

Case 12

Small business owner managers' skill sets

Since arriving at university, Ishmael had become increasingly interested in small businesses. He had taken all the modules concerned with Small Businesses and Entrepreneurship and chosen to answer a question about small business owner managers for his research project:

'How important do small business owner managers consider the different skill sets needed to run a small business and why?'

Although the project tutor had felt Ishmael's question needed more refinement and suggested that he needed to read widely before collecting any data, Ishmael was pleased with his research question and his method. During his reading to prepare his research proposal he had come across a paper by Brown *et al.* (2006) in the journal *Accounting Forum*. This included, as an appendix, the questions Brown and colleagues had asked small business managers in their questionnaire. He had decided to adapt some of these questions for his own Internet-mediated questionnaire that he administered to small business managers including:

Entrepreneurial Skills						Exit this survey
3. How confident are you in your skills in the following areas?						
	5 - very confident	4	3	2	1 - not at all confident	
Marketing and sales	☐	☐	☐	☐	☐	
Interpersonal	☐	☐	☐	☐	☐	
Financial/accounts	☐	☐	☐	☐	☐	
Managerial	☐	☐	☐	☐	☐	
Business planning	☐	☐	☐	☐	☐	
IT	☐	☐	☐	☐	☐	
Time management	☐	☐	☐	☐	☐	
Technical (e.g. plumbing skills for plumber)	☐	☐	☐	☐	☐	
4. How important do you think each of the following skills is in running your business at the moment?						
	5 - very confident	4	3	2	1 - not at all confident	
Marketing and sales	☐	☐	☐	☐	☐	
Interpersonal	☐	☐	☐	☐	☐	
Financial/accounts	☐	☐	☐	☐	☐	
Managerial	☐	☐	☐	☐	☐	
Business planning	☐	☐	☐	☐	☐	
IT	☐	☐	☐	☐	☐	
Time management	☐	☐	☐	☐	☐	
Technical (e.g. plumbing skills for plumber)	☐	☐	☐	☐	☐	

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In his initial analysis, Ishmael used SPSS to produce a set of descriptive statistics for each of his questions. For questions three and four these were:

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
3 Confidence in own skills in marketing and sales	96	1	5	3.44	1.074
3 Confidence in own skills in interpersonal	96	2	5	4.06	.723
3 Confidence in own skills in financial/accounts	96	1	5	3.10	.989
3 Confidence in own skills in managerial	96	0	5	3.60	.864
3 Confidence in own skills in business planning	96	1	5	3.17	.959
3 Confidence in own skills in IT	96	1	5	3.39	1.137
3 Confidence in own skills in technical (e.g plumbing skills for plumber)	96	0	5	4.02	1.095
3 Confidence in own skills in time management	96	1	5	3.28	.879
4 Importance of skills in running business-marketing/selling	96	1	5	4.49	.951
4 Importance of skills in running business-interpersonal	96	0	5	4.06	1.177
4 Importance of skills in running business-financial/accounts	96	2	5	3.83	1.002
4 Importance of skills in running business-managerial	96	0	5	3.55	1.141
4 Importance of skills in running business-business planning	96	0	5	4.18	.962
4 Importance of skills in running business-IT	96	0	5	3.35	1.222
4 Importance of skills in running business-technical (e.g. plumbing for plumber)	96	0	5	4.15	1.026
4 Importance of skills in running business-time management	96	1	5	4.05	.863
Valid N (listwise)	96				

He then decided to see if his respondents' perceived confidence in their own skills was related to their perceived importance for each of these skills. Because Ishmael was uncertain as to which statistics to use to examine possible relationships, he used SPSS to both calculate correlation coefficients and to undertake a series of chi square tests:

Correlations							
Correlations							
		3 Confidence in own skills in marketing and sales	3 Confidence in own skills in interpersonal	3 Confidence in own skills in financial /accounts	4 Importance of skills in running business -marketing /selling	4 Importance of skills in running business -interpersonal	4 Importance of skills in running business -financial /accounts
3 Confidence in own skills in marketing and sales	Pearson Correlation	1	.303**	.056	.241*	-.030	.049
	Sig. (2-tailed)		.003	.590	.018	.770	.636
	N	96	96	96	96	96	96
3 Confidence in own skills in interpersonal	Pearson Correlation	.303**	1	-.068	.047	.119	-.029
	Sig. (2-tailed)	.003		.510	.650	.248	.779
	N	96	96	96	96	96	96
3 Confidence in own skills in financial/accounts	Pearson Correlation	.056	-.068	1	.225*	-.177	-.014
	Sig. (2-tailed)	.590	.510		.028	.084	.891
	N	96	96	96	96	96	96
4 Importance of skills in running business -marketing/selling	Pearson Correlation	.241*	.047	.225*	1	.076	.109
	Sig. (2-tailed)	.018	.650	.028		.463	.292
	N	96	96	96	96	96	96
4 Importance of skills in running business -interpersonal	Pearson Correlation	-.030	.119	-.177	.076	1	.321**
	Sig. (2-tailed)	.770	.248	.084	.463		.001
	N	96	96	96	96	96	96
4 Importance of skills in running business -financial/accounts	Pearson Correlation	.049	-.029	-.014	.109	.321**	1
	Sig. (2-tailed)	.636	.779	.891	.292	.001	
	N	96	96	96	96	96	96

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

Ishmael showed a friend his questionnaire and the SPSS output from his preliminary analysis relating to questions three and four. Over a cup of coffee he asked for advice regarding the analysis of his data. In the subsequent discussion Ishmael emphasised that, as part of the assessment criteria for his research project, he would need to explain why he had chosen to use particular statistics and diagrams.

3 Confidence in own skills in marketing and sales * 4 Importance of skills in running business–marketing/selling

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	32.603 ^a	16	.008
Likelihood Ratio	22.958	16	.115
Linear-by-Linear Association	5.536	1	.019
N of Valid Cases	96		

a. 20 cells (80.0%) have expected count less than 5.
The minimum expected count is .08.

→ 3 Confidence in own skills in marketing and sales * 4 Importance of skills in running business–interpersonal

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.662 ^a	20	.675
Likelihood Ratio	16.736	20	.670
Linear-by-Linear Association	.087	1	.769
N of Valid Cases	96		

a. 23 cells (76.7%) have expected count less than 5.
The minimum expected count is .04.

References

- Brown, R.B., Saunders, M.N.K., and Beresford, R. (2006) 'You owe it to yourselves: the financially literate manager', *Accounting Forum*, Vol. 30, No. 2, pp. 179–91.
- SurveyMonkey.com (2008) SurveyMonkey.com. Available at: <http://www.surveymonkey.com> [Accessed 29 June 2008.]

Questions

- Ishmael appears uncertain regarding his choice of statistics (the mean and standard deviation) in the first table to describe the responses to questions 3 and 4.
 - How would you advise him?
 - What diagrams would you suggest Ishmael uses to present the data from these questions?
- Examine the remaining two extracts reporting correlation coefficients and chi square tests. Should Ishmael use either the Pearson's product moment correlation coefficients or the chi square tests as reported in these extracts?
- Ishmael has decided to undertake further statistical analyses to see if there is any relationship between his respondents' perceived confidence in their own skills and their perceived importance for the same set of skills. Outline the analysis process you would recommend including, if necessary, any further work that might be needed to satisfy your chosen test's assumptions.