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Future Orienteering Evaluation Model: forecasting, foresight and anticipation indices

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Abstract

The following paper adopts the term Future Orienteering to indicate the attitude of openness and preparedness to the future of individuals, communities and organisations. If Futures Studies wants to become an independent field of research, future skills need to be developed with appropriate training paths, and future attitudes and strategies need to be evaluated accurately. Thus, considering the necessity of a measurement system for the evaluation of strategic foresight and future-based activities, this article illustrates a new theoretical model, where special emphasis is placed on the distinction between Forecasting, Foresight and Anticipation, according to the Theory of Anticipation presented in (Poli, *Introducing anticipation*. In: Poli R (ed) *Handbook of anticipation*, 2019a); (Poli, *Lavorare con Il futuro: idee e strumenti per governare l'incertezza*, 2019b); (Poli, *Introduction to anticipation studies*, 2017). The result is a battery of three synthetic indexes, immediately readable to allow easy comparisons. Here, the following model described represents a preliminary stage in the development of an evaluation system, indeed few suggestions for use will be provided.

Keywords Uncertainty, Foresight, Anticipation, Forecast, Future orienteering, Futures indexes, Public organisations, Indicators

Introduction

The history of humanity has been marked by the search for accurate methods to quantify the different phenomena with which we have to deal in everyday life. In fact, measuring allows a series of essential activities for the development of human knowledge, such as comparison, evaluation, understanding of growth and evolution, monitoring of change and approaching objectives. Despite these premises, currently we have no generally accepted standards in the practice of future-based activities [8]. Anyway, the complexity of the contemporary world and the constantly increasing pace of acceleration

[16] require new strategic frameworks and new tools to measure the capacity of people, organizations and communities to understand and prepare for future changes. Actually, the ability to anticipate contributes to the resilience of the system and to manage the multiplicity of forces and ongoing and upcoming changes. To improve the ability of people, communities and organizations to face future challenges, it is necessary to succeed in measuring their awareness, in the present, of the openness of the future, and their ability to implement plans and strategies to achieve desirable results. Also, we consider a good measurement system as essential to add credibility to the field of Futures Studies.

For these reasons, the following paper aims to present a theoretical model for the evaluation of future's efforts. This model, aimed at measuring future preparedness, will be called "Future Orienteering". The term, whose use here derives from its evocative meaning, has been chosen to

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indicate the ability to prepare for unclear future developments in an environment characterised by uncertainty. Starting from this assumption, the article proposes a model for future-based activities measurement, using a theoretical approach that follows the Theory of Anticipation presented in Poli [12–14]. Therefore, the evaluation system will be organized by separately considering the three components of Futures Studies (forecasting, foresight and anticipation), according to one of its many definitions. Forecasts and foresights are then intended as models, or representations of processes and their results. The third dimension of future theory, anticipation, addresses the question of how to translate models into decisions and actions [12]. In evaluating future efforts, representational activities, such as those aimed at extrapolating data (forecast), or visualizing different possible futures (foresight), and actions aimed at translating the former activities into strategy and action (anticipation) will be considered separately.

The present article lays the foundation for the construction of specific indexes for each of the three components, considering the specific case of public organizations, intended as “machinery of government”, i.e. public administrations with decision-making power and spending capacity. This category includes governments, ministries, and similar public organizations recognized by the EU and the OECD. The Future Orienteering Evaluation Model is proposed as a theoretical model for the assessment of the ability of public organizations to anticipate, with regard to the exercise of decision-making activities exercised in compliance with the principles of transparency, legality and impartiality. The model assumes a set of dimensions useful for measuring the level of forecasting, foresight and anticipation, based on a maturity scale. Each dimension intends to represent fundamental aspects of the level in question. The resulting battery of synthetic indexes should offer a complete overview of the openness and preparedness level of the actor considered, as well as its ability to anticipate, and it is also meant to allow comparison between realities.

What is Future Orienteering?

In recent years, the rediscovery of the future has been at the heart of applied research in many disciplinary fields [4]; Seligman, 2016; Bryant & Knight [2, 3, 9]. Future has started to be widely recognized in its plural dimension, referring specifically to characteristics of openness and contingency. From this understanding derives the increasing awareness that *futures* are hardly predictable, as they originate from a world more accelerated, uncertain and volatile than ever before. Thus, future works are not intended to provide detailed prediction of what is going to happen, but rather to learn to manage uncertainty and make proper and informed decisions.

For this reason, futures literacy, understood as the ability to actively use the future in the present, seems to be an essential expertise to orient in the plurality of evolving futures. Measuring and evaluating the ability to navigate the future is the core theme of the present paper, which aims to provide a theoretical framework for the evaluation of future-based activities.

To support the advancement of Futures Studies as an independent field of research, future skills need to be developed with appropriate training paths, and future attitudes and strategies to be evaluated accurately. This is a crucial challenge, mainly because working with the future is a complex and multidimensional activity that aims to find a way over unfamiliar courses. In a certain way, the essence of future work seems to be similar to the sport of orienteering, which rewards those who can safely explore unknown territories. In this sense, dealing with the future and being ready to face it appropriately is an exercise that requires study and practice. The metaphor between future work and orienteering works even better, if we consider that orienteering is a training practice through which participants gradually learn to know themselves, to address their limits and potentialities, to test, experience, and evaluate the effects of their choices [7]. The reference to present choices with transformative potential on the future is an integral part of the discipline of Futures Studies, since “using-the-future” and recognizing its seeds in the present it’s fundamental in order to build positive changes. “The future does not exist, but anticipation does” [10] and we need to choose which futures we want to blossom through conscious and informed decisions. The sense of “knowing how to orient ourselves in the future” then goes beyond the need to navigate uncertainty, to take on the responsibility of building our tomorrow. Thus, the term Future Orienteering will be used in this context to indicate the attitude of openness and preparedness to the future of individuals, communities, and organizations.

Working to develop Future Orienteering skills implies reaching a new awareness: the system in which we move and operate is not fully knowable, system conditions change rapidly and small changes can have huge effects. The future is rooted in a present that cannot be reduced to the sum of its parts and must be approached as an evolving whole. Sardar [17] addresses the topic referring to “post-normal times”, a period of “system crisis”, a “world of disproportion” where, to make sense of the future, we must “abandon the ideas of ‘control and management’. This means that to face complexity and open up to a future discourse, a paradigm shift is needed. The individual, the community and the organization that has to “dance” in complexity must abandon the hopes of predicting the future, and rather find effective strategies of preparation and adaptation. Making decisions in the age

of complexity means taking on ethical responsibility. If, in fact, the challenge of decision making for a complex situation in a complex environment could paralyse and induce the choice of non-action, the initiative becomes imperative instead. Learning the practice of Future Orienteering means become conscious of the complexity and interdependence of the present and of the urgency of the future. It is a double challenge, but also an invaluable opportunity to influence and transform our tomorrow.

In order to deal with complexity and Futures Studies' theoretical and practical assumptions, the need to develop future skills stems from the widespread theory of acceleration [16] and complexity, which are recognized characteristics of the contemporary world. In order to master the speed, complexity and interdependence of change, it is therefore necessary to acquire skills of anticipation. According to Future Studies, this means being equipped with the necessary tools to see the changes coming and be prepared to face them. The Theory of Anticipation [12–14], described below, summarizes the three fundamental levels for working with the future (Forecasting, Foresight, Anticipation) and the associated good practices. These are, for example, carry out future exercises on an ongoing basis, incorporate the results into the decision-making process, disseminate future skills at all levels, etc. The Future Orienteering Evaluation Model is a preliminary step in the reflection on the evaluation of future competences. It is meant to provide guidance for data collection in practices aimed at assessing future skills.

In particular, the evaluation framework follows the basis of the Theory of Anticipation and assumes the operative distinction between Forecasting, Foresight and Anticipation. Futures Studies architecture [12] consists of three activities: forecasting on the basis of reasonably stable variables, foresight by adopting qualitative tools and volatile variables, and anticipation, which is an effective intervention. In the first case, futures are constructed as a repetition of past patterns, while in the case of foresight, futures also include authentic changes, innovations and discontinuities [5, 21]. Anticipation involves the translation of forecasts and visions into decisions and actions. Learning how to anticipate is fundamental to conduct future work efficiently future work, since anticipation is a more efficient model of action than waiting for something to happen and implementing reactive behaviours [12].

A new model for future orienteering evaluation

Considering the distinction between *future* and *futures* as a difference that underlines Futures Studies, and adopting the perspective of the distinction between Forecasting, Foresight and Anticipation, the model evaluates the level of Future Orienteering by distinguishing three potential

actors: individuals, communities and organizations. Moreover, referring to the category of organizations, a further distinction seems to be necessary between public organizations, intended as institutions, and private organizations, such as firms and companies. The nature of the actor defines the relationship it may have with the future, the way it performs future works and, consequently, the aspects to be taken into account for a correct evaluation. For each of the four identified actors, the ability to navigate uncertainty, prepare for challenges and take future-oriented decisions has different assumptions and implications.

Working in a community, an institution or a company requires different skills and sensitivities: while a private organization will be interested in long-term goals, focused on profit, competitive advantage, and survival over time, an institution works with criteria such as inclusiveness, sustainability, and good relationships with communities. Regarding the individual level, psychologists have recently begun to systematically study not only how people think, remember, interpret and reconstruct the past, but also the ways in which people look at the future (Baumeister & Vohs, 2016; [1, 18, 20]).

The first step of the Future Orienteering evaluation process presented here is defining which of the four categories of actors (individuals, communities, private or public organizations) will be taken into account. Then, each of the three components of Futures Studies (forecasting, foresight and anticipation) will be evaluated on the basis of certain dimensions. This article illustrates the model applied to the case of organizations, so it takes into consideration the following aspects:

- *Structure*: aims to define whether and to what extent forecasting and foresight practices are adopted and institutionalized by the actor and integrated into the decision-making process.
- *Time Horizon*: examines the time window adopted in the conduction of data collection and future exercises and in the planning of strategic interventions.
- *Focus*: refers to the purposes of the application of forecasting and foresight activities. At foresight level, special emphasis is given to the level of participation. With regard to anticipation, it considers the extend and scope of strategic decisions undertaken.
- *Methods*: considers the methodology implemented by the actor to carry on the collection of useful information through forecasting and foresight practices and to implement the decision taken by anticipation procedures.

Each of the four dimensions is described through a four or five level maturity scale, ordered according to a growing logic. The evaluation of forecasting, foresight and

anticipation proceeds through the identification of the correspondent maturity level for each dimension. The lower level will be defined by no use of future-based activities and decisions, followed by a sporadic use of futures activities (both forecasting and foresight), limited to personal/internal issues and to short time horizon, and with minor repercussions on decision making. At the higher level, the indicators will show a structural use of forecasting and foresight practices through advanced methods, applied to long time horizons, taking into account broad external dynamics thanks to high participation levels, and translating the results into informed strategic decisions. Each indicator will be adequately standardised and weighed and will contribute to the construction of a synthetic index. At the end of the measurement process, each of the three activities (forecasting, foresight and anticipation) will be associated with an index.

The resulting indexes shall meet all the statistic criteria: they must be significant in order to allow comparison between units concerned; exclusive, therefore not replaceable with another index to “indicate” the same social phenomenon; univocal, as they should be interpreted without ambiguity as regards the orientation of the variables; faithful, since the variations in time must refer to changes in reality and not to the quality of the measurement; complete in the description of all relevant dimensions; sensitive to the observed phenomenon and able to record all the variations of the phenomenon itself. In this regard, each index will then aim at providing a precise and explicit picture of the level of Future Orienteering of the actor considered. Furthermore, the model can be used to assess the success of a consultancy or training activity regarding future thinking and future exercises. In this case, it will be necessary to carry out *ex ante* a measurement test of the level of Future Orienteering of the community or organisation concerned. After a period of training and counselling, the test should be repeated *ex post* to test desirable improvements in the actor’s ability to understand and navigate the future.

Evaluation of organization’s future orienteering

After exposing the theory of the Future Orienteering evaluation model, the present paper considers the specific case of organizations. Dealing with future-based

activities, organizations are commonly distinguished depending on their public or private nature. In this context, considering the statistical importance of being able to rely on a precise theoretical framework in the construction of indexes, in this context will only be taken into account the case of public organisations. If, on one side, corporations have to deal with the struggle for survival, it seems clear that on the other side, public organizations will continue to function in an environment of increasing uncertainty, unpredictability and complexity, and the key of their future success in contributing to better policy making is their ability to adapt, adjust and anticipate [15]. In trying to succeed in this challenge, public organisations considered in this context have to work in a rigid and straight regulatory framework, and also their operations and activities are governed by this framework. Moreover, their perspective of action on competence issues is often bureaucratized and geared to the “here and now”, while the activities of corporate organizations can easier change by praxis, according to the choices of their management.

Considering the case of public organizations means also dealing with the traditional idea that agencies simply implement political decisions made by others. Even if it is evident that the political process in democracies is rarely neutral and objective and political choices are endemic to administration [15], it is necessary to define clearly a specific category of actors, that is a reasoned theoretical framework for the practice of Future Orienteering evaluation. In the light of the dual role of modern Public Administrations, that can act as political decision-makers or as mere service providers, in this context will be considered only those organizations that, at every level, are policy-makers. This means that the battery of Future Orienteering Indexes will be constructed on public institutions that generate policies, and whose task is therefore not limited to the provision of services. This category may include, of course, organizations at international, national and sub-national level. In fact, although policy makers cannot reasonably predict the future, at all levels, they are still expected to come up with informed and conscious policy strategies, plans and programmes [22].

Table 2 illustrates the set of dimensions identified in order to appropriately measure the level of forecasting and foresight of public organizations, as well as their capacity to translate results into responsible decisions to be adopted in the present. Considering the necessity to refer to a future activities’ measurement system valid for public organizations whose level and mandate can be very different from each other, the table lists indicators that work for any public organisation with decision-making power and spending capacity, regardless of the particular level and mandate. Moreover, it must be made clear that forecasting, foresight and anticipation are not steps

Table 1 Future Orienteering Indexes [7],

	Forecasting (FC)	Foresight (FS)	Anticipation (AN)
Individual (I)	I-FC	I-FS	I-AN
Community (C)	C-FC	C-FS	C-AN
Public Organization (IN)	IN-FC	IN-FS	IN-AN
Private Organization (PO)	PO-FC	PO-FS	PO-AN

Table 2 Future orienteering evaluation model, the case of Public organizations [7]

	Structure	Time Horizon	Focus	Methods
1. Forecasting	1.1 No use, at any level	1.1 No use of FC	1.1 No use of FC, for any issue	1.1 No use of FC methods
	1.2 Occasional use, on individual basis (or single office basis)	1.2 Short (six months)	1.2 On internal processes/data, regulatory only	1.2 Survey
	1.3 Regular use on individual basis (or single office basis)	1.3 Intermediate (one year)	1.3 On internal processes/data including social aspects	1.3 Methods for data expressed in time sequences
	1.4 Specialized internal unit without proposal autonomy	1.4 Long (duration of one legislation)	1.4 On external processes/data limited to the reference communities and depending on the institutional mission	1.4 Causal prediction methods
	1.5 Specialized internal unit with proposal autonomy	1.5 Very long (over the duration of a legislation)	1.5 On external processes/data including social data geopolitics economics, etc.	
2. Foresight	2.1 No use at any level.	2.1 No use of FS	2.1 No use of FS for any issue	2.1 No use of FS methods
	2.2 Occasional use on individual basis (or single office basis)	2.2 Short (up to 3 years)	2.2 On internal processes with the sole involvement of the management	2.2 Simple
	2.3 Regular use on individual basis (or single office basis)	2.3 Intermediate (up to 10 years)	2.3 On internal processes with the involvement of the entire organization	2.3 Intermediate
	2.4 Specialized internal unit without proposal autonomy	2.4 Long (up to 20 years)	2.4 On external processes involving reference communities	2.4 Complex
	2.5 Specialized internal unit with proposal autonomy	2.5 Very long (over 20 years)	2.5 On external processes STEEP analysis with the involvement of the entire community	
3. Anticipation	3.1 No strategic decision based on FC and FS	3.1 Inactivity/ decisions with effects limited to the here and now	3.1 Inactivity	3.1 Top-down policy making process without experimentation
	3.2 Occasional use of FC in the strategic decision-making process	3.2 Strategic decisions with short-term effects (months)	3.2 Strategic decisions on issues affecting individual internal sectors	3.2 Experimentation on forecasting basis
	3.3 Regular use of FC in the strategic decision-making process	3.3 Strategic decisions with medium-term effects (within the duration of the legislature)	3.3 Strategic decisions on issues affecting the organisation as a whole	3.3 Experimentation on foresight basis
	3.4 Occasional use of FS in the strategic decision-making process	3.4 Strategic decisions with long-term effects (beyond the duration of the legislature)	3.4 Strategic decisions on issues affecting the reference communities	3.4 Co-designed policy making
	3.5 Regular use of FS in the strategic decision-making process	3.5 Strategic decisions with very long-term effects (> longer than two legislatures)	3.5 Strategic decisions affecting the entire community	

ordered according to an increasing logic. In particular, forecast and foresight are different and separate models, independent one from the other. Each one consists of a particular research methodology, quantitative in the case of forecast, and mainly qualitative in the case of foresight. In this sense, a high Foresight Index does not necessarily reflect an equally significant Forecast Index. On the contrary, the Anticipation Index may somehow be dependent on the levels of the other two indexes. Anticipation Theory considers anticipation as the translation of theoretical models into strategic decisions. This distinction seems significant in defining the difference between competences, understood as open-ended, without any necessary outcome, and choices, intended as the translation of knowledge and mental models into outcomes. In fact, if forecast and foresight are models that simply provide a

prediction or an interpretation, more or less accurate of what might happen, anticipation translates (forecasting and/or foresight) models into action. So, the results of data consulting and data analysis on forecast level can't depict with sufficient accuracy future trends, as well as vision provided by foresight practices are limited to help to see possible developments in the perspective of plural and evolving futures. In this sense, anticipation is configured as the implementation of a decision or behaviour based on the models considered. The shift between learning competences and translating them into action is often slow, gradual and encouraged by institutional demand. Then, implemented decision may or may not prove to be appropriate, and will always include elements such as culture, interpretation, motivation, legitimacy, credibility, interests, etc., An anticipatory decision is taken as

usually being better than a reactive strategy, but in time of complexity, it can never be definitive, as anticipatory decision-making process itself can't be linear, rational, effective and efficient, because the conditions are ambiguous, uncertain, volatile, brittle. Decision-making is always part of an adaptive, iterative, transformative process. In this sense, good Forecast and Foresight Indexes are often necessary, even if not sufficient conditions, to excel in Anticipation.

The model takes into consideration different aspects associated with the capacity of an organization to implement anticipatory behaviours. A future exercise that does not result in an outcome is a practice that has not achieved its purpose. Indeed, futures activities are not intellectual practices, but they must achieve concrete results. Estimating the long-term effects of actions taken in the present is really hard, so the following evaluation model points out best practices implemented in the present in order to try to succeed in face future challenges. It is an attempt to define and to measure the organization's behaviours with repercussions on the quality of future-based exercises and, consequently, on the value of the strategic decisions undertaken. Structure, Time Horizon, Focus and Methods are the dimensions identify to measure the level of Future Orienteering of the public organisation concerned.

Structure

First, the structuring component of futures activity within the organization is taken into account. For optimal system's functionality, forecasting and foresight activities should be perfectly integrated into the work of the organization. This means that they should be carried out regularly through the support of an internal specialized unit with autonomy of proposal. In fact, given the speed of changes and the continual rise and vanish of possible futures, the exercises of forecasting and foresight must be indispensably carried out in a continuous way. Such structuring of the process is more easily achieved if the activities are not limited to being performed by the need or desire of a single office, but rather promoted by a specific unit. In this case, the autonomy of the proposal is considered a guarantee for the good integration of future-based practices into the decision-making process.

A high level of anticipation can be supported by a successful conduction of predictive analysis of forecast and of visioning activities. Therefore, the highest level of anticipation maturity for an organization is represented by the regular translation of the results of forecasting and foresight practices into concrete actions to prepare for future challenges. This ensures the presence of the two fundamental components of anticipation: a forward-looking attitude and the use of the former's result for action. In this case, the maturity scale considers as

optimal the regular use of foresight in decision making at the highest level. It is worth pointing out that this does not imply a superiority of foresight practices over forecasting practices, since, as already stated, forecasting and foresight are different levels, not hierarchically ordered. However, it is believed that an organization capable of integrating foresight into strategic decisions, also employs forecasting.

Time horizon

In terms of the time horizon chosen by public organizations to carry out future-based activities, much depends on the type of practice. As for the forecasting exercises, a six-month time horizon is considered short, while a time horizon longer than the duration of the legislature is considered to be excellent. On the other hand, foresight practices such as Three Horizons, Scenarios, Backcasting, Futures Wheel, by their very nature aim to explore temporal horizons far from the present. For this reason, reflecting on 3 years from now is a short perspective, while it would be optimal to consider a 20-year time window. In fact, a very long time-horizon allows us to overcome cognitive barriers, embrace uncertainty, free the imagination and envision futures different from the present. On the contrary, adopting very short time windows complicates the vision of futures, because it hides the risk of ignoring the signals of change and imagining a future very similar to the present. From the point of view of strategic decisions, therefore, it would be desirable for forecasting and future practices to result in policies with effects that are not limited to the present circumstance, but far-sighted to the point of having positive repercussions on future generations.

Focus

Defined as the need for a structural use of future-based exercises, and the importance of considering long time horizons to ensure effective action on the future, the model takes into account the focus of forecasting, foresight and anticipation activities. This means that the maturity scale will assess the purpose of future exercises, the nature of the data concerned, as well as their repercussions in strategic decisions. Focusing on internal data in order to make simple regulatory changes is considered to be the lowest level. Indeed, the complexity and interdependency of our social system demands a better understanding of wider dynamics. A public organization, in order to prepare properly for the future, must go beyond the consideration of internal data, and reflect not only on its own community of reference. Instead, it is necessary to take into account the wider context (social, geopolitical, economic, environmental, technological, etc.). At the foresight level, then, the evaluation of the focus requires a further step forward. The wide range of

methods implemented represents just a component of foresight practice that needs to be integrated by elements of intuition, imagination and judgement. This fundamental contribution is insured by a high level of participation, not limited to the management but open to all citizens as long as “the practice of strategic foresight is more of an art than a science” Slaughter [19]. Actually, quoting Slaughter [19] again, “foresight works are most productive when participants possess, and are actively immersed in a high-quality and participative futures discourse.” Finally, at the higher level of maturity, the dynamism of foresight, combined with a broad vision of forecasting, should result in significant and courageous strategic decisions, with repercussions on the whole community.

Methods

This section considers the methods implemented for conducting futures activities. In relation to forecasting exercises, three levels of forecasting methods are considered. First, methods based on data collected in surveys, expressing opinions or experiences. Then, methods related to data expressed in time sequences. These methods verify the presence of trends, cycles, seasonality or particular variations of the data. Last, causal prediction methods, that sought a relation between a characteristic y and other independent variables and enable to make a prediction on a particular value or values of the independent variable or variables. From the point of view of foresight practices, the maturity scale is given by the classification of methods presented in Poli [11] and based on their categorization as simple, intermediate or complex. With regard to anticipatory methods, the perspective of public policy experimentation is examined. Experimentations based on forecasting and foresight are then considered two, incremental levels of maturity. At the higher level, the model gives value to co-designed practices (see Participatory Budgeting as an example), where the decision-making chain depends not on the institution alone, but citizens and stakeholders are fully involved. Experimental policy making is, indeed, a strategy of action closely linked to the recognition of complexity and futures in their plural dimension. For this reason, experimentation is pointed out by the United Nations Development Programme (UNDP) as one of the key points to build an Anticipatory Governance, defined by Fuerth [6] as “a complex system of systems” and recognized in the current debate as the stage in which organisational capacity is full developed within a public institution. Anticipatory governance represents, then, the highest level of Future Orienteering within a public organization, as it denotes collaborative and participatory processes, promotes predictive and envisioning activities for developing strategies and encourages policies experimentation.

At the moment, experimentations of the model are involving Italian Administrative Regions. In this regard, some procedural clarifications seem to be necessary. First of all, the completion of the test for the assessment of Future Orienteering level is administered to senior managers. Managers involved in the experiments followed a period of training on Future Studies and are familiar with the Theory of Anticipation. The calculation system for the attestation of the levels of forecasting, foresight and anticipation will provide a score representing a photograph of the level of Future Orienteering at the time of compilation. Changes in terms of future preparation procedures and practices for dealing with the uncertainty are captured by changes in the organization's placement within the matrix. An organization that scores high in each of the dimensions, and thus ranks at the highest level of the maturity scale, has excellent competences of Future Orienteering. Being “mature” in terms of Future Orienteering skills means being “aware” of the complex, uncertain and chaotic environment and implement adaptive behaviours to cope with these characteristics and move towards desired futures. This involves being creative, proactive, adaptive, open to surprises, ready to manage them and take the courage and responsibility to make bold choices. When talking about orienteering in post-normal times, Sardar [17] cites three virtuous behaviours: humility, modesty and accountability. Training Future Orienteering skills is a step towards this direction.

Conclusion

Considering the growing recognition of future activities and their increasing application by organisations, a system of evaluation of such practices is necessary. Futures Studies teach that even if the futures are plural, it is possible to be prepared. Therefore, the best behaviour is having a proactive approach, try to intercept the maturing challenges and be trained to respond to the unexpected. This kind of training and expertise has been approached in this article under the name Future Orienteering. In fact, in a certain way, the essence of future works seems to be similar to the sport of orienteering, that regards those who can safely explore unknown territories. From this perspective comes the proposal of the Future Orienteering Evaluation Model, designed to provide a system of measurement of the level of future preparedness of organizations, communities and individuals. Considering the complexity of the measurement's challenge in the field of Futures Studies, the model described aims to provide an overview of the particular dimensions to be taken into account when assessing an organisation's future skills. Included in an evaluation process, the Future Orienteering Evaluation Model provides a theoretical framework for data collection in order to answer questions

regarding future competences and show evidence of strategic foresight's programs achievement and impacts. The model, based on the Theory of Anticipation, considers the best practices available, ordering them according to a growing maturity scale. In the case of public organizations, analysed in this article, the model consists of four strategic dimensions (Structure, Time Horizon, Focus and Methods). Within these four dimensions, the practices are organized according to the three levels of forecasting, foresight and anticipation. For each of the levels, the peak of the maturity scale represents the best practices that an organization can implement to prepare for the future. In particular, if the activities of forecasting and foresight allow the actors to intercept trends and visualize possible futures, it is the activity of anticipation that represents the translation of the theoretical models into concrete strategic decisions. In this sense, the implementation of anticipatory behaviours represents the real turning point between a mere intellectual exercise, and a real practice aimed at influencing the future. For this reason, the calculation system of the Future Orienteering level will be designed to take into account the importance of anticipation for each of the dimensions considered. In conclusion, the Future Orienteering Evaluation Model represents a new proposal for measuring the level of preparation for the future. It is a model adaptable to different actors and able to reflect the complexity of the mission, taking into account the three levels of the Theory of Anticipation and returning, through a battery of indexes, a precise picture of Future Orienteering skills.

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The two authors have contributed.

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