

SUSTAINABLE FESTIVAL POPULATIONS: AN APPLICATION OF ORGANIZATIONAL ECOLOGY

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This article addresses the sustainability of festival populations from the perspective of organizational ecology theory, and in particular age and density dependence. Data from whole populations of festivals in three Norwegian counties are examined. Analyses of festival start-ups demonstrate that the number of events in each county had risen faster than population growth before plateauing, and changes were correlated significantly with trends in the Norwegian gross domestic product. Data on festival age, theme, and other variables were also considered in the light of whole population dynamics. It is concluded that the fundamental tenets of density dependence theory were empirically demonstrated insofar as rapid growth in the festival populations was not sustainable when resources diminished, but no data were available on festival failures. It appears that the hypothetical legitimation of festivals helps to explain rapid growth, as festivals have become popular instruments of public policy. Implications are drawn for future whole population studies and for policy makers who would seek to manage portfolios or whole populations of festivals.

Key words: Festival populations; Organizational ecology; Density dependence; Legitimation; Limits to growth; Norway

Introduction

Festivals are valued as cultural and social phenomena, and they frequently serve as tourist attractions and instruments of place marketing (Getz, 2008; Gibson, Waitt, Walmsley, & Connell, 2011; McKercher, Mei, & Tse, 2006; Ritchie & Beliveau, 1974; Stokes, 2008)—so much so that some

authors have referred to the “festivalization” of urban policies and places (Häussermann & Siebel, 1993; Quinn, 2006; G. Richards, 2007). Accordingly, both the viability of festivals as permanent organizations and their sustainable operations are of concern to many different policy makers and industry strategists.

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But defining a “sustainable” event is problematic. Most of the literature pertains to the greening of events (e.g., Collins & Flynn, 2008; Goldblatt & Goldblatt, 2011; Jones, 2010; Mair & Jago, 2010; Raj & Musgrave, 2009), which is usually framed as the adoption of environmentally friendly practices, and the management processes necessary to accomplish such goals as reducing waste and the event’s overall ecological footprint.

However, a number of scholars have addressed broader aspects of festival sustainability that include: consideration of historical evolution within a political context (Chacko & Schaffer, 1993; Sofield & Li, 1998); authenticity and commodification (Xie, 2003); multiple stakeholder perspectives on the triple-bottom-line approach (Hede, 2007); the institutionalization process (Getz & Andersson, 2008); public policy and governance (Dredge & Whitford, 2011); and corporate social responsibility and competitive forces (Henderson, 2011).

Extending this line of research, the current article calls for application of theory and methods from organizational ecology to the study of whole populations of festivals within a competitive and political environment. One particular “theory fragment” (Hannan, Polos, & Carroll, 2007) of organizational ecology called “density dependence” is employed for analysis, as it addresses the reasons for, and constraints to, the growth of populations of organizations within a given environment. Especially important is the notion of legitimation in explaining growth in festival numbers—that is, the perceived legitimacy of festivals as policy instruments.

In the ensuing section we discuss festival and event sustainability through a review of pertinent research, focusing on the need to take a whole population perspective. Subsequently, the basic principles of organizational ecology are presented, with emphasis on density dependence and legitimation theory.

In the Method section we explain the empirical research that generated comparable data from three Norwegian counties where the total population of festivals was surveyed using a standard questionnaire. In the Results section we present data on festival start-ups, age, and theme. Analysis is undertaken of festival start-up trends, and a regression is employed to demonstrate the strong

link between festival start-ups, festival density, and economic growth in Norway.

Conclusions are drawn regarding theory development, especially the importance of various factors that impact on the growth and sustainability of festivals as detected in the Norwegian data. Practical implications are also raised for managing event populations within a policy and strategic tourism context. We suggest new ways of examining the health and sustainability of festival populations that might prove useful in the entire attractions and services sector.

Sustainable Festivals and Events

Every festival exists within an environment that not only imposes competition for resources and political support, but population-wide dynamics inevitably impinge upon the capabilities and viability of each member of the population. The notion of a “sustainable festival or event population” has only recently been addressed in the literature. It is a logical extension of previously published festival and event studies that have considered interorganizational and stakeholder relationships, the roles of festivals as institutions within a community, and managed portfolios of events that are intended to fulfill diverse policy goals. To extend the sustainability discourse to portfolios or whole populations requires a suitable theoretical frame, and in our approach it comes from organizational ecology.

Studying whole festival populations is new, with only one example reported in the literature (Jaeger & Mykletun, 2009), and according to Getz, Andersson, and Carlsen (2010) it has emerged as a priority. Their conclusion arose from a comparative analysis of festival studies from four countries and development of a festival management research agenda. One fundamental issue, considering the frequently observed spectacular growth in festival numbers globally, is whether there are limits. This fear (or forecast) of limits to growth has been repeated frequently, such as by Janiskee (1994, 1996) who documented festivals in America, and more recently within a major study of rural Australian festivals wherein Gibson et al. (2011) concluded that “Some festival organizers feared that there was a ‘limit’ to the endless proliferation of festivals and that

eventually festivals would start to fail as communities became ‘festivalled-out’ and competition became more fearsome” (p. 22).

An explanation for this explosion in festival numbers has been slow to emerge, no doubt as many factors have been responsible. Although it must be linked to economic and population growth, there are surely more subtle dimensions of globalization and innovation diffusion at work. Policy has certainly played a key role, with festivals being popular instruments to meet economic, social, and cultural goals.

The idea of a festival and event population is similar to the concept of an event “portfolio” (Getz, 2005). Event tourism portfolio strategies require destination management organizations or event development corporations to consciously manage a set of events as assets, and by extension to secure their sustainability in meeting important goals. The various ways in which return on investment can be measured are open to debate, however, as events can contribute in different ways to destination competitiveness. Organizations managing an event portfolio need to know what characterizes a healthy festival sector, and what measures to take in order to promote and develop festivals. However, event portfolios are not exclusively within the domain of tourism authorities. Ziakas and Costa (2011) suggested that event portfolios can be used for integrating tourism, social, cultural, or other policy purposes, as well as creating synergies between sport and cultural events.

There are several additional dimensions of sustainability that must be considered when portfolios or whole populations become the context. The first concern is how other events and environmental forces impact upon the single event, with regard to its viability and to its adoption of green practices. The second dimension is that of how a healthy population of events can be sustained, given resource limits and ongoing competition, and how indeed the “health” of a portfolio or population can be measured. A third dimension pertains to a really difficult question: Should the sustainability of each and every periodic event be assured, or should events in the portfolio or population be allowed to fail?

An evolutionary perspective on events, and consideration of factors shaping the life cycle, has been the focus of a number of empirical studies (Frisby

& Getz, 1989; Getz & Frisby, 1988; P. Richards & Ryan, 2004; Walle, 1994). Related research concerns both the longevity of festivals and their crises or failures. Frisby and Getz (1989) modeled the hypothetical evolution of festivals (adapted from Katz, 1981), noting that at each evolutionary stage there was a risk of having to return to the previous stage owing to failure or loss of resources. They also suggested that in cities with larger populations and presumably more resources to draw on, festivals were more likely to “professionalize” in terms of hiring staff and adopting formal structures and management styles.

Henderson (2011) defined a “sustainable event” in the context of sustainable competitive advantage, concluding that if producers see an advantage in practicing sustainable development they will increase their efforts. This approach contrasts with a more typical process-based standard such as International Organization for Standardization (ISO) or the British standards for sustainable events (British Standards Institute, 2006). Henderson (2011) favored a triple-bottom-line approach in which consideration of people (i.e., being socially conscious), profit (financially sustainable), and planet (environmentally conscious) are in balance. As well, he argued that events must consider their sustainability in the context of activities of all the stakeholders, including customers and suppliers.

Individual festivals, or other periodic events, might achieve sustainability through a process of institutionalization—either by deliberate strategy or slow evolution into permanent organizations that are supported by key stakeholders. This hypothetical process of institutionalization was supported by empirical data from many festivals, including the confirmation of many managers that they thought they were institutions occupying a special niche in their community (Getz & Andersson, 2008). In a parallel line of theory development, Larson (2009) has described the “political market square” surrounding festival organization and planning, and has argued that institutionalized networks do not remain stable. Indeed, turbulent networks might generate the most innovation.

Becoming an institution, however, does not preclude failure and termination of festival-producing organizations. And some festivals are reintroduced

after their formal organization disappears, resulting in a pattern of succession. Dredge and Whitford (2011) addressed the decision-making process and conflicts surrounding a sporting event that was intended to deliver considerable tourism benefits. Sustainability issues and debate were “stymied” by the introduction of special legislation and by limited opportunities for public engagement. Tools and resources for discourse were unevenly distributed. Sustainability in this context is a function of the process of engaging all stakeholders with common understanding of the issues so that a “discursive public sphere” is generated. By inference, this public sphere should engage equally with event tourism portfolios and whole populations of events.

Getz (2009) called for the institutionalization of a new paradigm in which the impacts and worth of an event or events were evaluated from a sustainability perspective, incorporating principles of corporate social responsibility. Justifications for public sector intervention in the events sector were examined, including the “public goods” argument and the social equity principle. Getz (2009) emphasized the need for public policies to be applied to the events domain, engaging with all stakeholders, whereas in practice they are generally restricted to single event issues.

An Overview of Organizational Ecology

The theory of organizational ecology is attributed mainly to the seminal work of Hannan and Freeman (1977, 1989), followed by Carroll (1984, 1985), Barnett (1990, 1993), Baum (1996), Baum and Oliver (1992, 1996), and Hannan and Carroll (1992). It seeks to explain the rates of birth, growth, and mortality of a “population” of organizations in any given environment. Hannan et al. (2007) identified many “theory fragments” within organizational ecology; however, the major concepts can be summarized as follows: organizational forms and populations; diversity of organizations; structural inertia and change; age dependence; dynamics of social movements; density dependence; niche structure; and resource partitioning. We will not elaborate on all of these in this article, but elsewhere the relevance of organizational ecology to festivals will be examined in detail.

Most management theory on strategy suggests that it is an adaptive process, and managers are

taught that they can control the fate of their firm or organization. Ecological theory argues not only that there are environmental factors that must also be considered, but that firms might fail for reasons beyond their control. It also makes a strong case that organizations tend towards “structural inertia,” which is a major reason for failure. Change therefore occurs through (in part) “selection,” or a winnowing of those organizations that do not hold a viable niche or otherwise cannot adapt to change. Indeed, a case has been made that society imposes strong demands on organizations for accountability, and rewards reliability and predictability, thereby increasing the tendency towards inertia.

A group of concepts pertains to the ways in which organisms and populations interact, either collaborating or competing. “Symbiosis” or “mutualism” is a between-species phenomenon, and could potentially be found where an event is mutually dependent with another institution or corporation—their differences help them both. This might evolve from ownership or overlapping boards of directors, from long-term sponsorship, or the venues used by events. “Mutualism” also appears to be a philosophical position favoring collaboration to achieve common aims.

Within an ecosystem, a “niche” is occupied by a species that has evolved in such a way that it has a competitive advantage in securing particular resources. But in organizational ecology a single entity can also occupy a niche. The festival that occupies a niche is a “specialist” organization that maximizes its exploitation of the environment by catering to a narrow audience or relying on one or a few key resources suppliers. They are often successful as institutions, but risk failure from unpredicted changes in the environment, such as new government policy. On the other hand, “generalist” events work strategically to secure resources from many sources, to become financially self-sufficient, and to avoid overdependency. They usually prefer many small sponsors to one or a few big corporate supporters. They try to balance grants, sponsorships, ticket sales, and other income. Generalist organizations accept a lower level of exploitation in return for greater security (Hannan & Freeman, 1977, p. 948). If environmental forces are subject to frequent change, the sustainable event will want to become a generalist.

An “ecosystem” is a system formed by the interaction of a community of organisms with its environment. It can be said to be complex if there are many species and interactions among them. “Biodiversity” reflects the number and differences between species, and this could be an important consideration where only certain types of festivals, sports, or other cultural institutions exist. As the ecosystem evolves (i.e., “population dynamics”) there is the possibility of exhausting the resource base, with “density-dependent inhibitors” relating specifically to how many organisms there are in a given area. We could say that there is an “overpopulation” of festivals, for example, if they are unable to attract sufficient resources or audiences to sustain them all. Similarly, an “unhealthy” festival population might result in festivals being constrained in their ability to implement green practices or to develop according to internal or external ambitions.

Age and Density Dependence

According to the theory of “age dependence” there is a greater risk of failure when an organization is new and not well enough established to hold a niche or attract sustained support. New event organizations will often have a difficult time getting adequate resources and learning how to survive. Older, more generalized organizations have a better chance of survival because the reliability

of their performance encourages others to supply resources.

The contrary hypothesis is that as periodic events age, there is an increased risk of obsolescence, in a competitive sense, and of senescence (or managerial failure), often due to complacency or a conservative culture that resists adaptation or resists compromise needed to secure stakeholder support.

“Density dependence” postulates that vital rates are a function of the number of organisms (i.e., festivals) in an area (Hannan & Freeman, 1977). As density increases, there is likely to be an increase in both legitimation (i.e., the process of festival/event creation is accepted as being natural) and competition for resources, which are opposing forces. At higher densities, the competition force is hypothesized to be stronger, thereby leading to reduced funding rates and higher mortality rates. This dynamic tension should result in an inverted U-shaped curve to describe founding rates (i.e., new start-up events) and a normal U-shaped curve to describe mortality rates, over time.

Figure 1 adapts and simplifies the Hannan and Freeman (1977) model, and is in part a reflection of the results of this research. The diagram shows an increase in festival start-ups, growing until resource limits are reached through competition, and resulting in a maximum population density. Thereafter, it is hypothesized that the number of new festival start-ups will decline and some will fail.

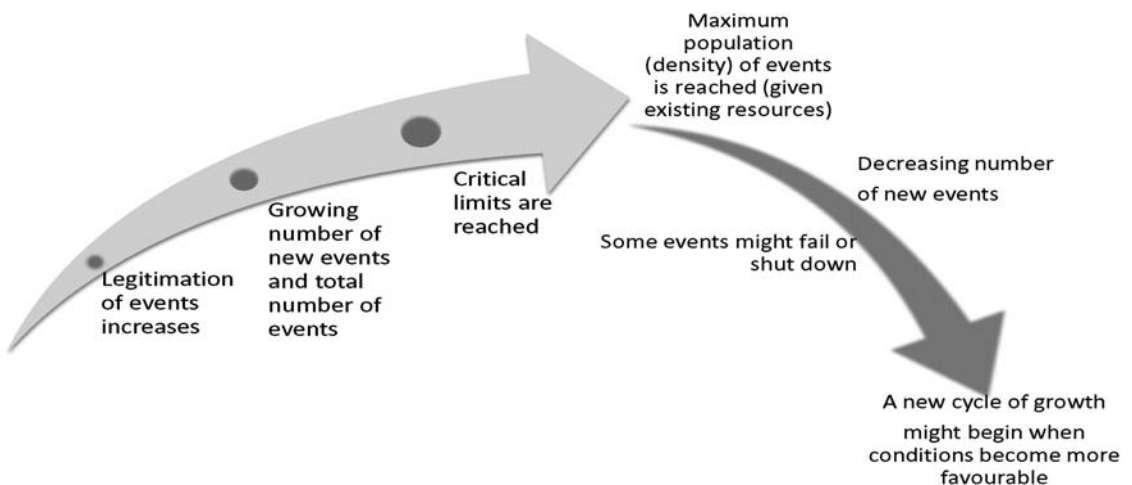


Figure 1. Organizational ecology—density dependence (adapted from Hannan & Freeman, 1977).

A new cycle might begin if circumstances change substantially. It can be hypothesized that in some environments, say in a city with a proactive policy to grow the festival sector, resources available to festivals can be deliberately increased (e.g., more grant money) or competition decreased (through collaboration), thereby resulting in a temporal extension of the growth rate and a larger event population. In that kind of facilitating, supportive environment, individual event organizations might also have a greater chance of both growth and institutionalization. And as revealed in our empirical analysis, economic cycles will also affect festival populations.

There is a “chicken and egg” problem with legitimation. Hannan and Carroll (1992) suggested that it was a process in which stakeholders took it for granted that a certain organizational form (festivals in our case) deserved their commitment. But how does this happen? Do festivals have to be known and respected first? A broader view of legitimation comes from Aldrich (1999), who argued that “sociopolitical legitimacy” comes from acceptance by key stakeholders, the general public, opinion leaders, and government officials—in other words, acceptance that festivals are appropriate and right. This concept embodies the moral value of festivals within cultural norms and acceptance by political as well as regulatory bodies.

In the case of festivals, and event tourism in general, legitimation and sociopolitical legitimacy could be interpreted as a belief that events are a “public good” deserving of governmental support and strategic development (as argued by Getz, 2009). The festivals sector, as implied by Aldrich’s (1999) argument, can advance its legitimation through collective action or lobbying. In this context festivals might be attacked, or their legitimacy challenged, by another form of organization feeling threatened; the most likely threat would be displacement of resources from one entertainment or social service sector to another. Hannan and Carroll (1992) added that legitimation also occurs through collective learning, “by which effective routines and social structures become collectively fine tuned, codified, and promulgated” (p. 41).

Diffusion of innovation is probably at work in the festival and event tourism sectors, with cities and tourist organizations learning from the success of others that they must act to develop an attractive

events sector. The spread of ideas will also come from the cultural and social policy domains, wherein festivals in particular have gained almost universal legitimacy as instruments of social marketing. At some point in time, following this line of reasoning, there might be evident in every community a sudden surge in legitimation as indicated by rapid growth in festival numbers.

Propositions

The following propositions concerning festival populations are derived from the literature review. The data and analyses pertain specifically to these propositions.

- P1:** The legitimation process will result in a rapid growth in the number of festival start-ups in a given environment. (This should be evident in a surge, larger than population growth and economic growth, thus resulting in an increasing festival density.)
- P2:** As competition increases and resource limits are reached, the number of festival start-ups in a given environment will start to decline and a maximum festival population (i.e., density) will be achieved. (This leveling or decline might, however, be temporary.)
- P3:** The corollary of P2 is that a greater availability of resources will generate higher growth rates of festivals. (We do not know what the key resources are, but political legitimation and economic growth appear to be crucial.)

Method and Analysis

Data were collected, using the same questionnaire, from all festival managers in three counties in Norway. The census covered the total population of festival managers in the counties Rogaland, Møre-Romsdal, and Finnmark. Previously published research explains the origins of the questions and results regarding resource dependency and stakeholder theory. The previous studies relate to a survey of festivals in Sweden (Andersson & Getz, 2008, 2009a, 2009b), and a four-country comparison (Carlsen, Andersson, Ali-Knight, Jaeger, & Taylor, 2010; Getz & Andersson, 2010).

The survey instrument contains questions designed to profile the festivals in terms of ownership, age, size, number of full-time employees, assets, and programs. Revenues were examined in some detail, including all the major sources of sponsorship: local government grants (municipal), senior government grants (state or national), and corporate sponsorship.

Only managers of festivals in operation at the time of the survey have been included. We have no detailed information about festivals that have failed, but discussions with festival managers suggest that the failure rate during the studied period was negligible. Some instances of failures were recorded through consultation with local event managers but not included in the database used in this study.

The complete census of all self-titled “festivals” in Finnmark, the northernmost region of Norway, resulted in 58 responses. This is a diverse group of small, community-based festivals. A complete census is certainly the best way to analyze any population, but Finnmark is a remote and sparsely populated region and not representative for the whole population of festivals in Norway. Another complete census of festivals was carried out in Rogaland, a county situated in the southwestern part of Norway, and resulted in answers from managers in 67 festivals. The census in Moere-Romsdal resulted in 31 festivals. Thus, the database consists of answers from managers in 156 festivals from three Norwegian counties.

Table 1 describes averages for a number of size variables in the three samples. However, age is compared in terms of median values because one festival that started in 1836 distorts mean values.

Median values for festival age are very similar for the three samples.

In terms of size, events in Finnmark are considerably smaller than events in the other counties studied and festivals in Møre-Romsdal are slightly larger than festivals in Rogaland. The local government in Finnmark seems more prepared to grant financial support than in the other two counties.

Population Dynamics

The number of events has grown in all three counties, and especially fast during the decade 1995–2005, which appears to be the period of festival legitimation. “Density” is calculated as the number of events per 10,000 inhabitants. All three counties had more than 1 event per 10,000 inhabitants at the end of that decade (i.e., in 2005). Finnmark is an exceptional county in this respect with more than 8 events per 10,000 inhabitants, but it must be remembered that Finnmark events are, on average, only about 20% the size of the average Rogaland or Møre-Romsdal festival (cf. Table 1).

Figure 2 addresses propositions P1 and P2 and describes the increasing density during the 15-year period 1995–2009 (Finnmark has been scaled down by a factor of 5.3 to make the diagram easier to read). The increasing density during the period is obvious, but there is also a leveling out that might be an indication of saturation commencing in 2005. Rogaland and Finnmark, with the highest densities (1.6 and 8.0, respectively), both show a marginally decreasing density. Møre-Romsdal, however, continued an increase in density throughout the period. It is worth

Table 1
Some Size Variables Describing the Samples From the Three Counties of Norway

County	Finnmark (<i>N</i> = 58)	Møre-Romsdal (<i>N</i> = 31)	Rogaland (<i>N</i> = 67)	Total (<i>N</i> = 156)
Year in which the festival was first produced (median)	2000	2000	1999	1999
Number of full-time, all-year paid staff employed by the festival	13	73	38	37
Number of volunteers used	61.46	146.41	91.18	93.60
Attendance	2,435	10,915	12,933	8,977
Total budget (NOK; US\$1 = 5 NOK)	586,458	2,366,000	2,174,002	1,687,950
Corporate sponsorship	17.8%	28.7%	27.5%	25.2%
Local government grants (municipality)	22.2%	10.4%	16.1%	16.6%

Values are means (except for year first produced).

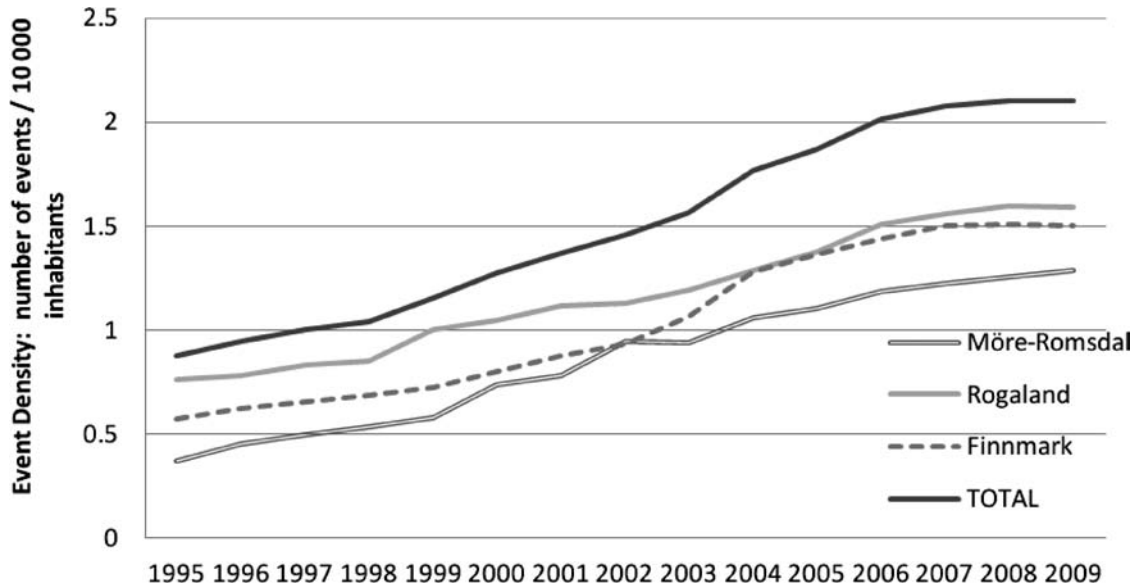


Figure 2. The growth of event density in the three counties during 1995–2009. Note: Finnmark has a density (>8) that is far higher than the other two, so we divided all Finnmark values by 5.3 for this visual comparison of trends.

pointing out, however, that Möre-Romsdal only has a density of 1.29 in 2009, which is equal to the density of Rogaland in 2004 when Rogaland still had a number of growth years ahead.

The development in the three counties seems to indicate a saturation level in the population of events (i.e., a reaching of resource limits), and this could be a reflection of the number of inhabitants, and perhaps tourists, to serve as audiences. A comparison of 2009 average attendance in terms of the number of event visits per inhabitant is therefore useful. Finnmark had 1.99 event visits per inhabitant, Rogaland 1.74, and Möre-Romsdal 1.61. Again it seems as if there still is room for expansion in Möre-Romsdal.

Another part of the explanation for rapid growth followed by a leveling in festival density seems to be the state of the economy, as suggested by proposition P3. In the Norwegian case, the economy took a sharp downturn during the same period as when the growth in the event population slowed down markedly. Figure 3 describes a correlation between GDP development in the Norwegian economy and the growth rate in the event population in the three counties.

A regression analysis based on the decade 1999–2009 (i.e., on 11 observations) also reveals

a significant (1%) model fit where the two independent variables “GDP growth” and “Density” together explain 80% ($R^2 = 0.80$) of the variation in the dependent variable: “Growth in the event population in the three counties in Norway.”

Table 2 illustrates, as expected, a negative coefficient of “Density” (sig. 5%) and a positive influence from the “GDP growth in Norway” (sig. 1%). The unstandardized coefficients suggest that for each percentage point growth/decline in GDP, the event population will grow/decline by 1.3%. The unstandardized coefficient for “Density” similarly describe that, for example, in a region where the density is 1 festival per 10,000 inhabitants higher than in another region, the total festival population growth will be expected to be 4.6% lower than in the region with the lower density (*ceteris paribus*). The standardized coefficients indicate that both independent variables carry a fairly equal weight in the explanation of the growth in the event population.

The regression model thus supports density-dependence theory in terms of a declining founding rate as the density in a population grows (Hannan & Freeman, 1977). There is also support for the proposition that the critical limit to growth is dynamic and depends on, among other factors, the

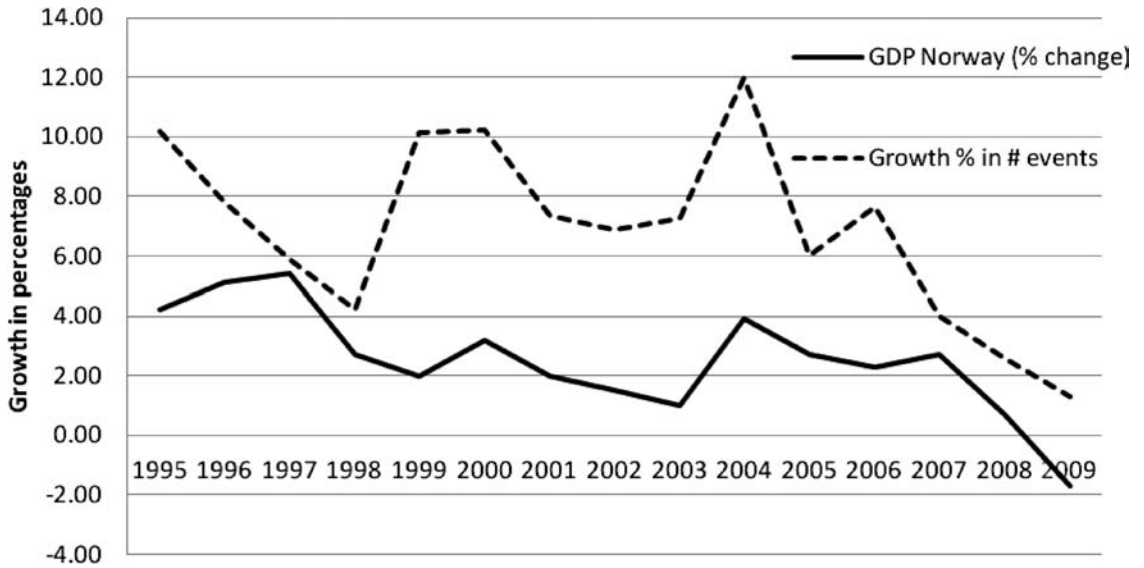


Figure 3. The growth of the Norwegian GDP and the event population in three counties 1995–2009. Source: Own data and Statistics Norway.

state of the economy. Propositions P1 (i.e., legitimation and rapid growth) and P2 (resource limits to growth) are supported by this analysis. Proposition P3—that a greater availability of resources will generate higher growth rates of festivals—is supported by the clear link to GDP, which suggests that it is likely to hold true in Norway.

Population Diversity in Terms of Niches

Events are different in order to be able to adapt to the environment and to find a niche they can occupy and exploit. Program or festival theme is one dimension of diversity. There are similarities and differences when the three populations are compared. Music festivals dominate in Møre-

Romsdal and Rogaland but are comparatively scarce in Finnmark where sports festivals are much more frequent. Art festivals, market festivals, and themed festivals seem to have rather similar shares of the market in all three counties.

Festival Development and Festival Age

An evolutionary perspective on event life cycles does not always come out clearly in quantitative surveys when age is used as an indicator. The concept apparently needs to include more dimensions than time, but data from the census of Norwegian festivals have nevertheless been divided into three age categories to look for indications of life cycle differences. Young festivals are defined as being

Table 2

A Regression Model of “Growth in Event Population” Being Negatively Dependent on “Density” and Positively Dependent on “Growth in GDP”

Model	Unstandardized Coefficients		Standardized Coefficient		
	B	SE	Beta	t	Sig.
Constant	12.342	2.938		4.201	0.003
Density in the event population	-46390.706	15343.371	-0.503	-3.024	0.016
GDP growth in Norway	1.313	0.364	0.600	3.609	0.007

Dependent variable: “Growth in the event population of three counties in Norway.” The model is significant (1%).

less than 10 years old, medium aged between 10 and 20 years, and old events are more than 20 years old. There is a relation between the age of the festival and the niche of the event in terms of event theme. Most market festivals are old, among them a market festival in Finnmark that started in 1836. Art festivals and particularly music festivals are young, whereas many themed festivals and sports festivals are found in the medium age group.

Longevity is, from an institutional perspective, considered to increase legitimation, institutional embeddedness, and committed stakeholders. Table 3 illustrates that older festivals are larger and have managers with longer experience. In terms of size, old festivals are larger than medium-aged and young festivals.

Longevity seems to affect sponsor revenue positively, with old festivals being more successful. Legitimation and embeddedness may play a role, and it is particularly in the corporate community that old events have been more successful in generating sponsorship income. Proposition P1 is therefore partly supported when legitimation is reflected by age of the festival.

Summary and Conclusions

In this article we applied theoretical elements of organizational ecology to the study of festival populations through an empirical analysis of data from three Norwegian counties. It has been argued that a festival's overall viability and sustainability must be considered within the context of external forces acting upon it, and that a theoretical approach is necessary for evaluating the sustainability or "health"

of whole populations of festivals. Of particular relevance are the "theory fragments" called age and density dependence, and concepts related to finding a niche. In a number of ways this approach overlaps with institutional and social network theory, particularly as festivals are sometimes able to achieve institutional status that tends to ensure their permanent support from key stakeholders.

A number of propositions emerged from the literature review and these were partially confirmed through our analysis. At some point the propositions can be viewed as hypotheses, then research constructed to hopefully generate a higher level of confirmation.

Theoretical Implications

This study partially supports the density-dependence model suggested by Hannan and Freeman (1977) with respect to the proposition that start-ups of a particular organizational form (in this case, festivals) accelerate during the legitimation stage, then a maximum density is reached as competition for resources imposes limits on the population. There were, however, no data available on festival failures, so we cannot say if the population density declines, only that start-ups did. Although anecdotal evidence suggested that very few festivals had failed recently, this issue must be further studied to assess the growth model.

Data from the three populations used in this study confirm that the availability of resources, measured in terms of Norwegian GDP, had a significant impact on the growth of all three festival populations. In times of economic growth there are

Table 3
Comparing Mean Values of Size and Revenue Against Festival Age Group

	Young	Medium	Old	Total
Year in which the festival was first produced	2004	1997	1980	1995
Years owner/manager	3.15	4.23	6.11	4.13
Attendance	7,695	8,793	11,220	8,977
Maximum number of paid staff employed (full and part-time)	5.35	3.48	10.76	6.15
Number of volunteers used	84.40	89.81	110.33	93.60
Total budget (NOK)	7,218,402	6,412,696	13,041,667	8,439,754
Total sponsor revenue (NOK)	514,960	823,155	1,399,149	851,287
Local government grants (municipality)	17.6%	15.3%	17.1%	16.6%
Senior government grants (state/national)	6.1%	8.2%	6.1%	6.9%
Corporate sponsorship	23.2%	22.8%	31.1%	25.1%

more resources available for tourism and culture. However, population growth and audience potential must also be relevant, even though we witnessed growth in festival numbers that was greater than population growth.

Vital statistics indicate that in these samples an average yearly visitation rate of 2.0 events per inhabitant seems to be a limit that all three regions were close to but did not achieve. This vital key ratio may be an indicator not only of the demand limit but also of the supply capacity in terms of resources, volunteers, and organizing capacity.

A similar key ratio is a festival density of 2.0 events per 10,000 inhabitants, which seemed to be the limit in two of the three samples. Finnmark, which is the sparsely populated region, has a key ratio that is about five times higher but, on the other hand, the average size of the Finnmark festivals is only about 20% of festivals in the other two regions. Accordingly, it can be concluded that in some environments (likely those being sparsely populated) the size of festivals is constrained more than the number.

The density key ratio “number of festivals per 10,000 inhabitants in the region” seems interesting as an indicator of festival density but it was somewhat disturbing with the large difference between the sparsely populated county Finnmark and the two other regions in Norway. However, compared to the results from an Australian survey (Gibson, Waitt, Walmsley, & Connell, 2010), the density in Finnmark is not surprising considering the low population in the county. The Australian study indicates a negative correlation between festival density and county population, which is also supported by the lower densities in Rogaland and Møre-Romsdal with comparatively larger populations.

*Managerial Implications:
Policies to Maintain a Healthy Population*

The coming and going of festivals and events is often ignored, especially in countries where a free market is in place and many players are at work—from diverse government agencies and nonprofits to corporate sponsors and for-profit event companies. However, the growing exploitation of events for place marketing, tourism development, and many social/cultural policy initiatives means that festivals and events are coming under increased

scrutiny, both individually and collectively. The questions then arise: Do we have a healthy population or portfolio of events in our area? Is there a need for strategy and/or intervention?

Owing to the special nature of festivals as manifestations of fundamental social, cultural, and economic needs, and as instruments of policy and strategy, the health of festival populations requires additional and essentially goal-dependent considerations. Other periodic events can be given similar treatment insofar as they implement the regional event tourism policy and strategy. From the perspective of event portfolios (Getz, 2005), data support the pyramidal structure with a large number of small events and few large events. There were also clear indications of the dynamics in the portfolio showing that small events are much younger and that there are probably a good number of potential future success stories in the group of small events.

On the other hand, large events are managed differently and DMOs can learn more about festival development and good festival management by comparing large and small events. There were clear differences regarding sponsorship. Large firms use more efficient sponsor strategies and are also much more successful in generating sponsorship income.

Networking among festivals, and with other institutions, should yield a healthier population—one that can learn and adapt to the benefit of individual events. As well, strong network connections can help support events facing difficulties. Many cities and regions have voluntary festival networks that aim to maximize the potential of festivals individually and collectively.

These exploratory results suggest that festival growth rates and overall density of the population are correlated with growth in resources—more so than growth in resident population. But is that always the case? Can it be assumed that if the economy suffers, an injection of monetary resources will stimulate more festivals? In Norway we saw a significant correlation with GDP, meaning that when its growth recovers there should theoretically follow more festival start-ups, yet perhaps the period of legitimation is over and the density of festivals is already at its peak—unless population also increases. The interactions of these two important variables must be explored in greater detail across a variety of settings.

Limitations

The three festival populations studied are all from a comparatively wealthy country. Furthermore, one of them is from a sparsely populated area. Both of these characteristics (i.e., population density and GDP) impact the festival density, and the country characteristics of Norway are likely to have influenced the results of this study. A substantial risk in population studies is that of missing organizations that have disappeared. Our Norwegian data do not permit analysis of failures, although anecdotal evidence suggests the numbers of failed festivals were small in all three counties over the time period covered.

Further Research Needs

There is an interesting similarity in size distribution when the three Norwegian festival populations are compared to an Australian study (Gibson et al., 2010). The share of the festival population with an attendance below 1,000 is 29% in both studies and the share of festivals with an attendance of more than 50,000 is 2% in Australia and 4% in Norway. This is an indication of a surprising similarity regarding size diversity, which also follows the pyramidal model suggested by Getz (2005), and there is a number of interesting research avenues to follow looking at diversity, size, and festival development. More studies on causes and effects of festival density would definitely enhance our understanding of festival populations.

Festival development and the concept of embeddedness also open perspectives for a better understanding and for normative advice to festivals—particularly so if development and life cycles are understood not only as age-dependent issues, but with a stronger focus on networking. Age dependence has not been examined in any detail, but findings suggest that the age of festivals is correlated with institutional embeddedness.

Typical measures applied in network analysis can be used to good effect in the study of events, but this has been reported in the literature only once. Karlsen and Nordström (2009) qualitatively examined the “relational density” of festivals in their sample and noted that linkages could be strong or loose, local or global. Their research tended to

support the institutionalization model of Getz and Andersson (2008).

Niche theory also was not analyzed specifically, although we did consider festival themes. Most recent were the music festivals, and this seems to reflect a global trend. They had smaller audiences and apparently fewer institutional linkages, and were concentrated in the two more urbanized counties. Niche must also be considered in terms of specialization versus generalization for resource acquisition, and we were not able to assess differences. One emergent hypothesis can be that music festivals are pursuing a niche strategy, and that will ultimately find some of them to be challenged financially.

Legitimation is an important concept that requires further research in the realm of festivals, and no doubt for all events and tourist attractions. Examination of how policies favoring festivals have spread, employing innovation diffusion theory, would be helpful in understanding the global increase in festival numbers. It certainly appears that festivals have become accepted everywhere as multifaceted policy instruments, thereby resulting in financial and political support. But at the same time, festivals have grown in response to rising consumer acceptance and demand, and the interactions become mutually reinforcing. Whether or not festivals influence this legitimation process in particular areas for their mutual benefit remains an important question.

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