The Agents' Socially Desirable Responding (ASDR) Scale in an Australian Professional Service Setting

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Abstract

Social desirability bias (SDB) is a major problem in marketing research, even when managers are asked about their organisations, Manning et al. (2009) recently developed a SDB scale for such contexts that we tested in an Australian professional service context. While they found one dimension, we found positive and negatively worded dimensions, suggesting the scale's generalisability needs further investigation. The positively worded subscale moderated the market-orientation - customer performance relationship in a similar way across strategy approaches, suggesting SDB is an issue in some professional service contexts.

Keywords: social desirability bias, market orientation, professional services

Introduction

Social-desirability bias (SDB) is one of the most common and pervasive sources of bias that affects the validity of research findings in the social sciences (King and Bruner 2000). Social desirability bias, a form of measurement bias, has been defined as "participants' tendency to describe themselves in favourable terms by adhering to socio-culturally sanctioned norms" (De Jong et al. 2010, p. 14). This is a serious problem as its presence can negate the validity of studies using survey data, as it leads to people providing responses that reflect their society's norms and standards (Nederhof, 1985). Social desirability bias is common (Tourangeau and Yan 2007) and has been recognised as an issue across several disciplines, including psychology, education and marketing (e.g. Leite and Beretvas 2005; Reynolds and Smith, 2010; Tourangeau and Yan 2007).

A range of approaches have been developed to deal with this problem, including post hoc approaches using scales designed to correct for SDB. These include the Marlowe-Crowne scale (Crowne and Marlowe 1960) and Paulhus's (1984) Balanced Inventory of Desirable Responding (BIDR). The former scale assumes a single latent construct, while the latter scale assumes two factors (self-deceptive enhancement (SDE), which is a tendency to give a perceived as honest yet positively biased self-report; and impression management (IM), which is the deliberate misreporting to construe a socially desirable image). This proposed structure has not been supported by all researchers (e.g. Leite and Beretvas 2005) and there is a lack of agreement as to the structure of SDB. Variations exist in terms of the mode of data collection, the scaling of items, the statistical techniques used for analysis and other situational aspects that underscore the importance of validating appropriate measures. Indeed, previous SDB scales have been criticised as being too long, containing inappropriate or even offensive items (e.g. "There have been occasions when I felt like smashing things" (Marlowe Crowne) or "My parents were not always fair when they punished me" (BIDR) and being too general, focussing on aspects such as honesty and fairness (Fisher 2000)).

Compounding these challenges, our interest in the present study was in managers' self-reporting with respect to their organisation, rather than consumers' self reporting on their consumer behaviours. Clearly the issue of bias is not restricted to consumers, as managers faced with a survey may respond in ways that reflect favourably on their organisation. This

tendency can arise for several reasons, not least of which is that the informant, whether an employee or owner, is conditioned to present a positive image of their organisation, as a firm's reputation, especially in the case of high contact services, is dependent on such staff (i.e. the person is the firm) (Berry 2000). As a consequence, researchers have reported only weak relationships between such scales and organisational measures (e.g. Moorman and Podsakoff 1992).

This problem led Manning et al. (2009, p. 42) to develop an eight-item scale that measured agents' socially desirable responding (ASDR) that had good measurement properties and acted "as an effective control for SDB in organizational settings." Their scale represents thoughts and behaviours that are undesirable, yet universally enacted or experienced (the negative set), and that are desirable, yet are universally not enacted or experienced (the positive set). The terms 'all' or 'always' were included in the positive set, while 'sometimes' or similar terms were included in the negative set to make them realistic (as can be seen in Table 1). As the ASDR scale was developed in the United States, its validity in other countries needs to be examined to assess its generalisability. Consequently, the present study, which is discussed in the next section, was undertaken to assess the ASDR scale's measurement properties in an Australian organisational context and to explore its role as a control variable in the MO–performance relationship, which was a relationship assessed by Manning et al. (2009) in the development of their scale.

The present study

As part of a larger study investigating professional service providers' market orientation (MO), strategies and performance, ASDR data were collected from a sample of managers employed by a variety of Australian professional service providers. The survey was conducted through a national online panel and respondents were selected randomly from the market research organisation's database, although quotas were imposed to match the population profile across states. In all, 199 responses were obtained. Respondents came from several professional service industries, including the accounting, consulting, advertising, marketing, engineering, architecture, legal, insurance, media and communications sectors.

Within the questionnaire, respondents were asked a series of questions about their organisation's market orientation and financial and customer performance. Market orientation was measured using the dimensions suggested by Dawes (2000) including customer analysis - a focus on customer needs, customer responsiveness -responding to such needs and preferences and competitor orientation – a focus on competitor activity, to which was added the short form of Saxe and Weitz's (1982) customer orientation scale suggested by Thomas et al. (2001), which focuses on the interactions between customers and providers, which are particularly important in professional service contexts. Further, the organisation's financial performance (in terms of profit margins, return on investment and sales volume) and customer performance (in terms of customer satisfaction and loyalty) for the previous year compared to their major competitors was also collected. Finally, respondents were asked to respond to the eight-item ASDR scale, which was the construct of central interest in this case, although some small changes in wording were made to better reflect Australian vernacular. The eight items, which were measured on a 7-point scale that ranged from "not true" to "very true," are shown in Table 1. As can be seen in the Table, the three positive items had higher means, although all of the items had means above the midpoint of the scale, which was surprising given the negative nature of some of the items. However, all of the items had relatively large standard deviations, suggesting there was variation in respondents' views and that it worth examining the scale's measurement properties.

Table 1: The ASDR Scale Items

Scale Item	Direction	Mean	SD
All of the managers at my firm feel satisfied with their jobs	Positive	5.21	1.30
Different functional areas within my firm, such as marketing and production, sometimes lack cohesion or unity	Negative	4.36	1.70
At my company, all of the employees are outstanding performers	Positive	4.84	1.49
Sometimes my firm fails to exercise good judgment	Negative	4.22	1.59
Managers at my firm are sometimes afraid to voice their disagreement with a higher level manager's ideas	Negative	4.02	1.83
Employees at my company are always trustworthy	Positive	5.32	1.32
At my company, hiring decisions have always been based only on qualifications	Positive	4.12	1.78
My firm has downplayed an event that customers might view as negative	Negative	4.11	1.67

A confirmatory factor analysis was undertaken to assess the scale's measurement properties in the present research context. The eight items were not a good fit to the present data set (χ^2 = 281.21 ($p<0.001$); χ^2/df=14.06; GFI=0.70; AGFI=0.46; RMSEA=0.26; SRMR=0.21). An examination of the loadings suggested the four negative items were not well related to the four positive items and that they should be modelled as separate constructs. Consequently, the CFA was re-run separately for the two item groups. A CFA of the positive items did not fit the data well as the hiring decision item had a very low loading (0.22). After it was deleted there were no degrees of freedom to assess model fit. However, two of the error variances were similar and were made equal, providing the degree of freedom needed. The construct had an acceptable fit (χ^2=0.15; p=0.69) and the loadings ranged from 0.70 to 0.87, which suggested unidimensionality. Construct reliability was 0.81 and the AVE score was 0.59, which suggested the construct was reliable and that convergent validity could be assumed. Consequently, the positive ASDR scale was accepted. A CFA of the negative items fitted the data well. The construct had an acceptable fit (χ^2=4.05; p=0.13) and the loadings ranged from 0.58 to 0.82, which suggested unidimensionality. Construct reliability was 0.81 and the AVE score was 0.53, which suggested the construct was reliable and that convergent validity could be assumed. Consequently, the negative ASDR scale was also accepted. The correlation between the two scales was -0.03, which explained why the initial poor fit was obtained.

The moderating effect of the scale in the market orientation – performance relationship was then examined in testing for nomological validity, a process also conducted by Manning et al. (2009). Both scales were included in the examination of the MO–performance relationship as it was unclear which aspect might impact, although the nature of social desirability biases suggested the positive scale was more likely to impact.

The data set was used to obtain estimates of the relationships of interest. The four market orientation constructs were included in an initial stepwise regressions that explained 22% of the variance in the financial performance construct and 13% of the variance in the customer performance construct, the former being similar to the result found in other studies investigating this relationship (e.g. Dawes, 2000; Slater and Narver, 1994). However, only customer analysis and competitor analysis had a significant impact on financial performance, while only customer orientation had a significant impact on customer performance.

To control for SDB, hierarchical regressions were also estimated, in which the two SDB scales were first entered in the performance equations, after which the four MO measures were entered in a stepwise manner in the second stage of the analysis. As can be seen in

Table 2, in the case of financial performance, the ASDR scales only explained a small amount of variance (7%). However, both the positive and negative ASDR dimensions were significant at this stage. When the MO variables were added in the second stage, the customer analysis variable, which was the only significant variable in this stage of the analysis, increased the R^2 statistic to 22%, while the two ASDR variables remained marginally significant ($p<0.10$). In the case of customer performance, the two ASDR dimensions explained a much greater amount of the variance (23%), although only the positive ASDR scale was a significant predictor at this stage, while the stepwise addition of the MO variables only increased the R^2 statistic to 26%, suggesting SDB is a significant issue in this case. In summary, SDB impacted on the results obtained when examining performance relationships, although the size of the impact and the significance of the ASDR dimensions seem to depend on the type of performance measure being examined.

Table 2: The Regression Results

DV =Financial Performance			DV= Customer Performance		
Regression	IVs	Standardised Coefficient	Regression	IVs	Standardised Coefficient
# 1	Constant		# 3	Constant	
$R^2 = 0.07$	ASDR (+)	0.20***	$R^2 = 0.23$	ASDR (+)	0.47***
	ASDR (-)	0.20***		ASDR (-)	-0.07
# 2	Constant		# 4	Constant	
$R^2 = 0.22$	ASDR (+)	0.11*	$R^2 = 0.26$	ASDR (+)	0.43***
	ASDR (-)	0.12*		ASDR (-)	-0.11*
	Customer Analysis	0.40***		Customer Analysis	0.18***

*** p<0.01, ** p<0.05, * p<0.10

SDB may also exaggerate MO self-reports. As partial correlations may provide evidence of SDB's role, partial correlations that took account of the ASDR scales were computed between the four MO constructs and the two performance measures and the results obtained are shown in Table 3. These correlations were compared to the relevant total correlations between the MO dimensions and the two performance measures. As can be seen in Table 3, the differences between the partial and total correlations were greater for the customer performance measure than for the financial performance measure, supporting the earlier suggestion that SDB is a greater problem when relationships with more subjective performance measures are being examined.

Table 3: The Correlations

Performance Aspect	Customer Analysis	Customer Responsiveness	Competitor Analysis	Customer Orientation
Financial Performance *	0.44	0.30	0.37	0.23
Customer Performance *	0.25	0.30	0.22	0.37
Financial Performance **	0.42	0.24	0.34	0.16
Customer Performance **	0.18	0.09	0.12	0.17

* Total correlations ** Partial correlations after controlling for ASDR dimension

A previous study had suggested organisations' strategy choices impact on the relationships between the various MO aspects and financial performance (Soutar et al., 2007). Consequently, it was decided to see whether SD biases were more influential in these strategy subgroups. As was the case with Soutar et al. (2007), respondents had been asked whether they considered themselves to be a 'prospector', 'analyser', 'defender' or 'reactor' using descriptions developed by Snow and Hrebiniak (1980) and McDaniel and Kolari (1987). While there were very few 'reactors' (8% of the sample), the other types of strategies were reported by reasonable numbers of respondents (37% were 'defenders', 31% were 'prospectors' and 24% were 'analysers'). These three groups were used in the subsequent analysis in which differences were examined by estimating a multiple group path (regression) analysis, which was estimated using the AMOS modelling program (Arbuckle 1997). Further, as Soutar et al. (2007) had found differences in the statistical significance of the MO-financial performance relationships, the four MO dimensions were all included in this phase of the analysis, as were the two ASDR dimensions. Constraining the regression paths to be equal (which is the way group differences can be examined) led to a significant increase in the chi-square statistic ($\Delta\chi^2$=26.19, df=12, p=0.01). It seems there were differences between the groups, which was expected given Soutar et al.'s (2007) results. However, the issue in this case was whether the significance and strength of the ASDR scales changed. This was examined by computing t-statistics for the differences in the estimated regression coefficients for the positive and negative ASDR scales across the three groups. These t-statistics ranged from 0.12 to 1.33. As none were significant, it is clear the group differences were not due to differences in social desirability responding across the groups but to differences in the MO-financial performance relationships, as had been the case in the Soutar et al. (2007) study. Based on the earlier regression, ASDR was a minor issue ($p<0.10$) for the MO-financial performance relationship across the three strategy groups.

Differences in the MO and ASDR-customer performance relationships across the three strategy groups were also examined. In this case, constraining the regression paths to be equal did not lead to a significant increase in the chi-square statistic ($\Delta\chi^2$=14.48, df=12, p=0.27). The MO-customer performance relationships and the ASDR customer performance relationships were similar across the three strategy groups. ASDR did not have a differential effect across strategy groups. Based on the earlier regression, positive ASDR was a significant issue and remained so within each of the three strategy groups ($p<0.05$), while negative ASDR was less of an issue ($p<0.10$).

Conclusions

The present study made two contributions. First, the structure and measurement properties of the ASDR scale were assessed in an Australian context and, second, the role of ASDR as a control variable in the MO–performance relationship was tested. In contrast to Manning et al's (2009) findings, the ASDR scale was found to be two-dimensional in the present context, with the positive and negative items loading onto different dimensions. However, both sub-scales had good measurement properties. The results also suggested the positive dimension was most influential as a control variable, having a significant effect on both financial and customer performance, although its impact was greater on customer performance. These results were also found to hold at a strategy subgroup level. This suggests the customer performance sub-scale, which is a more subjective measure, was more vulnerable to SDB than the more traditional financial performance measure, at least in the present Australian professional service provider context. Research in other countries and in other contexts is clearly needed to see if this is a generalisable result or if Manning et al.'s (2009) unidimensional scale is generally more appropriate.

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