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Cultural indicators in Abu Dhabi: theoretic framework and challenges for their building

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Keywords: Cultural indicators; Operationalization of concepts; Abu Dhabi; Statistics; Data collection; Decision-making in cultural field; Public policies.

Evidence-based decision-making in Abu Dhabi cultural sector is increasingly being influenced by the development of data generation from a coordinated statistical system. The Department of Culture and Tourism (DCT) Abu Dhabi has increased its support of this focus by funding new research instruments, including CultureSTATS-AD project. One of the methodological challenges of CultureSTATS-AD project consists in articulation of the locally anchored and the internationally comparable dimensions of the evolving culture statistics system. The present paper addresses this methodological challenge by adopting a pragmatic approach to Abu Dhabi culture vocabulary. The practical usages of culture definitions by policymakers, academics and culture professionals replicate a myriad of underlying social processes. We suggest a transversal contextual analysis of Abu Dhabi culture documentation in order to understand in what conceptual, legal and social contexts each of the currently used culture definitions is inserted. Next, we propose to develop the culture indicators that emphasize these contexts. Finally, the paper offers methodological approaches to selection, definition and data population of culture indicators in Abu Dhabi. Even though our approach doesn't pretend to be exhaustive, it allows identifying the first linchpins of culture indicator building in Abu Dhabi and permits further alignment with the international standards.

1. Introduction

Evidence-based decision-making in Abu Dhabi cultural sector is increasingly being influenced by the development of data generation from a coordinated statistical system, and more actors are involved in data collection and analysis process. Administrations, research institutions and cultural actors collaborate to share and structure existing cultural data, as well as to find appropriate strategies for further data collection and assessment. At the same time, these processes are conditioned by the need to adjust to major international cultural statistics systems (e.g. EU, UNESCO). The focus is increasingly on developing, updating, and adapting of the methodology of existing frameworks for cultural statistics, in order to establish comparable cultural statistics in Abu Dhabi.

Since 2019, Department of Culture and Tourism Abu Dhabi has increased its support of this focus by funding long-term research projects, including CultureSTATS-AD project. The starting point of CultureSTATS-AD project involves centralised collection of pre-existing cultural data and proposition of Abu Dhabi culture indicators. However, the methodology of this extensive work is still relatively undefined and fragmented. The definition of the field of ‘culture’ for statistical purposes needs to be elaborated along with the collection and structuration of the relevant data; simultaneously, cultural concepts and terms need to be defined in order to demarcate the scope of the culture data elements and systematise the corresponding metadata. The methodological framework should also enable gradual implementation of key indicators in domains such as, among others, cultural employment, the financing of culture and cultural practices.

Evidently, the accurate reproduction of the international statistics systems is problematic in the context of Abu Dhabi, as existing data is conditioned by a different historical, administrative and legislative context. Nonetheless, a partial correlation between the taxonomies of Abu Dhabi and the international approaches is still possible, and may become a basis for building an adapted, tailor-made and internationally compatible Abu Dhabi Cultural Statistics system.

The aim of the primary stage of CultureSTATS-AD Project - Cultural Activities Baseline (CAB) is to develop an epistemological approach that allows for a legitimate articulation of the international statistical frameworks and Abu Dhabi developing culture data. One of the methodological challenges of this articulation consists in adjustment of the locally anchored and the internationally comparable dimensions of the emergent culture statistics system.

The present paper addresses this methodological challenge by adopting a pragmatic approach to Abu Dhabi culture vocabulary. At first glance, the Abu Dhabi culture vocabulary seems similar to the common international practice. However, the practical usages of culture definitions by the policymakers, culture professionals, academics, etc. replicate a myriad of underlying social processes. We suggest a transversal contextual analysis of Abu Dhabi culture documentation in order to understand in what conceptual, legal and social contexts each of the currently used culture definitions is inserted. Next, we propose to develop the culture indicators that emphasize these contexts. Finally, the paper offers methodological approaches to selection, definition and data population of culture indicators in Abu Dhabi. Even though our approach doesn't pretend to be exhaustive, it allows identifying the first “linchpins” of culture indicator building in Abu Dhabi and permits further alignment with the international standards.

2. Purpose of the paper and research questions

This paper seeks (1) to understand how the nebulous of existing resources (existing data sources, cultural policies, administrative practice in the cultural field, etc.) can provide the linchpins for culture indicators building in Abu Dhabi, but also (2) to reflect on the potential of statistical indicators to give an initial view of the social and administrative system in which the evolving cultural statistics will be taken into account.

For this, we focus on the main pre-existing Abu Dhabi statistical sources and discern the rationale for a specialized set of culture sector performance indicators. Followingly, we examine the articulation between the generalized international statistical frameworks (EU, UNESCO), and the Abu Dhabi context. We consider the role of the local context that determines both how the cultural statistics are structured, and how the cultural indicators are composed. Finally, we suggest a cultural vocabulary-based approach to indicator elaboration.

The existing researches (e.g. Hatchuel and Weil 1992; Desrosières 2008a) analyze how members of different sectors construct their arguments – and assert the role of statistical indicators in the development of debates. This approach highlights the discursive dimension of the statistical tools mobilized by the actors in the sector in their justification of arguments aimed at criticizing, supporting and constructing representations of phenomena of interest within the industry.

The proposal of this paper adopts an opposite logic and consists in exploring the discursive dimension as a primary source for emerging statistical indicators. The larger goal of this paper is to launch further discussion on the evolving cultural statistics in the UAE.

3. Evidence-based decision making: competitive intelligence process in developing Abu Dhabi cultural influence

The etymology of term “statistics” evokes the Latin word “*status*”(state, but also condition, estimation, position).¹ Therefore, "at each period, a way of thinking about society, modes of action within it, and modes of description, in particular statistics"(Desrosières 2008a) are closely related to the state. In Abu Dhabi, the emirate statistics are constructed from two main sources: statistical registers and surveys.² Today, these sources assess the culture sector only partly, and do not cover the level of precision that is progressively required by the evolving public management of Abu Dhabi.

Since several years, Abu Dhabi develops competitive intelligence process that involves the collection of information, internal, external and from competitors, but also from customers, suppliers, technologies, environments, and potential business relations (Calof and Wright 2008). Competitive intelligence is designed to provide early warning and help to predict the moves of competitors, customers, and governments (Gilad 1996). As a part of competitive intelligence framework, CultureSTATS-AD project should cover the competitive environment of the cultural sector on at least two levels: (1) at the level of the cultural stakeholders in Abu Dhabi and in the UAE, and (2) at the international level of already existing and emerging cultural hubs (e.g., through comparison of sector-level competitiveness indices). This systematic information management, including noticing and interpreting competitive stimuli,

¹ Waite, M. (dir.): Oxford Thesaurus of English. Oxford Univ. Press. (2009) p. 834

² Statistics Centre – Abu Dhabi (SCAD) is the official source of statistical data in Abu Dhabi Emirate.

1 is critical for DCT to facilitate strategic planning processes and to avoid any preventable crisis
2 (Patton and McKenna 2005).

3
4 The competitive intelligence implications are becoming even more crucial as Abu Dhabi is
5 increasingly expanding its cultural influence by promoting cultural institutions, exhibitions,
6 events and festivals, preserving and sustaining the Emirati cultural heritage, but also by
7 investing on the cultural cluster on Saadiyat Island, that includes Louvre Abu Dhabi, Zayed
8 National Museum, Guggenheim Abu Dhabi and Berklee Abu Dhabi. The culture industry is
9 perceived as one of the powerful levers for a long-term economic and social development of
10 the emirate. Furthermore, the culture plays a growing role in cultural diplomacy and
11 international positioning of Abu Dhabi both regionally and internationally (Zacharias 2019).
12 Consequently, the challenge of the emerging system of cultural statistics goes beyond
13 representing the Abu Dhabi cultural landscape *per se* and consists in creation of new
14 instruments of inciting and controlling.

15
16 The public management of Abu Dhabi progressively encourages the elements of neoliberal
17 logic. The state is "thought of as a set of administrative poles whose relations are negotiated,
18 contractually and regulated by law" (Salais 2010; Eyraud 2013). The political decision-making
19 is partly based on the evaluation of performance and on rankings based on quantified indicators.
20 The statistical indicator systems do not cover a coherent set of variables linked to one another
21 (as for the Keynesian state), but a heterogeneous set of performance indicators for each sector.
22 These performance indicators are becoming essential for steering cultural economies: "it is not
23 so much the quantification itself that is at stake as the innovations in the political use of the
24 statistical argument" (Salais 2010).

25
26 At the level of the Department of Culture and Tourism (DCT) Abu Dhabi, the culture-related
27 data is collected by several internal entities inside the organisation. These entities structure the
28 administrative data, perform regular surveys and investigate the big data approaches in order to
29 facilitate cultural reporting and monitor impacts of cultural policies. However, as the data
30 collected in DCT is *a priori* limited by the scope of DCT assigned responsibility, a much wider
31 range of the Abu Dhabi culture-related social phenomena is not included in these data collection
32 processes.

33
34 The Abu Dhabi emirate registers originate from an administrative source (management files),
35 and reflect the existing action of the state. In the field of culture, transition between the
36 management files and the construction of culture indicators does not necessarily go smoothly.
37 The form of the data from the statistical registers depends on a set of equivalence conventions
38 necessary for their construction. However, these equivalence conventions may vary from those
39 necessary for the construction of cultural sector performance indicators. For example, the
40 currently existing Abu Dhabi statistics on art education do not separate artistic disciplines and
41 abilities (dance, music, literature) from other non-artistic subjects and abilities, and includes
42 both in same categories (e.g. Dance is included in "Psychomotor Ability", Art and Music are
43 merged with "Physical Education", Literature and Poetry are not separated from other "Social
44 Studies", etc.)

45
46 From this perspective, it is the role of CultureSTATS-AD project to make this link between the
47 collection and processing of individual data and aggregated information: "like the detective, the
48 statistician [...] moves back and forth between individual information and aggregated
49 information that reflects a larger reality "(Desrosières 2008b).

1 The surveys as the source of statistics aim to be knowledge tools that aim to "describe the
2 reality" (Desrosières 2008b) and explore the new issues within society. However, before
3 engaging any surveys to collect culture data, it is necessary to define the concepts to be
4 measured. The limits are linked here to issues of absence in Abu Dhabi of culture glossaries on
5 the one hand, and the granularity and scope of the information that needs to be collected on the
6 other. The absence of culture definitions leads to the difficulties in demarcating suitable
7 statistical proxies of phenomena identified in the process of data collection. Consequently, it
8 becomes difficult to systemize the levels of granularity of the culture indicators that should be
9 collected through the survey. Sometimes, the relevant culture data is either not collected at all
10 by existing surveys, either it is "hidden" inside a more generic statistical category. As the
11 timeframe of action of the policymakers in the culture sector and that of the production of
12 statistics are not the same, the usefulness of the currently existing regular statistical surveys for
13 the culture sector is limited.

14 15 **4. Abu Dhabi cultural statistics and the existing statistical frameworks**

16
17 The rationale of evidence-base policymaking is based on the proved causal links between a
18 policy intervention – and the truth of the fact that this intervention worked in a particular
19 context. For instance, the multiple research show that "iconic buildings" (Jencks 2005), that act
20 as a "hard-brand" for city in which they are located (Evans 2003) contribute in transformation
21 of post-industrial cities into vibrant international hubs. However, the fact that such policies
22 worked in Europe ("Bilbao effect") is not straightforwardly relevant to the conclusion that they
23 will work in the context of Abu Dhabi.

24
25 At the same time, the international competitiveness in the field of culture sector development
26 has induced a strong demand of harmonization of cultural statistics in the various countries.
27 The latter is focused predominantly on an harmonization of outputs, already practised by
28 national accountants: the statistical variables are defined in common, then each country
29 measures them according to its own means. To measure the impacts of cultural policies both
30 locally – and in the context of international competitiveness, the culture indicators should be
31 both comparable internationally, and anchored in the local context. From this point of view,
32 "the various harmonization levels are compared with the various forms of connection and
33 convertibility between the national currencies"(Desrosiers 2000).

34
35 Consequently, the baseline culture indicators (such as cultural participation, public expenditure
36 of culture, etc.) that seem at first glance to be comparable internationally are having different
37 causal factors and support factors in different local contexts. Cartwright and Hardie (2012)
38 define support factors as causal factors specified by the causal principle that are not the focus
39 of the intervention (but are jointly necessary with the focused causal factor). So, whether we
40 choose the term "causal factor" or "support factor" depends only on the focus of intervention
41 (Cartwright and Hardie 2012). In the field of cultural statistics, both causal factors and support
42 factors are embodied by the heterogeneous statistical indicators (already existing or that still
43 need to be developed). In order to understand what assessments are relevant to the cultural
44 landscape of Abu Dhabi, it is thus necessary to proceed to both "horizontal" and "vertical"
45 searches (Cartwright and Hardie 2012).

46
47 Horizontal search is focused on identifying the full set of necessary support factors (e.g. are the
48 social variables that explain cultural participation in Abu Dhabi the same than in other
49 countries? If not, how can we identify them?). Because support factors are not the target of an
50 intervention, they are easy to dismiss. But if they are missing, the indicator will not function

properly. For instance, the specific definition of “household” in Abu Dhabi will obviously impact the statistical indicators related to “household expenditure of culture”. It will also impact the harmonization of these indicators on the international level.

In the perspective of “horizontal search”, CultureSTATS-AD needs to consider and adapt the international statistical frameworks that assess both the causal factors that operate the culture sector per se (e.g. cultural participation), and the supporting factors across different policy areas partly correlated with culture (e.g. social inclusion). Among the important international frameworks that relate culture to a broader specter of support factors, the UNESCO Culture 2030 Indicators framework presents a set of thematic indicators that put cultural variables in relation with different Sustainable Development Goals. The OECD programs articulate the impacts of culture with local development goals and focus on culture as a tool for the social integration and economic well-being. The OECD research projects, such as *Project on the International Measurement of Culture*³ examined feasibility of producing reliable international comparative measures of the culture sector, and thus present an important methodological source on the subject.

In a vertical search, one thinks about whether one has described the cause at the right level of description (Cartwright and Hardie 2012). There is a tension between making culture statistics concrete enough to be useful and abstract enough to be comparable internationally. For instance, if an Abu Dhabi specific cultural practice (e.g. “Al Maled” (art of recitation) needs to integrate a classification (e.g. “Performing arts”), on what level of detail it should be placed inside this category?

Among the existing culture statistic classifications, ESS-Net Culture framework (that derive from Eurostat’s European Working Group on Cultural Statistics) is the most extensively documented: it captures all core domains and functions of a cultural sector and proposes a systemized set of definitions and a methodology. While being fully compatible with the UNESCO framework, it is more focused on capturing the cultural assets and their value and allows the creation of a cultural resource framework and mapping, able to support future research. Even though Abu Dhabi is a priori not able to integrate a regional framework such as ESS-Net Culture framework, it offers a tool of systematization that allows a primary attempt of putting together, comparing and assessing the heterogeneous Abu Dhabi culture data elements.

5. Methodological challenges: how to build culture indicators from scratch?

We suggest taking into account both normative documents and related documented administrative practices as a basis for culture indicator building. This approach lies together in a circular reasoning (1) international best practices, definitions and measurements in the area of culture indicators building and (2) a broad range of Abu Dhabi documentation related to stakeholders’ requirements, policymaking practices, cultural processes, etc., in order to structure long-term compatibilities between Abu Dhabi and international approaches to culture statistics, as well as establish coherent definitions, technical documentation and data collection mechanisms.

³ Gordon, J., Beilby-Orrin, H.: National Accounts and Financial Statistics: International Measurement of the Economic and Social Importance of Culture. OEDC eds., Paris (2007).

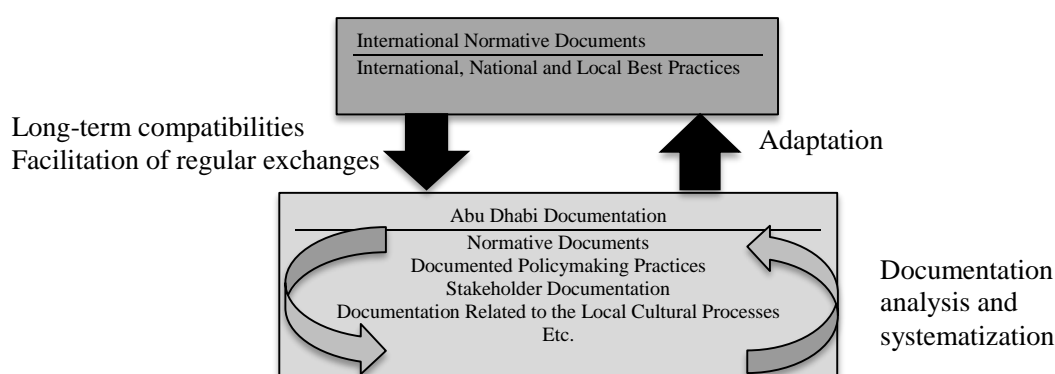


Figure 1 – Abu Dhabi culture field documentation as a basis for culture indicators⁴

The texts (normative documents, administrative documents, publications, etc.) which are produced and disseminated make it possible to register a particular representation, constructed collectively, of the cultural phenomena discussed (Taylor and Lerner 1996). They integrate conversations and negotiations that form representations of “what is” the cultural sector in Abu Dhabi and carry messages that are subject to the stakeholder’s interpretation.

Michel Foucault stated that subjects are created in discourses: ‘discourse is not the majestically unfolding manifestation of a thinking, knowing, speaking subject’ (Foucault 1972). Instead, ‘individual self becomes a medium for the culture and its language’ (Kvale 1992). In this sense, the discourse analysis is interrelated with the pragmatic approach that perceives networks and organizations as arenas of experience and action, articulated by juxtaposition of objects, in which the actors are involved according to hybrid judgments, discourses and contexts. It brings out plural grammars of the community, the actor and the collective (Cefai 2010).

Linked to the management tools, the pragmatic approach to discourse analysis seeks to understand how the actors (e.g. policymakers, managers, etc.) attribute different importance to a subject, and how they elaborate interpretative schemes that will influence decision-making. While discourse analysis is focused on explanation, a pragmatic optic will uncover the contextual intentions that depend on the situation in which the actors find themselves (Lorino 2000), that reveal the implicatures that would not be visible otherwise.

The **Table 1** below summarizes the main phases of the methodology that we suggest. It describes the suggested methods and approach, as well as the expected results of each stage of indicator elaboration, starting from identification of the indicator thematic blocks, and up to indicator population with the data.

Main Research Phases	Methods and Approach	Expected Results
1. Identification of the indicator thematic blocks (<i>Preparatory phase</i>);	Semantic analysis of definitions that make part of DCT Strategic Objectives (e.g. through the graphic analysis methods);	Adjustment to specific Abu Dhabi stakeholder needs;
2. Identification of legal rules, working rules and informal practices that frame the identified thematic block;	- Extraction and systematization of the key culture definitions approved by the legal rules (Constitutional Level, Policy Level);	Taxonomy of legal rules and working rules (Ostrom 2005) that regulate the cultural field in Abu Dhabi;

⁴ Illustration made by the authors.

	- Questionnaire survey and interviews to identify the working rules (Operational Level);	
3. Contextual analysis;	Formulation of potential indicators based on keywords associations (a transversal approach to Constitutional Level, Policy Level and Operational Level);	Understanding of the policy objectives and social processes underlying the construction of an indicator;
4. Indicator Selection;	Experts and stakeholder's workshops/questionnaire surveys;	Elaboration and selection of the indicators; Identification of the gaps;
5. Indicator Definition;	Identification and description of the technical attributes of each indicator;	Integration the selected indicators in the data management structures and processes;
6. Indicator Population;	Data collection; Data imputation;	Constant set of indicators and data sources;

Table 1 – Research phases, methods and expected results

This approach is based on the assumption that the effects of management tools (e.g. Abu Dhabi emerging cultural statistics) are not linked to their own existence or to their use (Berry 1983) but in “capacity to relate them to a common discourse” (Detchessahar and Journé 2007) - par example, a discourse on the Abu Dhabi cultural policies as a whole. The intertextuality (Kristeva 1980) of management tools therefore takes on an essential dimension, since it is the reader's comparisons and relationships made with other texts that make it possible to construct the meaning of the text read (Riffaterre 1980), but also identify the aspects that need to be measured through the indicators.

Even though at the current stage of our research we are still not able to create exhaustive protocols for each of these phases, we have already identified the principal milestones to pass. In the following parts of the paper, we will discuss each of these milestones in more detail.

6. Adjustment to specific Abu Dhabi stakeholder needs

Adjustment to specific Abu Dhabi stakeholder needs requires defining the priorities and “entry points” that build connections between Abu Dhabi cultural policies and international best practices (e.g. ESSnet-Culture framework). To accomplish this task, our methodological approach suggests first to proceed to a semantic analysis of definitions that make part of the Department of culture and Tourism Abu Dhabi (DCT) Strategic Objectives, that frame Abu Dhabi cultural ecosystem.⁵

A graphic visualization of relations among the key Abu Dhabi and international culture policy concepts can be a powerful tool as it provides quick visual summaries of concepts correlations and independencies. Graphical methods provide information that may not be otherwise apparent from quali-quantitative statistical evaluations, so it is a good practice to evaluate data using these methods prior to performing statistical evaluations. Graphical techniques can be used initially to display data for qualitative assessments prior to selecting appropriate tests on further stages of in-depth exploration.

The **Figure 2** below shows the correlation between the key notions that structure ESS-Net Culture framework and the Strategic Objectives of DCT Abu Dhabi obtained by a simple

⁵ Aamir, M.: DCT-Abu Dhabi showcases Abu Dhabi’s cultural agenda WAM (Emirates News Agency), Abu Dhabi (2019).

graphic superposition of the local cultural policy strategic objectives and the ESS-Net Culture chart that synthetized cultural domains and cultural functions.

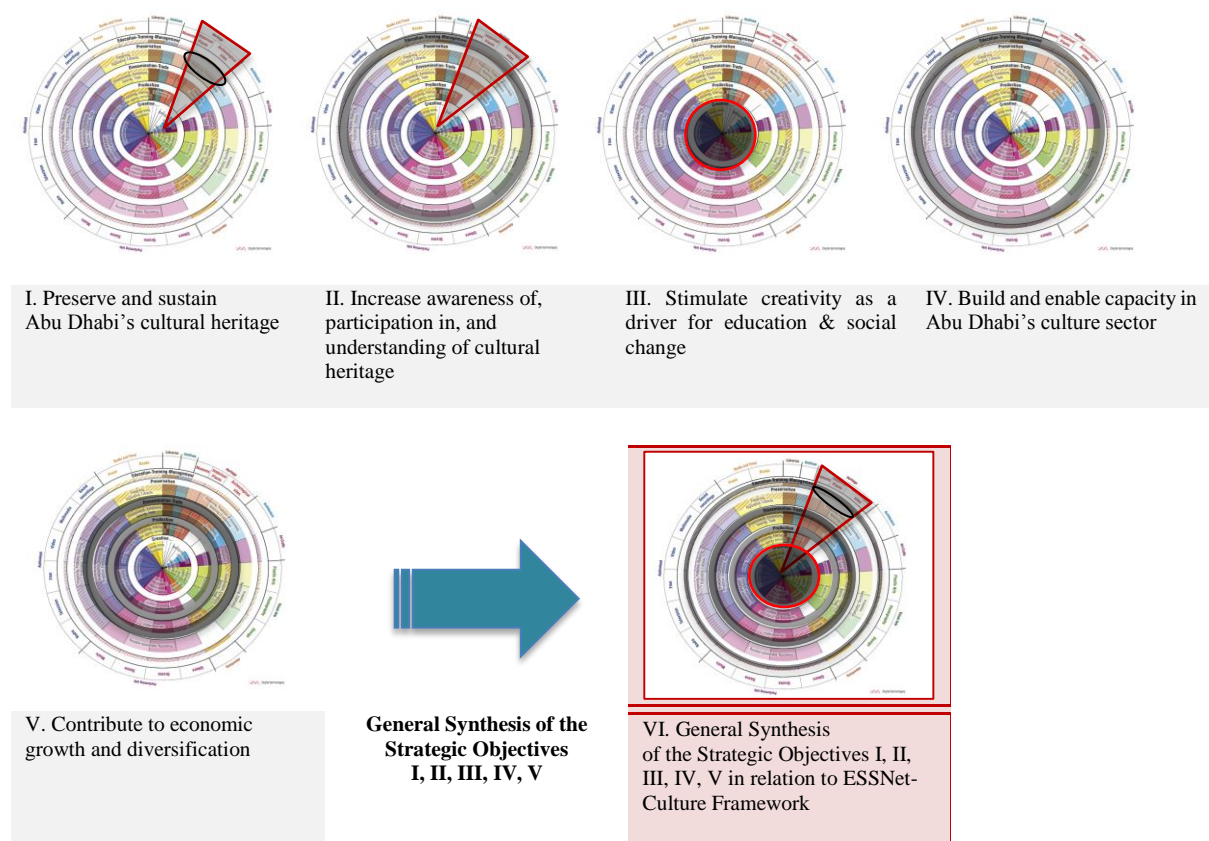


Figure 2 - The correlation between the key notions that structure ESS-Net Culture framework and the Strategic Objectives of DCT Abu Dhabi⁶

The Strategic Objective I “Preserve and sustain Abu Dhabi’s cultural heritage” requires definitions of the following notions: Preservation, Sustainability, Abu Dhabi, and Cultural Heritage. Next, the logic links between these notions and related conceptual fields are explored. For instance, under the prism of ESS-Net Culture framework, “Heritage” is qualified as a cultural domain related to six functions: Creation, Production, Dissemination, Preservation, Education and Management (see Figure 1 above). The EU framework will be tested against Abu Dhabi administrative and cultural context in order to identify the compatibilities and the gaps between the two systems. For example, the charts below demonstrate the correlation between the key notions that structure (1) ESS-Net Culture framework and (2) the Strategic Objectives of DCT Abu Dhabi.

The preliminary graphic analysis allows the following hypotheses:

- The DCT Strategic Objectives are reasoning more in terms of *Cultural Functions*, than *Cultural Domains* (grey circles);

⁶ Illustration made by the authors with the graphic elements retrieved from: Beck, M., Frank, G.: ESSnet-Culture Final Report, EU Online Publications. Luxembourg (2012), p.48

- Whereas the *Cultural Functions* are considered as transversal, *Preservation Function* is related mainly to *Heritage* domain;
- The DCT Strategic Objectives have a strong emphasis on *Heritage*.

This example highlights the potential of developing tailored methodological tools in order to identify the compatibilities and the discordances between the endogenous perceptions of the culture-related definitions, locally and internationally. The further application of this approach on the policy documents may contribute into a better understanding of the policy objectives, that tend to be formulated in broad, abstract, or even vague terms. Some analysts put this down to a ‘weak theory base’ in cultural policy (Baeker 2002, cited in IFACCA report (2005)). Hugoson (1997), however, argues that such abstraction is a necessary condition for cultural policies. Whatever the reason, to develop the clear policy indicators, abstraction or vagueness in cultural policy needs to be reduced through a better understanding of the underlying objectives and concerns.

7. Identification and systematization of the key culture definitions

A reflection on cultural indicators based on the existing cultural policy documents and related statistical data lacks practical applicability, as the administrative and the legal systems that frame the cultural sector in Abu Dhabi are still emerging. To resolve this issue, we elaborated a transversal explorative approach that aims understanding how a variety of concerned institutions and actors outline culture-related definitions through a variety of related administrative and social practices (e.g. licencing, trading, social promotion, registration, etc.), commonly noticeable in the contemporary context of Abu Dhabi.

To do this, we will first define the scope of the current Abu Dhabi cultural policy based on the hierarchisation of levels of social choice, rules and outcomes (Ostrom 2005; Cole 2017) that starts from the Constitution and the Federal Laws, and gives significance to any factually existing documents and administrative practices in case if a more consistent formal framework still does not exist (see **Figure 3** below).

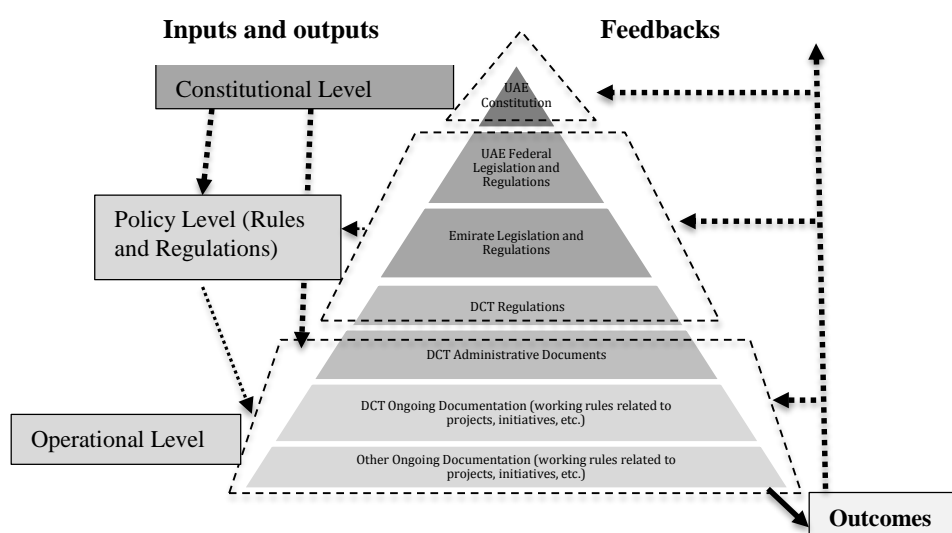


Figure 3 - Best practices of hierarchisation of levels of social choice, rules and outcomes⁷

⁷ Illustration made by the authors.

1 The Abu Dhabi cultural policies characterize themselves by an unequal coverage of the
2 different areas of cultural action (e.g., museums, performing arts, arts education, etc.) by the
3 approved normative documentation: some regulations are approved and implemented, others
4 are still under development. We borrowed the epistemological tools from the institutionalist
5 analysis method that embraces the articulation between formal legal rules and working rules
6 (Ostrom 2005). The existing Abu Dhabi legal rules (federal or emirate-scale legal and policy
7 frameworks) are often not yet enforced by an approved working documentation. Consequently
8 “some legal rules that could be working rules if strictly enforced are not coextensive with the
9 working rules” (Cole 2017). In this case, the working rule combines a formal legal rule with
10 some informal norms. In case of DCT these informal norms translate as practice-induced
11 adoption of international practices and approaches in situations when the relevant Abu Dhabi
12 formal legal rule is not yet established.

13
14 In October 2020, we implemented a questionnaire survey among the DCT Departments in order
15 to learn more about the informal practices of international benchmarking that support the DCT
16 Regulations and administrative documentation in case if the relevant norms do not exist. The
17 questionnaire survey results will be followed by a set of ethnographic interviews with the
18 managers of different parts of the organization. In a longer term, the comparable surveys need
19 to be implemented in the other organizations that manage the fields adjacent to the culture (e.g.
20 the arts education, community development, etc.).

21
22 In parallel, we collect and structure the approved Federal and Emirate level legislations and
23 regulations in the cultural field. To define the core culture concepts that exist already and that
24 need to be measured by the statistical indicators, we have already identified a set of culture
25 definitions that derive from the Abu Dhabi approved public policies. These definitions will
26 become a starting point for the Abu Dhabi Culture Glossary, a long-term initiative focused on
27 the systematization and explanation of culture concepts.

28 29 7. Contextual analysis

30
31 The definitions of “Preservation”, “Sustainability”, “Abu Dhabi”, and “Cultural Heritage” that
32 make part of the DCT Strategic Objective I are all defined in the Cultural Heritage Law and
33 The Executive By-law. The Cultural Heritage Law defines Tangible Cultural Heritage through
34 the following characteristics: (1) cultural significance, (2) moveable or an immoveable
35 property. Tangible heritage includes (3) antiquities, ensembles, historic buildings, cultural sites,
36 cultural landscapes and modern architectural heritage.

37
38 After defining the concepts, we will next proceed to a contextual analysis in order to understand
39 in what conceptual, legal and social contexts each of the definitions is inserted, and then propose
40 the related indicators that reflect these contexts. This approach is (1) evidently anchored in the
41 context of Abu Dhabi and (2) allows a bottom-up approach to indicator proposition. At the
42 same time, the proposed indicators can be easily aligned with the international standards.

43
44 The **Table 2** and the **Table 3** below illustrate the approach to proposition of culture indicators
45 for Abu Dhabi that are (1) integrated in Abu Dhabi legal framework for the tangible cultural
46 heritage and (2) measure the social activities preconized by the Cultural Heritage Law and The
47 Executive By-law. These indicators might be useful for both Abu Dhabi culture policymaking,
48 and creation of long-term compatibilities between Abu Dhabi and international culture
49 statistics.

Example 1: Proposition of Culture Indicators for Abu Dhabi				
Definitions according to the Cultural Heritage Law and the Executive By-law	Transversal contextual analysis of keyword association in the Federal Cultural Heritage Law			
1. Definition of Tangible Cultural Heritage: Any tangible heritage of cultural significance, whether it is a moveable or an immoveable property, including antiquities , ensembles, historic buildings, cultural sites, cultural landscapes and modern architectural heritage, as has been specified herein.	2. Need to define the following attributes of the definition of Tangible Cultural Heritage: (1) cultural significance (2) moveable property (3) immoveable property (4) antiquities (5) ensembles (6) historic buildings (7) cultural sites (8) cultural landscapes (9) modern architectural heritage	3. Example: How to define Antiquities?		
		a. Keyword association of “Antiquities” in the text of the Cultural Heritage Law and the Executive By-law	b. Abu Dhabi-Specific Indicators derived from the Cultural Heritage Law and the Executive By-law	c. EU, UNESCO indicators
		Licenses trading antiquities (e.g. Art. 69)	Number of licenses: indicator?	Compare/Adjust/Complement
		Found by chance (e.g. Art.4)	Number of antiquities found by chance: indicator?	Compare/Adjust/Complement
		Significant for Emirate (national antiquity) (e.g. Art.4)	Number of antiquities significant for Emirate: indicator?	Compare/Adjust/Complement
		Exportation/Importation (e.g. Art. 7)	Number of antiquities imported/exported: indicator?	Compare/Adjust/Complement
		Excavation (e.g. Art. 41)	Number of antiquities found in excavations: indicator?	Compare/Adjust/Complement
		Antiquities and Museum Objects (e.g. Art. 5)	Number of antiquities displayed in museums: indicator?	Compare/Adjust/Complement
		Etc.	Etc.	

Table 2 – A transversal contextual breakdown of Abu Dhabi culture definitions: Proposition of Culture Indicators

Example 2: Proposition of Culture Indicators for Abu Dhabi		
a. The Cultural Heritage Law and the Executive By-law associate Tangible Cultural Heritage to:	b. Abu Dhabi Indicators derived from the Cultural Heritage Law and the Executive By-law	c. EU, UNESCO indicators
World Heritage Lists (e.g. Art. 54)	Total Number of the elements of Abu Dhabi Tangible Heritage integrated in World Heritage Lists: indicator?	Compare/Adjust/Complement
Licenses for trading tangible cultural heritage (e.g. Art. 69)	Total Number of licenses for trading tangible cultural heritage: indicator?	Compare/Adjust/Complement
Licencing infrastructure works at cultural sites or the surrounding areas (e.g. Art. 13)	Total Number of licenses issued for infrastructure works at cultural sites or the surrounding areas: indicator?	Compare/Adjust/Complement
Number of antiquities merchants (e.g. Art. 69)	Total Number of antiquities merchants: indicator?	Compare/Adjust/Complement
Preparation for reception of visitors (e.g. Art. 54)	Total Number of visitors: indicator?	Compare/Adjust/Complement
Etc.	Etc.	Etc.

Table 3 – A transversal contextual breakdown of Abu Dhabi culture definitions: Proposition of Culture Indicators

This methodology will be next replicated on all of the key Abu Dhabi cultural policy concepts and definitions. A list of Abu Dhabi-anchored culture indicators will be proposed and will contain both the specific “narrow” indicators useful for the local policymaking, and more generic indicators useful for the international comparison. As a supplementary output of this work, a taxonomy of legal rules and working rules (Ostrom 2005) that regulate the cultural field in Abu Dhabi will be created.

8. Selection of culture indicators

The indicator selection process needs to (1) define the most pertinent individual indicators that will be used *per se*, and (2) define individual indicators that will be aggregated into composite indicators.⁸ For this, the indicators proposed on the previous stage will be structured around main theme areas. Key goals and desired outcomes of each theme area will provide the basis for the further selection of indicators.

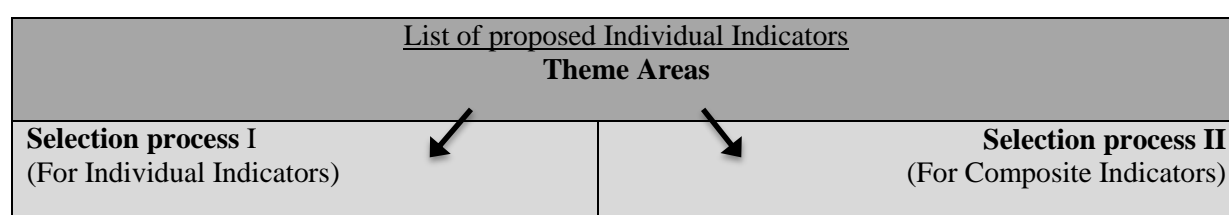


Table 4 - Selection of individual and composite culture indicators

The selection of both individual and composite indicators (Table 4 above) requires a rationalized method that understands scoring and weighting according to a set of common significance criteria. At the international level, no uniformly agreed methodology exists to score and weight statistical indicators. Also, no matter which method is used, scores and weights are essentially value judgments and have the property to make explicit the objectives underlying the construction of an indicator.⁹ Commonly used methods for indicator selection are based on (1) statistical models (principal components analysis, data envelopment analysis, regression analysis, etc.), and on (2) public/expert opinion (analytic hierarchy process, conjoint analysis, etc.). Evidently, the statistical models of indicator selection require already existing data that corresponds to the indicators. In the context of Abu Dhabi, the relevant culture data is currently in a process of gradual consolidation. In consequence, the methods based on expert opinion (academic experts, but also experts from Statistics Centre – Abu Dhabi (SCAD), Department of Economic Development (DED), Media Zone Authority (MZA) etc.) seem more adapted.

The methods of indicator selection based on expert opinion has been extensively used internationally. For instance, Observatoire de la culture et des communications du Québec (OCCQ) adopted a broad and practice-based set of criteria that might be applicable in the Abu Dhabi statistical practice as well (IFCCA Report 2005). The *theoretical* criterion refers to the internal validity of the indicator, which ensures the adequacy between the indicator and the dimension to which it refers. In the context of Abu Dhabi, this criterion embraces particularly

⁸ Composite indicators will be formed by compilation of thematic indicators into a synthetic index considered as a single composite measure. A composite indicator measures multi-dimensional concepts (e.g. competitiveness, e-trade or environmental quality), which cannot be captured by a single indicator. Ideally, a composite indicator should be based on a theoretical framework / definition, which allows individual indicators / variables to be selected, combined and weighted in a manner which reflects the dimensions or structure of the phenomena being measured.

⁹ European Commission, Competence Centre on Composite Indicators and Scoreboards: 10 Step Guide. Publications Office of the European Union, Luxembourg (2019).

the problem of definition of key and spill over indicators for each outlined theme area. The *methodological* criterion refers to the reliability of the indicator, that is to say, when a modification of the indicator means a change in the phenomenon measured. In the context of Abu Dhabi, this criterion integrates especially the questions related to the definition of the local cultural activities. The *analytical* criterion refers to the comparability of the indicator in time and in space. For Abu Dhabi, international comparability presents a particularly important dimension of this criterion. The *practical* criterion refers to the existence and availability of the data necessary for the construction of the indicator. The issues of data availability and the approaches to data collection in Abu Dhabi are the aspects of this criterion that need to be discussed in more detail. Finally, the *political* criterion refers to the interest represented by the indicator and its ability to influence political action.

The evaluation of indicators according to the established criteria may be proceeded by an expert vote. For instance, the experts may be asked to fill in the evaluation form for each criterion. In the case of OCCQ (Allair 2007), the following notation system has been chosen:

- A - means that the quality criterion is absent for this indicator.
- A + means that the quality criterion is only partially present or that it is subject to certain verifications.
- A ++ means that the quality criterion is present with certainty

We recommend, among others, Analytic Hierarchy Process (AHP) method for multi-attribute decision making. AHP incorporates both qualitative and quantitative aspects of a problem in the evaluation process. First, a set of criteria is arranged in a hierarchy. Next, opinion is systematically extracted by means of pairwise comparisons, by firstly posing the question “for which of the indicators the given evaluation criteria is relatively stronger?” and secondly “by how much?”. The strength of preference per pairs of indicators is expressed on a semantic scale of 1 (equality) to 9 (i.e. in the case A, a criterion can be voted to be 9 times more important than in the case B). The relative weights of the criteria are then calculated using an eigenvector technique, which allows to resolve inconsistencies, e.g. A better than B better than C better than A loops.)

The **Table 5** below describes a possible process of Selection of Individual Indicators for Abu Dhabi:

Input: List of proposed Individual Indicators clustered in Theme Areas
One-step selection process (For Individual Indicators)
I. Selection process: <u>Experts and Stakeholders Workshop (DCT experts, University professors, researchers, policymakers, etc.):</u> <i>Alternative option: distribution among experts of an Indicator evaluation form (questionnaire)</i> Selection of the indicators according to the following criteria: (1) validity (signification, key/spillover value, etc.) (2) accuracy (methodological reliability, consistency, etc.) (3) comparability (national and international) (4) utility for policymaking (ability to influence policymaking) (5) data availability.
Possible evaluation method: Analytic Hierarchy Process (AHP)

<p>Output: The list of the most pertinent individual indicators that will be used in Cultural Activities Baseline <i>per se</i></p>

Table 5 - A possible process of Selection of Individual Indicators for Abu Dhabi

The selection of the individual indicators is primordial for the emerging culture statistics system of Abu Dhabi, as it creates a fundamental frame of the whole approach to measuring culture. According to the experts of the JRC-COIN team,¹⁰ the multi-dimensional nature of most performance areas argues for a set of individual indicators and against composites. Composite indicators by their nature may be incapable of reflecting the complexity of performance and policies or of capturing the intricate relationships between indicators. A simple composite indicator, formulated as an average of individual indicators, implicitly assumes the substitutability of its components. For example, composite environmental indicators imply that clean air can compensate for water quality. The more comprehensive a composite, the weaker it may be in adequately reflecting actual country performance.¹¹ As the theoretical underpinning of most composite indicators is very underdeveloped even at the international level,¹² adjustment of Abu Dhabi composite culture indicators to the international standards should be particularly well-thought-out and based on the acknowledged best practices.

In consequence, for elaboration and selection of the composite indicators, a more complex mechanism needs to be implemented. We suggest a two-step approach that combines composite indicators (1) proposition and (2) selection stages. The **Table 6** below describes this process in more detail:

<p>Input: List of proposed Individual Indicators clustered in Theme Areas</p>
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<p>Two-step selection process: (For Composite Indicators)</p>
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I. Proposition of Composite Indicators

Work Package commissioned to Abu Dhabi-based statisticians.

This step involves:

1) the conceptual aspect:

- A clear explanation of multidimensional phenomena to be measured in **each theme area**.
- Respect of the **international best practices**

2) the practical aspect:

- List existing and missing Abu Dhabi **individual indicators** that can be aggregated into suggested composite indicators.

II. Selection process:

Experts and Stakeholders Workshop (DCT Experts, University professors, researchers, policymakers, etc.):

Other possibility: distribution among experts of an Indicator evaluation form (questionnaire)

¹⁰ European Commission, Competence Centre on Composite Indicators and Scoreboards: 10 Step Guide. Publications Office of the European Union, Luxembourg (2019).

¹¹ *Ibidem*.

¹² *Ibidem*.

Selection of the indicators according to the following criteria:

- (1) validity (signification, key/spillover value, etc.)
- (2) accuracy (methodological reliability, consistency, etc.)
- (3) comparability (national and international)
- (4) utility for policymaking (ability to influence policymaking)
- (5) data availability

Possible evaluation method: **Analytic Hierarchy Process (AHP)**

Output:

- The list of the **composite indicators**
- The list of the existing **and** missing **individual indicators** that can be aggregated into suggested composite indicators

Table 6 – Selection process for composite indicators

The process of composite indicator theorization and selection may require not only the individual indicators that will already exist following Indicator Proposition stage, but also the individual indicators that will be missing in the primary Abu Dhabi Cultural Activities Baseline. In order to gradually fill in the identified gaps, a tailored cultural data collection methodology will be suggested.

4. Definition of culture indicators

In parallel with the gradual advancement of the previous stage of indicator selection, the indicator definition process needs to be implemented. For this, each selected culture indicator (Individual and Composite) will be defined according to the international standards. As a result, each indicator will be summarized in a formalized template that describes its main attributes.

The **Figure 4** below illustrates (1) the UNESCO 2030 Culture Indicators approach that broadly defines every suggested culture indicator and (2) the EU more focused description methodology that includes the specific features of each indicator, such as Data Requirement, Data sources, Method of collection, Formula, etc. The focused indicator definition (the EU-inspired approach) seems more pertinent for the Abu Dhabi context, as it creates enhanced conditions for the practical applicability of the indicator system both at the level of the Emirate, and at the international level.

Examples of Indicator Definition: UNESCO and EU

10 TRADE IN CULTURAL GOODS & SERVICES	
Description	Exports of cultural goods and services as a percentage of all exports.
Purpose	This indicator aims to assess the degree to which products as expressions of culture are exported reflecting both the economic demand, the international profile of the country/city's cultural products and services, and the regulatory environment to enable this.
Data sources	<ul style="list-style-type: none"> UNESCO data: UIS National and local sources: National Customs and Revenue reports preferred, otherwise the international COMTRADE database (comtrade.un.org).
Method	<ul style="list-style-type: none"> a. The value of physical cultural exports using the codes (HS where possible) as listed in FCS as a percentage of the value of all exports of physical goods. The value of exports and import either in US\$ (preferred) or national currency. b. The value of exports of cultural services using the codes (EBOPS where possible) as listed in FCS (p. 39) as a percentage of the value of all service exports. The value of exports and imports either in US\$ (preferred) or national currency.
Comment	This is amongst the easiest data to obtain thanks to the national submissions for physical goods included in the COMTRADE database ¹⁰ . The physical products and goods included in COMTRADE are coded used the Harmonised System and the International Standard Trade Classification (ISTC). The Harmonised System (HS) is preferred.
Name of the Indicator:	Share of the cultural enterprises and organisations in the overall economy
Definition:	A count of the enterprises and organisations of the cultural sector divided with the total count of enterprises and organisations and multiplied by one hundred.
Purpose:	To compare the cultural sector with the overall economy.
Research question:	What is the share of cultural enterprises and organisations in overall economy?
Data requirement:	Total number of the enterprises and organisations in cultural sector, total number of enterprises and organisations in overall economy
Data sources:	Eurostat, SBS
Method of collection:	Sample survey, National data from the national statistical offices.
Formula:	$\frac{N^C}{N^E} \times 100$ $N^C = \text{total number of cultural enterprises and organisations}$ $N^E = \text{total number of enterprises and organisations}$

Figure 4 - Indicator Definition (UNESCO Culture 2030 (on the left)¹³, the EU work documentation (on the right)¹⁴

As the MENA region countries has not yet elaborated their cultural statistics systems, the defined Abu Dhabi cultural indicators are able to become references for the regional cultural statistics. In order to document the conceptual and methodological aspects of indicator definition, we suggest to implement the two complementary glossaries: (1) a glossary of Abu Dhabi culture statistics-related definitions (e.g. “Heritage”, “Sustain”, “Education”, etc.) and (2) a technical glossary that defines the concepts related to the methodology (e.g. “data”, “individual indicator”, “composite indicator”, “variable”, etc.) .)

5. ‘Population’ of indicators and data collection

Some of the data required for the emerging culture indicators system will be available or at least potentially accessible. However, the most statistical series will be plagued by problems of missing values. There are a number of approaches for dealing with missing values, for example:

- data deletion - omitting entire records when there is a substantial number of missing data;
- mean substitution - substituting a variable's mean value computed from available cases to fill in missing values;
- regression - using regressions based on other variables to estimate the missing values;
- multiple imputation - using a large number of sequential regressions with indeterminate outcomes, which are run multiple times and averaged;
- nearest neighbor - identifying and substituting the most similar case for the one with a missing value;
- ignore them - take the average index of the remaining indicators.¹⁵

However, despite of the evident facility, all of these methods have considerable flaws, and are associated to substantial risks. According to Dempster and Rubin, “the idea of imputation is both seductive and dangerous. It is seductive because it can lull the user into the pleasurable state of believing that the data are complete after all, and it is dangerous because it lumps together situations where the problem is sufficiently minor that it can be legitimately handled in this way and situations where standard estimators applied to real and imputed data have substantial bias” (Dempster and Rubin 1983). In consequence, a data collection process needs to be launched to populate the culture indicators. The data collection process will need to follow at least the three essential steps: (1) formulation of “imperative data” lists that are needed to fill in the gaps in the primary cultural statistics framework, (2) data sourcing process and data sharing processes that involve the Abu Dhabi-based institutions, enterprises, administrative units, etc. that dispose the relevant cultural data, (3) the collection of missing cultural data that implicates an important fieldwork research.

Conclusion

Our main aim in this study was to address the lack of methodological reflection on building of cultural indicators in Abu Dhabi.

¹³ Ottone, E. (dir.): UNESCO 2030 Culture Indicators. UNESCO Editions, Paris (2019).

¹⁴ Statistics Explained: Culture statistics - cultural enterprises. Eurostat, Luxembourg (2020).

¹⁵ European Commission, Competence Centre on Composite Indicators and Scoreboards: 10 Step Guide. Publications Office of the European Union, Luxembourg (2019).

1 The implementation of cultural statistics responds to different challenges, such as cultural
2 management and policymaking, monitoring of national trends, and international harmonization
3 of statistics. On the first two aspects, care must be taken to ensure that the cultural statistics do
4 not result in a formatting effect on the cultural activities that particularize the unique landscape
5 of each territory. However, regarding the third aspect, it is essential to meet international
6 standards. In this perspective, our reflection was focused on adjustment of the emerging Abu
7 Dhabi cultural indicators system to both comparative international assessments and the local
8 cultural ecosystem.

9
10 We have done so by suggesting a pragmatic methodology which consists of combining a
11 bottom-up approach (transversal contextual analysis of Abu Dhabi culture-related
12 documentation) and a top-down approach (adjustment to international indicator systems, such
13 as ESSnet-Culture and UNESCO Culture 2030 Indicators Frameworks).

14
15 Accordingly, the first major contribution of the present research is that it provides a
16 methodology for initial development of Abu Dhabi cultural indicators. A transversal contextual
17 analysis of Abu Dhabi cultural documentation embraces a wide range of evidence on the local
18 cultural processes, and allows understanding in what conceptual, legal and social contexts the
19 key cultural concepts are inserted. We have proposed to use the identified contexts as linchpins
20 of cultural indicator development. As the Abu Dhabi culture-related documentation is in the
21 phase of gradual establishment, our approach adopts an explorative perspective, and considers
22 both normative documents (e.g. emirate laws), as well as the other relevant documents.
23 Subsequently, we have designed a strategy for the indicator selection, definition, and data
24 population.

25
26 A second important implication of our reflection derives from the need of international
27 adjustment of cultural indicators and supplies the construction of a conceptual vocabulary that
28 builds connections between Abu Dhabi cultural policies and international best practices. In
29 order to conceptualize the rapports between Abu Dhabi and international cultural statistics, we
30 used the notions of “causal factors and “support factors” (Cartwright 2012) applied to the
31 backgrounds of cultural phenomena to be measured. These factors that are strongly variable
32 according to local contexts, despite the seeming international comparability of the indicators
33 that may derive from them.

34
35 A third implication stems from our research methodology that connects the cultural policy
36 definitions, often vague and broadly formulated, with the underlying aspects of their
37 application. In this sense, building of cultural indicators contributes into an inductive
38 reconstruction of the scope of the cultural policies, and contributes into clarifying of values and
39 ideas of the whole sector. As statistics seeks a pragmatic connection to reality, their precision
40 is a relative value: it is better to have an evaluation tool, even imprecise, rather than having no
41 evaluation framework at all. However, even if the indicator takes into account a priori imperfect
42 and indirect representations of the phenomena to be represented, it is still possible to enhance
43 its relative reporting capacity. This highlights the crucial position of indicator development
44 within the policy development cycle, as the perception of culture and cultural policy inevitably
45 changes as data reveal new insights and new challenges (IFACCA Report 2005).

46
47 However, our approach doesn't pretend to be exhaustive and presents a considerable number of
48 limits. Anchoring of cultures indicators in the currently available documentation and policy
49 objectives is only able to identify the first linchpins to a much broader structure of cultural
50 indicators that needs to be established in Abu Dhabi in the following years. We have shown

1 that a vocabulary-based approach is useful for both disclosing the underlying local concerns
2 and international comparability of the cultural statistics, but we were not able to suggest the
3 entire framework of bottom-up cultural indicator building. An extensive anthropological
4 fieldwork research on the Abu Dhabi cultural practices, expenditure of culture, cultural
5 consumption, etc. needs to be implemented for the sustainable development of the cultural
6 statistics.

7
8 Our study, being of an exploratory nature, offers only a theoretical consideration of the indicator
9 proposition, selection, definition, and data population processes. The semantic approach to the
10 Abu Dhabi cultural policies vocabulary needs to be tested empirically as well. In contrast to the
11 countries where the statistical indicators are developing on the basis to the existing data, the
12 Abu Dhabi cultural indicators system is developing in a strong coherence and interference with
13 the new culture data collection processes. The mutual adjustment between the approaches to
14 data collection and indicator building is a long-term process which the current reflection is not
15 able to embrace.

16
17 Finally, we are aware that the culture statistics are able to not only report on a social reality, but
18 also guide it as well. A dashboard of cultural indicators used in a policymaking practice is able
19 to structure the behaviors of the concerned actors and the whole sector. Therefore, the statistical
20 indicators may have a number of unintended consequences on the social and economic impacts
21 of the cultural policies. A further work is required to conceive the tools for taking into account
22 and controlling these consequences.

23 24 Declarations

25
26 The research is supported by the Department of Culture and Tourism (DCT) Abu Dhabi.
27 The Author(s) declare(s) that there is no conflict of interest.
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