywords

Information System; Digital Transformational; Public Sector; Institutional Theory; Structuration Theory; Change Management; e-Government; Electronic Governance

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1. INTRODUCTION

A right framework to institutionalise digital-enabled service transformation (DEST) in the public sector has always remained a challenge to the government and practitioners. Most often, the implementation of large scale ICT-enabled projects have been a result of high level policy decisions that are meant to benefit communities or save the tax payer money. However, weak planning and project management together with inadequate change management frameworks and methods have resulted in several projects being abandoned during the last decade. Such issues are further compounded by the complexity of public administration processes and structures which often stand in the way of change.

Although many scholars have examined DEST failures, majority of existing studies have largely focused on the technology perspectives, ignoring institutional and people issues. In particular, most studies have inclined to explain why a technology is introduced to public organisations as part of an organisation’s response towards external pressures, termed as strategic choice, while some others focus on the technology diffusion aspect. The role of people in the organisation as ‘actors’, and the role of regulations and / or resources in the organisation, known as ‘structure’, is hardly brought to the surface in existing DEST studies. We posit that the actors, structures and the recursive interactions among the two have significant impact in the institutional process. By using the Institutional and structuration theories concept, this study examines the adoption in practice of a DEST in United Kingdom, as a contemporary case of ICT-led transformation initiative.

The wide spread utilisation of ICT to reform public services in the UK started in late 1980s, through the concept of New Public Management (Irani et al., 2012). Since then many ICT-led public service transformation projects have been initiated, such as NHS-National Program for IT (NPfIT), Student Finance, Driving License, Register to Vote, and Managing Tax Account (Gov.UK, 2015). Among the many cases, “Tell Us Once” (TUO) was recorded as a success story in the UK public sector transformation journey. TUO was designed and enacted in 2011 to transform how people tell the government about birth, death and change of address, resulting in radical process change and cost savings for both the government and citizens. The TUO represents a complex transformation involving central and local government, and is expected to condense the components of the Institutional and Structuration theory model. The case of TUO was analyzed to understand the intended transformation on public services and how the role of actors and structures facilitate the institutionalisation process. The aim is to provide some insights and reflections to practitioners and researchers in the domain of DEST that can be applied for future implementation. This research is important as

statistically, many large-scale DEST projects in public sector continue to fail to realize their objectives, thus, impacting public confidence towards public sector competency in managing and implementing such projects. In order to realise the study aim, the remainder of this paper is structured as follows. Firstly, the paper discusses DEST institutionalisation process by detailing the micro-process known as structuration. This is followed by the research methodology section, which discusses the research approach adopted in conducting this study. Next, it presents the study findings and examines the role of actors and structures, entailed by a discussion delineating lessons learnt. Finally, it presents the way forward for future research.

2. INSTITUTIONALISATION AS A PRODUCT OF INTERPLAY IN DEST

Institutionalisation and Structuration Theories both share premise that institutions and actions are intricately linked. Both theories agreed that actions are product of institutions, and institutions in return are formed, maintained and modified through actions. The definition given by institutional theorists Barley and Tolbert (1997) on institutions, where institutions are defined as “shared rules and typifications that identify categories of social actors and their appropriate activities or relationships”, resembles the notion of ‘structure’ in Giddens’s Structuration Theory (1984). Furthermore, in an argument about the establishment of organisational fields, DiMaggio and Powell’s (1983 cited in Barley and Tolbert, 1997) description about ‘institutional definition process’ mirrored Giddens’s (1984) ‘structuration process’. Despite of much agreement, the theories differs in the way how the creation, alteration, and reproduction of institutions are perceived. Institutional Theory (IT), despite of the claim that organisational structures are socially constructed, does not directly investigate how structures emerge or influence actions, which is a crucial phenomenon shaping formation of institutions.

Early institutionalists had posited the institution model’s inherent duality, where institutions arise from, and constrain actions (Zucker, 1987). However, this treatment was ignored over time, as recent institutionalists postulate that institutions are exogenous to organisational action (Scott and Meyer, 1994). The theory then explains on the institutionalisation process, addressing how institutions emerged or diffused primarily through association of institutional pressures. Such underdeveloped concept has shifted the focus of Institutional Theory towards consequences and focus of conformity and how environment penetrates the organisation (Meyer and Rowan, 1977 cited in Barley and Tolbert, 1997). While role of normative and taken-for-granted assumptions were emphasized, little attention was given to the passage by which such assumptions arise and are maintained.

In resonant with the concept of institutional fields, IT focus on the pattern of actions generated by a group of actors, rather than an individual. Such concept abandons totalistic view of organisational, societal structures and its inter-relating processes. The concept limits explanation about organisation behaviours to their physically or socially defined space (context), rather than to their internal attributes. IT strongly believes that the actors’ behaviour is fully shaped by their broader social context. Hence, one’s action is influence by the idea or symbolic elements, rather than material elements or technology. Such concept neglects the actor’s capacity to perform actions based on their own will, as well as capacity to shape structure in facilitating the DEST institutionalisation process. In reality, actors are also driven by incentives and available technology (as material interests) in their action, thus create

meaningful goals to draw commitments from others that eventually shape organisation’s function (Scott, 2014).

These arguments illustrate the constraints of utilising Intuition Theory as a single analytical lens in the study of institutionalisation process. Therefore to directly measure institutionalisation and explain on how structure emerge, maintain and influence action, understanding on how action affects institution should be obtained. For this insight, we turn to Structuration Theory (ST). ST explicitly focuses on the process of reproduction and modification of structure to form an institutionalised practice. ST discovers the outcome of the growth of events that develop over period of time, known as structuration events (Robey and Newman, 1996; Jones and Karsten, 2008). It also lightens up principle behind the interplay of structure and actor, and provides explanation on how these interactions translate each event into a sequence of meaningful actions, which modify existing structure of an institution.

ST proposes the “duality of structure” as the main concept, which views the action as a product of structure, and structure is maintain or modified through action (Giddens, 1984). In this concept, the actors draw on social structure in their action, and the action produce and reproduce social structure. The model links two realms of actions and institutions or structure, thus helping to understand how actions, through series of interactions create, modify or maintain institution. Structure realm represents existing framework of rules and typifications derived from a cumulative history of actions and interactions. Structure is deterministic, objective and static in nature. Meanwhile, action realm represents actual arrangements of people, objects and current flow of social events. Action is voluntaristic, subjective and dynamic in nature. The point of intersection between these realms is called modality – where structures are encoded in actor’s stock of knowledge, which is categorised into three: interpretive schemes, facility or resources, and norms (outlined in figure 1). The knowledge will influence how the actor communicate, exercise power and determine good or bad behaviours, which at the same time represents the actor’s capacity for actions.

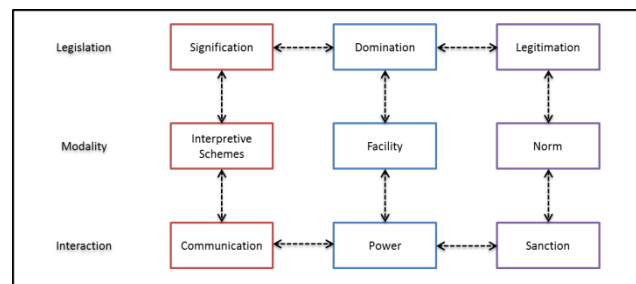


Figure 1: The Dimensions of The Duality of Structure (Adapted from Giddens 1984, p.29)

Critics argued that Giddens’s structuration model is temporal and static in nature (Barley and Tolbert, 1997). The model accounted for duration as background, rather than attention. To unable understanding on how action changes institution, Barley and Tolbert (1997) had translated Giddens and Berger and Luckman notion of structuration process into a dynamic model known as ‘A Sequential Model of Institutionalisation’ (figure 2). This model indicates that structure is utilised to trigger action through definite patterns of behavioural regularities or ‘scripts’. The scripts contain encoded institutional principles, and enact the actors to shape actions. The enacted scripts will then be replicated or revised by the

actor in their action, before the action is externalised and objectified, in order to modify or maintain structure. These interactions recur over time (or temporal, T), until an expected and generalized behaviour is established and the structure became institutionalised. In this context, DEST (technology) is viewed as 'virtual order' (script) of transformative relations that exists in the mind of actors (Jones and Karsten, 2008). The effect that DEST (as structure) has on action depends on how the actor engages with the DEST in their action. It means that an instruction to adopt DEST will be replicated or revised by the actor depending on their knowledge towards the subject, before the action is externalised and objectified. Recalling Giddens's structuration model, actor's knowledge is stored into three different stocks: interpretive schemes, facility or resources or norm. Interpretive schemes refers to knowledge acquired through signification process, thus determines how the actor communicate, as their action. Next, facility or resources refers to knowledge acquired through domination process, which is reflected in 'show of power' by the actor. Lastly, Norm is a knowledge stock acquired through legitimation process, and helps the actor to recognise good or bad behaviour for reward or sanction, respectively. Hence from this perspective, DEST (as technology) does nothing on its own, unless implicated in the action of actor. Drawing from these concepts, a combination of both Institutional and Structuration theories is best to analyse and understand if the institutionalisation is a structuration process.

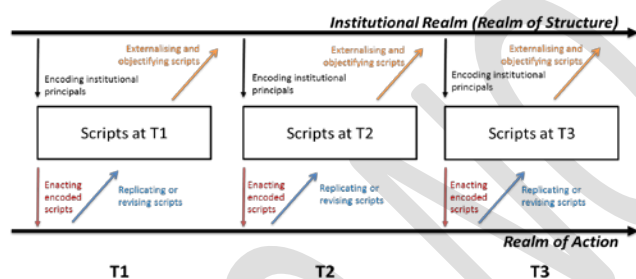


Figure 2: A Sequential Model of Institutionalisation (Barley and Tolbert, 1997)

3. RESEARCH METHODS

The focus of this paper is to study the roles of actors and structures in institutionalising the public sector's digital-enabled services (DEST) in the UK. To do so, we employed an interpretive approach to extract insights, forming lessons to be learned from a selected case of DEST (the TUO).

As proposed by Collis and Hussey (2013), the research approach was selected based on the nature of the research problem. In this context, the ultimate aim is to provide deeper understanding on the institutionalization events – a concept supported by interpretive approach, rather than hypothesis testing (positivist approach). Such approach also gives attentive focus on subjective elements and shared meaning, facilitating understanding on how social actors interpret and understand social events within their natural context. In doing so, the authors recognised how all factors are related and interdependent in a particular social setting, by assigning meaning to them accordingly (Oates, 2006). Besides, such approach permits flexibility in data selection process, allowing exploration of vast

evidences available in different sources within the research framework, to strengthen supports for possible findings.

For the purpose of this research, the 'Tell Us Once' (TUO) program was selected as a single case study. Considering that TUO is a unique and prototypical case, we argued that a single TUO case study would be more revelatory to the understanding of a structuration phenomenon. In addition, Yin (1994) argued that each case is able to lure the specific purpose of inquiry and therefore, linking many cases to one is 'replication of logic'. To highlight the structuration process in institutionalisation of TUO, we adopted a descriptive case study method. This method allows us to use Institutionalisation and Structuration theories as reference that frames the case description. In some respects, it tests whether and in what way the case may be described when approached from the perspective of selected theories, highlighting the main unit of analysis. A variety of data from different sources were assimilated, ranging from archival records, scholarly articles, government policies, publicly-published government reports, credential audit findings reports and netnography (online observations and interactions). These multiple resources have allowed reasonable triangulation of the data.

4. CASE STUDY: TELL US ONCE

4.1 Background

'Tell Us Once' (TUO) is a major transformation programme involving local councils and central government of UK. The main agenda was to enable people to report death, birth and change of address to most government organizations in one attempt. Traditionally, such information had to be reported repeatedly to almost 27 different authorities (Fife Council, 2010). The process was time consuming and costly for both the government and citizens. TUO had modified communication channels and work processes in reporting birth, death and change of address, as well as integrated databases of TUO with the respective government organisations. For example, a report of death is received by the local registrar's office, who will then assign a unique reference number to access TUO service online or by phone for record update. The TUO database would cross-update other databases of respective organisations to cancel benefits, taxes and documents, such as 'blue badge' (special vehicle parking permit for disabled people), home benefit, work-benefit, credit tax, driving license, passport and electoral register. The quicker notifications had resulted into government savings, by reducing overpayments and removing the risk of misuse or fraud (Department for Work and Pensions, 2011).

In brief, the TUO development pipeline started back in 2007, following the principles in HM Treasury's on agile approach (Improvement and Development Agency, 2009). A survey was conducted by the Local Government Delivery Council (LGCD) to see if such transformation is welcome by the citizen (Department for Work and Pensions, 2011). The survey produced a proposal suggesting TUO implementation to the government. Among others, the proposal contains valuable insight suggesting that local partnerships not only had potential in improving services for customer, but also enhance social inclusion and citizen engagement, which appeared as fundamental principle of TUO service (Local Government Delivery Council, 2009). The viability of the proposal was tested through intensive pilot programme in a number of English local sites (pathfinders) in January 2008 (Fife

Council, 2010). In doing so, the pathfinders gathered feedback from citizen, government employees and other organisations on TUO, besides executed experiments on the delivery channel, which had provided information on intended and unintended outcomes of TUO implementation. Concurrently, a research was conducted by the Local Government Association to assess value of the programme, in order to improve government-citizen interactions. Inputs from the pathfinders and research were used as recommendations to uplift the TUO service. In September 2009, an improvised proposal was submitted to the Government for a decision to run the program. Next, an impact assessment was conducted by the DWP to validate the project's viability. Following the assessment's result, the government had decided to roll-out TUO nationally by 2011 (Department for Work and Pensions, 2011). In 2013, a customer satisfaction survey was conducted by the DWP to measure the effectiveness of TUO program (RedQuadrant, 2014). The program had achieved 98 percent customer satisfaction and delivered a total savings of £22 million annually, making it as one of the exemplary transformation initiatives ever executed by the UK government.

4.2 Synthesis: Institutionalisation of TUO

Structuration theory concept allows understand on the process of reproduction and modification of structure in forming an institutionalised practice. The concepts allow analysis on the outcome of growth of events that develop over a period of time – which is the institutionalisation process. The central concept of structuration theory – “duality of structure”, views action as a product of structure, and structure is maintained or modified through action. Therefore, great attention should be given on how the actors draw on social structure in their action, as well as how the action produce and reproduce social structure.

Lessons drawn from the case interlace between the role of actors and structure in a series of structuration events during the institutionalisation process of change. Through the case study, the role of actor was examined by analysing the impact of their actions towards institutional structure. Interchangeably, as we recognise structure as the product of human action, and at the same time structure shapes action – the role of structure was analysed through the impact of structure towards action. In this context, the interplays between the two were examined and mapped against the structuration model, to generate understanding if institutionalisation is a structuration process.

Since recent institutionalists postulate that institutions as exogenous to organisational action (Scott and Meyer, 1994), institutionalisation process was addressed through how institutions emerged as the result of institutional pressures. In the context of TUO, the institutional pressure was originated externally. The demand to have a progressive and practical system was voiced by the citizens to the government through series of engagement events and meetings. Gradually, the pressure emanating from citizens penetrated the institution and forced the institution to undergo changes in practice. As a reaction to this, TUO was introduced in 2011.

The main stakeholders for TUO are the HM Revenue and Customs (HMRC) and local governments. Nevertheless, the implementation program for TUO was led by the Department for Work and Pension (DWP) and received extensive collaborations from various government authorities such as the Cabinet Office, HM Treasury, Driver and Vehicle Licensing Agency (DVLA), Department for Transport (DfT), Identity and Passport Service (IPS), Communities and Local Government (CLG), Improvement and Development

Agency (IDeA), Local Government Association (LGA) and Information Commissioner's Office (ICO). These are the main actors in the TUO institutionalisation process. Since TUO is a jointly-owned program, the institutional fields of TUO were socially defined. Despite of that, the logic behind TUO implementation is one – to increase the public value by providing simpler service to the citizens, especially during their time of bereavement.

4.2.1 Signification

Five practices were adopted as prescribed at the signification modality: the project identification survey, the discussion group, pathfinder's project, feasibility study, and program evaluation. The adoptions of these practices were meant to be coupled together in TUO institutionalisation. The project identification survey helped to identify the problem with previous practice and what are the desired model of new practice that provided basis for TUO project. Then the feasibility study (discussion group and pathfinders project) helped to validate the proposal designed during the project identification survey, which shaped the actual TUO model and work process. In other words, all information captured by the implementers was evaluated (interpreted) while they undergo the three practices prescribed by the decision maker (central government).

The demand for a better process by the citizen to communicate about changes in their life circumstances (death, birth and change of address) to the government was captured by the Local Government Development Council (LGDC) through a survey called 'project identification'. The survey was meant to advise the citizens of whom they should notify the changes and to find if the citizens welcome the service that notified Government Departments on their behalf (Department for Work and Pensions, 2011). Results revealed that the citizens were unhappy about the existing process and expecting for a unified process, where the reporting should only be done only once to inform all relevant organisations about someone's death, birth or change of address. As the conclusion, the practice needs to be transformed. The Local Government Delivery Council (LGDC) is an organization responsible in driving the transformation of public services. The central government agencies will engage with LGDC when they are working or planning to work with local councils for services redesign. LGDC is recognized as one stop center for the central government departments to know what other departments might be planning about local government. Feedback from the survey was concluded in a proposal, which was sent to the central government for concept approval. Among others, the proposal contained information about citizens' requirement on the proposed system. In this way, information gathered from the citizens and other implementers such as local councils and bereavement centers, was centralized, revised and interpreted in a meaningful way to be consumed by the central government for next action. The 'project identification' survey benefited the users and implementers, where they had control over information given (particularly on user requirement), which positively influenced the TUO system design.

Following the LGDC's proposal, the government had instructed TUO to undergo a pilot project. The project started with series of group discussions facilitated by DWP. The group comprised of representatives from local councils, central government agencies (i.e. HM Treasury, HM Revenue and Customs, Driver and Vehicle Licensing Agency, Department for Transport, Identity and Passport Service and Department for Communities, Local Government) and non-governmental organisation (i.e. Bereavement centre). The group was used as a medium to debate about TUO's program in

order to improvise the system. As a practice, the group discussions were able to gain constructive feedback and ideas regarding TUO implementation. As part of the suggestions, TUO had to undergo an intensive pilot program to enable identification of real problems regarding the model and institutionalisation process.

An intensive pilot program, known as pathfinder was conducted in fourteen English sites of different demographic contexts to widen feedback potential. The program involved various authorities and NGOs, which were divided into two groups. The first group was prescribed to implement TUO, as outlined in the LGDC's proposal. On the other hand, the second group was prescribed several practices: to monitor the progress of the first group, record each development and feedback from the group participants, and feed the data to the steering committee. Feedbacks gained was used as evidence to support new proposal and presented to the central government for approval, suggesting modification of TUO structure and practices. Research was carried out concurrently with the pathfinder projects to assess value of the programme towards improving government-citizen interactions, thus producing elementary data supporting evaluation of TUO service implementation idea. The main part of the research inputs were feedback from the citizen and the government employees involved in the pathfinders project directly, as well as indirectly. Multiple experiments on the delivery mix also create useful information on the intended and unintended outcomes of TUO implementation. Staff in local authorities endorsed that TUO implementation had increased their job satisfaction due to ability to provide assistance to those experiencing a difficult time (due to death of relatives or acquaintances). At the same time, the practice had enriched their skills and knowledge and expands their professional network, besides contributing to the design of the new service (Department for Work and Pensions, 2013). To validate the findings, a feasibility study was conducted by the Department for Work and Pension (DWP). The study, known as 'Equality Impact Assessment' has confirmed the TUO model, thus supports the government's decision to implement the program in 2011 (DWP, 2011). In an assessment conducted in 2013, TUO has achieved 98 percent customer satisfaction rating and delivered a total benefit of £22 million annually (RedQuadrant, 2014).

The practices seen in the DEST effort at TUO illustrate the role of actors in forming structure. The implementers, as actors had provided feedback on the practices prescribed on them by the decision maker. The feedback, which contained revise scripts, was objectified through structural change. For example, the pilot program (as a structure) was used to encourage reactions among the actors. The reactions had induced 'typifications', which is a process of finding solutions (right structure). Knowing that different actors adhere to different values and meaning, 'typification' creates various structures and decreased the chance of getting common solutions (DiMaggio & Powell, 1983). However, with presence of the second group, the proposed structures were observed and recorded. Most commonly adopted structure was identified as best approach, and suggested as solution for TUO. Meanwhile, consolidation of various organisations in discussion group and pathfinder project had eliminated institutional border, and unified the actors under the same ethos of public value. On the other hand, the broadening of institutional fields had created avenue for the decision maker to get insights from actors of different institutional background in shaping TUO structure. Nevertheless, the involvement had created buy-ins toward the program, which had facilitated the institutionalisation process.

All of the prescribed practices had resulted into expected outcome – gaining of constructive feedback to improvise TUO structure. However, some unexpected outcomes were discovered in several pathfinder sites. For example – in Tameside Municipality Borough Council (MBC), the officer in-charged of TUO service had signposted other organization for support and guidance to those in bereavement. Whereas in Wolverhampton MBC, advice and practical assistance on housing issues, benefits, post office card accounts, returning library tickets/books and contacting financial institutions were delivered as extra care service to the customer. The pathfinder had also delivered an implementation manual – compiling issues encountered during the pilot project, and answers respectively. Nonetheless, the outcome is favourable, as it helped in institutionalisation process.

4.2.2 Domination

There are two prescribed practices that were adopted as 'facilities' to institutionalise TUO: Signing of MoU by the discussion group members that defined ownership of TUO and recognition of central government as authority over the TUO model and design. These facilities were combined to enable control by the decision maker over TUO institutionalisation. From decision maker perspective, as the system would be used by the implementers, it was their responsibility to provide as much input as possible to shape the best TUO structure and supporting practices. However, the decision maker still has authority over the proposed structure. Thus, the TUO proposal should be approved by the Cabinet before the practice is adopted. As evidence to this, even though the detailed model (structure and practices) was prescribed in the final proposal following the pathfinder project, the decision maker (central government) still requested for the program to undergo the final validation (feasibility study).

The memorandum of understanding (MOU) was formed to seal the responsibilities and commitment of the group members towards achieving the group's objective. That action further signified that TUO was a 'jointly-owned program, thus concealed the fact that TUO was the Whitehall's tall order. The MoU, in the other hand had constrained the members' action, by creating ownership towards the program thus encouraging participation among the members throughout the pathfinder program. The group had managed to secured buy-ins from all member organisations, which dominate the facilities and resources potentially use for TUO implementation.

4.2.3 Legitimation

TUO project had strictly followed the ROAMEF CYCLE (Rationale, Objectives, Appraisal, Monitoring, Evaluation and Feedback), as outlined in The HM Treasury Green book. The practice had guided actions (guiding structure) of institutional actors, by providing reference for actions in TUO project management. By adopting the practice, the project had been divided into three stages: pre-implementation, implementation, and post-implementation. These milestones indicated required actions, and indirectly implied common understanding among the stakeholders regarding the project progress.

Furthermore, it was discovered that the TUO implementation order was stipulated with an implementation manual. The existence of operation manual as a structure guiding practices that was encountered through real-work situation had eased the TUO implementation and adoption process. The manual was originated during the pathfinder project, where inputs from different groups of actors were gathered to form a comprehensive actions guide for TUO implementers. Despite contributing towards uniformity of

actions that helped to reduce typification and minimise vulnerability, the manual also had defined sets of 'norms' for TUO institutionalisation.

4.2.4 Structuration Event

TUO practice had been encoded in a script, and enacted to LGDC and DWP. Based on their knowledge (modality of interpretive schemes) the two actors revised the script and externalised their action by producing new structures: identification study, group discussion, pathfinder programs, feasibility study, and impact assessment. These structures emerged as the product of interplay between the initial TUO proposal (also a structure) and decision maker (actor). This is the first tempo in TUO structuration event.

Consequently, the newly emerged structures were encoded in scripts, and enacted to the implementers (actor), in order to form right structures and practices for TUO. The implementers (citizens, local government authorities, non-governmental organisations and other government agencies) had revised the scripts and objectified their means by producing new structure – that were outlined in the final proposal and the implementation manual. This is the second tempo in TUO structuration event.

The third tempo started after the proposal submission. In order to re-affirm the proposal (structure), the decision maker or the central government (actor) had requested for a feasibility study, as validating process. The study findings re-affirmed the proposal, thus materialised TUO as formal structure. Supported by the implementation manual and buy-ins from the implementers, TUO structure was reaffirmed further in subsequent tempo. Within two years of implementation period, TUO had reached sediment stage (institutionalised), as validated by the result of a review. The finding construct an evidence of good implementation practice and meeting of the system objectives, justifying the vitality of the program – and this validate the role of actors' feedback and actions towards TUO functions.

5. FINDINGS AND DISCUSSION: LESSONS FOR THE INSTITUTIONALISATION DEBATE

The UK central government had prescribed TUO as an official practice to be adopted and implemented across different structures (context, organisations and information system) in the country. The practice was expected to be imparted into their daily routines, and as expected, TUO was adopted as prescribed. Various structures emerged as the outcome of enacted TUO. These structures were adopted by the decision making agency (LGDC and DWP) as well as the implementers (other NGOs, local councils and government agencies), as they were perceived relevant for their context. The findings showed that signification and domination are the preferred modes in externalising practices which was prescribed by the decision makers.

The interplays between structures and actors had created expected and unexpected outcomes, in terms of communication, power and sanction. To the decision makers, the expected results had helped message delivery, system design, and collaborative networks of implementing organisations. Nevertheless, the implementers perceived the desired outcome had enhanced system features, which encompassed additional requirements based on real life scenario, thus reflecting their understanding towards the practical aspects of TUO. Despite of expected outcomes, the interplays had also produced unexpected outcomes; a user manual was produced during the pathfinder program, encapsulating beneficial information on TUO for implementers, captured from experiences

and lessons throughout the pilot program. Therefore, outcomes of communication and power are the most common results in the adoption.

6. CONCLUSIONS

Digitally-enabled service transformations in government attempt to improve service delivery in public organisations, thus enhancing public value. Nevertheless in reality, the complex structure of government institutions, interaction of actors from various contexts and integration of multiple resources during DEST implementation have made it difficult to achieve desired objectives across multiple programmes. This study applied an institutional and structuration theory framework to study DEST using a case of TUO, by considering the various structures and actors involved in the project.

The IT and ST framework was useful for the following reason. Combination of both theories served to understand the digitally-enabled service transformation as a process of interplays between institutional actors and structures involved in the initiative. This study found evidence of structures as a product of interplays during various stages of TUO implementation. It was evident that the actors shape the formation of desired structures. The ST model was useful to understand and map the institutionalisation progress from the dynamic structuration events. The findings are important as existing literatures focused on consequences of institutional pressures, conformity towards institutional environment, and how environment penetrates the organisation, thus giving little attention on how an institutional structure and practice were raised and/or maintained. Hence, the use of these combined concepts provides deeper insights of the institutionalisation process.

The structure of TUO was materialised through series of interactions between institutional structures and actors. Existing studies of ST have resonant findings, but constrained within the technological structure, undermining the role of actors across different contexts within public sector context (Basettihalli et al., 2010; Orlikowski, 2000; Van Veenstra et al., 2010). This study identified practices embedded in structures and complex interactions that either facilitate or impede institutionalisation of TUO. It also helps to explain why the practices had resulted into expected (favourable) outcomes that positively help the transformation progress. The main reasons of successful institutionalisation of TUO were identified as capacity of the decision makers and implementers to thoroughly understand the program, as well as to reap the benefit of the implemented new practices. Three main reasons can be drawn from the case as contributing to successful institutionalisation: (1) ability of decision makers to constantly communicate with the implementers in order to deliver as well as obtain the right information when needed; (2) competency of the decision makers to distribute power and assign responsibilities to the various implementers, in order to create program ownership; and (3) the ability to set clear program directions and expected behaviour (sanctions). These factors are further discussed in the recommendation section.

There are some methodological limitations in this study. Coding data in the context of duality of structure was difficult, as we had to determine what constituted an actor (human agent) and what constituted structure in the research context. Therefore for the purpose of this study, the practices were identified as social structures prescribed by the decision makers and actions instantiated by the implementers. Another challenge is to code the structural modes and dimensions, where it has to be mapped to Giddens's structuration framework. While Giddens's model was

used to code the structural modes and dimensions, “A Sequential Model of Institutionalisation” (Barley and Tolbert, 1997) was used to explain how the structure determines action that in returns shapes structure, against time background. In this context, the researcher has become the main research instrument for the structuration concepts that entice limitation and risks. Hence, future research may redefine and retest the IT and ST concepts grounded in this study, using a different approach.

7. PRACTICAL RECOMMENDATIONS

In the pursuit of successful institutionalisation of digitally-enabled service transformation in public sector, decision makers and implementers should be aware that the program involves the interaction of multiple structures. In the case of Tell Us Once, transforming the way how changes in life circumstances should be reported do not only deal with seeming structures and citizens, but also with other structures such as other related organisations, social institutions, collaboration, knowledge and trust (buy-ins). An analysis should be conducted to obtain some insights of structure requirement, expected actions, as well as possible ‘actors’ around the project and structures that need modification or reinforcement. In this case, a typical consideration is to limit actors on citizen and local councils. However, there are also other actors in different organisations and social context that are involved in this transformation program. Clearly, institutionalisation is a structuration process. Without the recursive interplays happening between the actors and structure, a desired structure and practice supporting DEST implementation would not be materialised, thus the institutionalisation process will fail. Therefore, some practical recommendations were drawn from formal and informal structuration process as lessons to be learned by the practitioners, in order to facilitate the institutionalisation process (see table 1). Among others, these lessons can facilitate the decision makers in project governance (i.e. role of decision makers, role of implementer, roles of users), to achieve an institutionalised stage through three main actions: communication, power and sanction. From communication perspective, the main actor should be able to define methods and information through their practices, involving other actors in the fields in collaborative and participative efforts. Messages should be clearly defined and delivered. Nevertheless, knowledge sharing should be encouraged and supported to allow ‘same-page’ understanding among all actors. From ‘power’ perspective, proper and clear distribution of authority and responsibility over organisational resources among the actors, are vital to create program ownership. By having the ownership, actors will be accountable towards their action, thus facilitate the shaping of ‘right structure’. Finally, from the perspective of sanction – objective and scope of the project must be clearly identified and defined in the program context, to help evaluation on the emerging structures or actions, thus facilitate required intervention.

Table 1: Practical Recommendations

Recommendations	
Role of decision makers (Politicians and Board of Directors)	<ul style="list-style-type: none"> Assess with the user the desired transformation. Clear indication of project milestones will help all parties to have common understanding towards the project progress and required actions. Have broader definition of implementers and users, in order to include all potential actors and gauge different requirement. Involve the implementers and users in project design, to produce desired structure and engage take-up. Develop a common understanding between decision maker, implementers and users by having an official communication platform. Evaluate and recognise potential challenge in the transformation program by having pilot projects and feasibility study prior to project implementation. Establish support (i.e.: information, technology, skills) for the implementers and users. Create partnership with local government agencies or representatives in developing a transformation program that is related to them to increase take-up and leverage on their resources during institutionalisation process. Promote knowledge sharing as ‘self-learning mechanism’. Set agreement or target with the implementers about the format, methodology and deliverables of the transformation program. Define program ownership.
Role of Implementers (Agencies and Project Implementation team)	<ul style="list-style-type: none"> Engage liaisons for the transformation program across the implementers and decision maker agencies. Define program ownership and responsibilities. Thoroughly understand the scope of the program and required actions. Communicate all requirements and potential challenges or concerns before the program started. Share resources and facilities to optimised output. Establish professional networks among the implementers and agencies to gain maximum benefit. Document experience, challenges and solutions for others to learn. Encourage knowledge-sharing across organisations to reap instant skills.
Role of users (Public Citizen)	<ul style="list-style-type: none"> Express genuine requirements or demands for service transformation. Provide feedback on the service received for improvisation.

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