

Economic Gardening in Australia: measuring attitudes towards growth

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ABSTRACT In 2006 University of Wollongong researchers were invited to participate in an Economic Gardening project being implemented in the New South Wales local government areas of Shellharbour and Kiama. This paper outlines the history of the “economic gardening” concept and the challenges for participant selection and training. We propose an alternative approach to that undertaken by previous economic gardening proponents based on a direct measure of attitudes towards employment growth. A new methodological approach is presented which aims to derive more reliable predictors of participant selection for future economic gardening projects.

Keywords: Entrepreneurial orientation, Economic growth and employment, Social and psychological theory, Research methods

INTRODUCTION

As markets have become more global and competitive, the pressures on regional economic development have intensified. According to panellists at the 2007 Australian Regional Economies Conference, regional Australia is now the “land of discontent” because wellbeing and prosperity have continued to decline disproportionately when compared to metropolitan centres. Furthermore, regional policy is waxing and waning as it struggles to meet these new economic and social challenges. One of the most promising economic development strategies to emerge in recent times is the approach known as Economic Gardening.

The term “economic gardening” was first coined in 1987 by Christian Gibbons, the Director of Economic Development in the town of Littleton, Colorado. The term describes an economic development model which focuses on nurturing and growing existing small businesses in a region in order to boost both sales tax revenue and employment. Such a model contrasts with the “economic hunting” traditionally undertaken by regional governments; a model which aimed to increase employment and economic activity in regional areas by offering financial and environmental incentives to lure large corporations away from cities.

A key approach to Littleton’s economic strategy is the identification and support of those small businesses most likely to achieve rapid growth. According to David Birch, rapid-growth companies, or “gazelles” as he dubbed them, represent only 3 per cent of businesses (Feindt, Jeffcoate and Chappell 2002). The key challenge for economic gardeners, therefore, has been

to identify those indicators that might identify a business gazelle. According to the Center for Application of Psychological Type Early there is a strong correlation between fast growing companies and CEO's with the Myers-Briggs temperament types of Sensing-Thinking-Judging (STJ) and Intuitive-Thinking-Judging (NTJ) (Gibbons 1999). CEO's with these temperament types "headed up gazelle companies at rates far beyond their statistical presence in the population" (Gibbons 1999). In developing the economic gardening method Gibbons and his Littleton team worked on the notion that only those businesses whose CEO was identified by the Myers-Briggs scale as STJ or NTJ, were suitable gazelles. Littleton's public business seminars were abandoned in favour of a program where the selected gazelles were given strategic information such as marketing lists, GIS data, real estate activity and market reports in order to support the rapid growth of their business. It was felt that training or support of anyone but the gazelles would be a waste of resources, since in Gibbons' words:

It appeared to us that no matter what we did, we could not affect the growth rates of businesses much beyond what the temperament types and a few other factors determine. (Gibbons 1999)

At least in the respect that the program is only available to business owners with a specific temperament, the economic gardening model developed by the City of Littleton has remained unchanged since the early 1990's. Chris Gibbons and the Littleton team have been influential in the development of similar programs across regional areas of the United States, New Zealand, Ireland and now Australia.

It is our position, however, that personality indicators such as the Myers-Briggs scale have limited use for the prediction of an entrepreneur's rapid-growth potential; researchers have not been able to agree on which personality type is indicative of an entrepreneur and which scale best explains behaviour. Additionally, the Myers-Briggs scale does not account for whether the respondent is operating in a role in which they will perform at their highest entrepreneurial potential (Thompson 2004).

Researchers Bill Bolton and John Thompson developed an alternative entrepreneurial temperament scale called the Bolton Thompson Entrepreneur Indicator (BTEI), specifically to measure entrepreneurial potential (Bolton and Thompson 2004). Strong claims have been made that this temperament-based approach could "double the success rate of business start-ups from the present figure of 20 per cent after five years to around 40 per cent" (Thompson 2004: 244). Despite this claim - and those of similar tools - there remains much controversy

regarding the predictive power of personality and temperament variables when applied to a specific context such as regional employment growth (Ajzen 2005; Wiklund, Davidsson and Delmar 2003). Per Davidsson contends that temperament is regarded as only one factor which might determine entrepreneurial success (Davidsson 2005), and other researchers suggest that no definitive measure of entrepreneur potential has yet been developed:

A review of 25 years of trait-approach research concluded that no cause-and-effect relationship had been established between the entrepreneur and certain personality traits. (Larson and Ehrenworth 2006: 5)

Per Davidsson points to motivation theory as an alternative approach when he states that:

using expected outcomes [of growth] as explanatory variables may be a more fruitful way to explain differences in growth willingness than a “personality trait” approach (Davidsson 1989: 224).

In line with this suggestion, Wiklund and Shepherd (2003) empirically tested a motivation-based model of growth and concluded that “small business managers with greater growth aspirations are more likely to realize growth” (Wiklund and Shepherd 2003: 1936). As one of the major concepts in motivation theory is attitude, we felt that attitude could be used to provide a valuation (good or bad) of a concept such as employment growth. When compared to personality studies, attitudes have received relatively little attention in the entrepreneurial literature despite the fact that they have been shown to be reliable predictors of behaviour when methodological artefacts are removed (Kim and Hunter 1993).

The purpose of this paper is therefore threefold: (1) we position the key metric for participant selection in economic gardening programs on attitude towards business growth (specifically in terms of employee numbers), and (2) we remove methodological limitations such as scalar inequivalence to develop a more reliable predictor of individual beliefs, and (3) we empirically demonstrate that the multiplicative combination of beliefs and evaluations is a positive and significant predictor of attitude towards jobs growth. The method used is a reduced form of discrete choice analysis otherwise known as maximum difference scaling, or best-worst analysis. The paper concludes with a discussion of the results and the important implications arising from this research for future economic gardening initiatives within Australia.

BACKGROUND THEORY AND HYPOTHESES

‘Attitude’ is the favourable or unfavourable disposition of a subject towards the situation or object under scrutiny (Ajzen 2005). The expectancy-value theory proposed by Fishbein and Ajzen (1975) suggests that attitudes are influenced by specific beliefs and that knowledge of a subject’s expectations and values can predict attitude. Expectancy-value theory is applied in this study in order to measure the attitudes and beliefs of business owners in respect to employment growth within their company.

Expectancy-Value Theory

Wiklund, Davidsson and Delmar (2003) use the expectancy-value approach to measure business owners’ attitudes toward growth. As per the expectancy-value formula, their research measures the business owner’s attitude towards a particular consequence of growth (for example, increased profits), against the strength of the business owner’s belief that this consequence will arise. The attitude of the business owner to expanding the business by a certain magnitude (i.e. a doubling in the number of employees) can be predicted by summing the expectancy-value outcome across each belief (Wiklund, Davidsson and Delmar 2003).

Hypothesis

We believe that the expectancy-value approach provides a more useful method for selecting economic gardening gazelles than any measure of entrepreneurial potential. It captures an understanding of a business owner’s disposition towards the expected consequences of employment growth, along with their expectation that each consequence will arise, and therefore serves as a better indication of whether or not a business owner will act to achieve growth. Therefore, we hypothesise that:

H₁: The strength of belief about the consequences of growth and the likelihood that these consequences will occur (expectancy-value index) will have a positive effect on an individual’s attitude towards growth.

METHOD

A primary point of difference from Wiklund, Davidsson and Delmar (2003) is that we chose to use best-worst, or maximum difference, scaling to measure attitude. This method is a scale free approach based on a multiple-choice extension of the paired comparison. In other words, the method forces respondents to make a discriminating choice among the hypothesised consequences of business growth.

Best-Worst Scaling

The best-worst scaling method is based on an ordering task that requires respondents to make a selection from a group of items by choosing the “best” (most preferred) and “worst” (least preferred) items in a series of blocks that contain three or more items. The items could be attributes of a product, options in a decision, or bundles of services and products. Specifically, best-worst estimation assumes that there is some underlying subjective dimension, such as “degree of importance”, “extent of preference”, “degree of concern”, etc., and the researcher wishes to measure the location or position of some set of objects or items on that dimension.

The approach is particularly effective in creating a numerical preference ordering for the items when the number of items is large, as individuals are better able to determine which two items from a group N of items are “best” and “worst” than they are at the specific ordering of 1, 2, 3, ..., N . Best-worst scaling has the added benefit that it is quick and simple to execute, provides results that are empirically consistent with more complex ordering tasks and is theoretically in line with the precepts of random utility theory (McFadden 1974).

One of the important properties of best-worst scaling is that it measures all attributes on a common scale (Auger, Devinney and Louviere 2007). Marley and Louviere (2005) demonstrate that subtracting the number of times an item is selected “worst” from the number of times an item is selected “best” is a close approximation of the true scale values obtained from Multinomial Logit Analysis (see Auger et al. 2005 for a more detailed elaboration). Additionally, the method addresses the scalar inequivalence problem that characterizes the way humans use rating scales (Cohen and Neira 2003). Scalar inequivalence arises primarily from differences in response styles, which can be defined as tendencies to respond systematically to questionnaire items on some basis other than what the items were

specifically designed to measure (Paulhus 1991). Unlike traditional ranking tasks or multi-point Likert scales, every respondent works with a scale that is effectively identical and derived from their responses.

The formal statistical and measurement properties for best-worst scaling analysis can be found in Marley and Louviere (2005).

Experiment Construction and Procedures

In common with prior work by Wiklund, Davidsson and Delmar (2003), seven consequences of growth are utilised (see Table 1). In their study the authors identified eight key areas of importance to small business owners that would likely be affected by growth. With the exception of one, these key areas are retained for the purpose of our study. We did not include the area of “employee wellbeing” because those researchers indicated that this aspect may have been a cultural peculiarity of Sweden or the Scandinavian countries where their study was conducted. Although we agree that a test of the universality of employee wellbeing would be useful, we felt that it may complicate the direction of our own research and therefore chose not to include it in our design.

Table 1: Expected Positive Consequences of Growth

Consequence of growth	Definition
Decreased owner workload	The business owner would work less hours than at present.
Increased favoured work tasks	The business owner would spend more time on favoured work tasks.
Increased personal income	The business owner’s income and other disposable economic benefits would increase.
Increased owner control	The business owner’s ability to survey and control operations would increase.
Increased independence of firm	The firm’s independence in relation to customers, suppliers, and lenders would increase.
Increased ability to survive crises	The firm’s ability to survive crises would increase.
Increased quality	The firm’s ability to maintain or improve product and service quality would increase.

Respondents were presented with a questionnaire containing the following scenario:

*Customer demand for the products and/or services that your business sells has increased to such a level that you need to **double** the number of employees in your business to meet increased demand*

Respondents were then asked to complete seven question blocks in a best-worst scale format where they were required to choose the “Most Important” and “Least Important” consequence of such business growth from a set of three of the consequences listed in Table 1.

The questionnaire also presented respondents with the seven consequences of growth and asked them to rate on a 7 point likert scale of “Very unlikely” to “Very likely” the likelihood that each consequence would result if their number of employees was doubled.

The respondent’s perception of their own attitude towards the growth scenario was measured using a 7 point likert scale ranging from “Very strongly negative” to “Very strongly positive”. As noted by Rossiter (2002), there is no problem in using a single item measure when respondents understand clearly that only one characteristic is being referred to in the question. These measures are referred to as concrete singular and can be captured adequately using single item measures.

RESULTS

Questionnaire results were analysed using a two-step approach involving: (1) a relative ordering technique based on Best-Worst analysis, and (2) a structural model based on the partial least squares (PLS) technique.

Fifty-four small business owners completed the best-worst experiment. As one would expect, the distribution of respondents by industry is skewed towards the service sector (Manufacturing = 11%; Retail = 17%; Services = 72%). The mean and median values for the entire sample were 7.14 and 2 employees respectively.

Analysis of the best-worst scores

We first calculated a best-worst frequency score for each of the 7 consequences of growth according to the number of times the attribute was selected by respondents. The simple rank

ordering process creates individual-level scales for each consequence that are easily comparable across the entire sample (see Table 2).

Table 2: Ranked Results from Consequences of Growth ‘Best-Worst’ Experiment

Consequence of growth	Beta score	Relative main effects
A. Decreased Owner Work Load	0.592	0.217
B. Increased Owner Control	0.585	0.216
C. Increased Favoured Work Tasks	0.539	0.206
D. Increased Independence of Firm	0.423	0.183
E. Increased Ability to Survive a Crisis	-0.541	0.070
F. Increased Personal Income	-0.723	0.058
G. Increased Quality	-0.871	0.050

The most important consequence of growth is *decreased owner workload* ($\beta = 0.592$) and the least important is *increased quality* ($\beta = -0.871$). The relative main effect scores provide an equally strong preference for *decreased owner workload* (0.217) and *increased owner control* (0.216). The interpretation of Table 2 also requires some discussion because the scores are on a relative scale. This means that *increased owner control* (0.217) is four times more important than *increased quality* (0.050) and three times more important than *increased ability to survive in a crisis* (0.070).

Structural Model Based on PLS

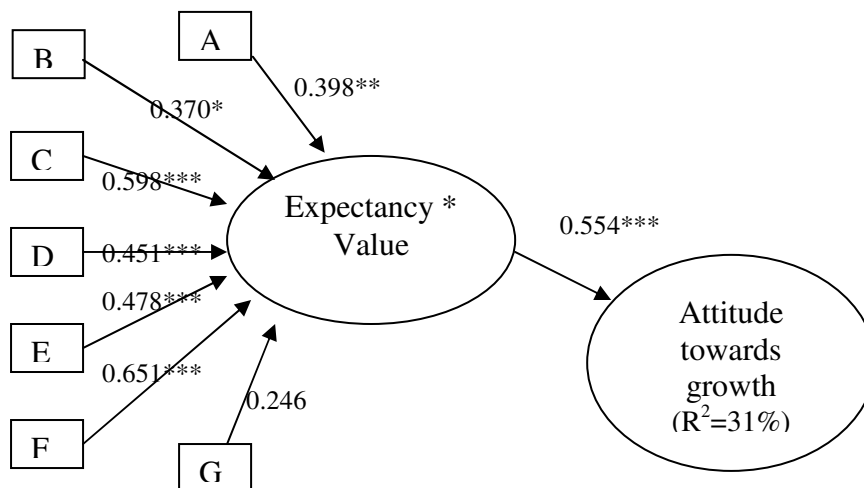
A structural equation model based on partial least squares (PLS) was used to evaluate hypothesis one. PLS offers a sophisticated way to test direct, indirect and total effects of one variable on another and is particularly suitable for exploratory work, small to medium sample sizes and does not assume multivariate normality in the data (Fornell 1982). Additionally, the PLS methodology is capable of including both formative and reflective measures simultaneously in a model and has gained the interest and use in various disciplines (Chin, Marcolin and Newsted 2003).

The model analysed is a simple direct effects model where the primary aim is to test the convergence between the expectancy-value rating for each consequence of growth against business owners’ reported attitude towards growth. The expectancy-value index was

calculated based on the original formulation where a person's attitude toward a particular behaviour can be predicted by multiplying his or her evaluation of each expected consequence by the strength of the belief that the behaviour is likely to occur (Ajzen & Fishbein 1980).

The main effects model (see Figure 1) reveals two interesting findings. First, the item loadings that comprise the expectancy-value index are all positive and significant (with the exception of increased quality, which is positive but not significant). Second, the impact of the expectancy-value index on attitudes towards growth is highly significant ($\beta = 0.554$ $p < 0.001$); supporting hypothesis 1. The level of explained variance reported in the model is $R^2 = 0.31$.

Figure 1: Main Effects Model



DISCUSSION

The results of this study have important implications for theory and practice. Our empirical results reveal that the interaction of evaluation of expected consequences on the one hand and the strength of the belief on the other is a positive and significant indicator of attitudes towards growth. This finding contrasts with other empirical work that has questioned the validity of the multiplicative combination of beliefs and evaluations (Bagozzi 1984; Valiquette, Valios, Desharnais, & Godin 1988) that forms the basis of the original expectancy-value model (Ajzen & Fishbein 1980). Furthermore, the reduced form discrete choice analysis allows us to better capture idiosyncratic dimensionality and the relative importance of individual beliefs in ways that others have not been able to do (Bagozzi 1984).

Practically, the results reveal the consequences of growth that are most and least desirable. Considerable evidence exists to show that attitudes are the drivers of behaviour (Ajzen & Fishbein 1980). Hence, it is reasonable to conclude that the more desirable the consequences of growth, the more likely business owners are to seek growth. As Wiklund, Davidsson and Delmar (2003) argue, many small business owners choose not to increase the size of their business because they expect the results to be negative. However, “there is an opportunity for economic growth if small business managers’ growth aspirations can be increased” (Wiklund & Shepherd 2003: 1936). In the context of an economic gardening program, our findings are important for two reasons: (1) business owners who have a positive attitude toward growth are more likely to work towards it and would therefore make suitable candidates for economic development and support services; and (2) business owners who have negative attitudes towards growth may benefit from seminars or workshops which address the positive consequences of growth and how these might be achieved in a small business.

SUMMARY

The assumptions inherent in prior economic gardening approaches to identify gazelles are: (1) that every owner with a temperament considered as entrepreneurial is willing to actively increase their number of employees, and; (2) that they will maintain the regional location of their business once it becomes successful. Since employment growth and retention are key considerations of regional economic gardening practitioners, the success of a program is dependent on these two assumptions being correct. However, research has in fact indicated that many small business owners are not willing to increase the size of their company (Wiklund, Davidsson and Delmar 2003), and that growth is not always associated with entrepreneurship (Gartner 1990). Even if a definitive measure of entrepreneurial potential based on temperament was developed, choosing business gazelles by this method would not account for the future behaviour of the business owner; they may, for example, choose to invest profits in machinery in order to *decrease* employee numbers and associated costs. It is also a plausible scenario that once a small business experiences some growth, the business owner may prefer to move the business to a metropolitan area based on the belief that this would be more conducive to further expansion.

By re-examining the way participants are selected we believe that we can add value to the economic gardening model. The key assumption in our approach is that attitudes towards

growth should be measured directly. The approach used in this study will allow us to do this and advance our understanding of attitudes towards employment growth. The same model may be applied to understanding the attitudes of business owners towards maintaining their business in a regional location. Together, such measures will arguably identify those business owners who will be of most benefit to the economic development of a region.

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