

10 Estimating fit

In Chapters 7 and 8 a simple (loglinear) productivity model was used in which 6 groups of factors (e.g. market, human, social, personality, motivational and strategy capital), all contribute to career success of independent professionals in terms of revenue and satisfaction. Based on this loglinear model, and by using various estimation techniques, the potential added value of firm strategy for independent professionals was assessed. But this simplified model implicitly assumed a somewhat too simple transmission mechanism of firm strategy to business success. Modern strategic management theory teaches us that firm success is the result of a complex strategy, which matches various factors (Venkatraman and Camillus, 1984). The art of strategy formulation and execution is bringing together the resources of the firm with its market circumstances. Firm success can only be achieved by a strategy that aligns the internal resources with external opportunities. This may require a (very complex) fit between market opportunities and internal resources. The potential complexity of strategic fit is easily visible in, for instance, the McKinsey 7-S model of Peters and Waterman (1982), which argues that congruence among seven internal elements (strategy, structure, systems, style, staff, shared values, and skills) is a prerequisite for organizational success. So modern strategic theory learns us that whether a freelance business strategy works or not, depends on whether the business strategy is able to match the internal resources (human, social, motivational and personality capital) with the environment (i.e. market circumstances).

10.1 Strategic fit – the theory

This notion of strategic fit is theoretically and logically very strong, and is well accepted by most organizational scholars. Nevertheless, the concept of strategic fit has 3 major disadvantages (Zajac et al, 2000), which explains why the concept of fit is not used as much as probably is warranted. Firstly, it is very hard to operationalize strategic fit in practice, given the fact that there are multiple internal and external contingencies, that all affect the optimal strategic fit. This is a serious problem as modern contingency theory states that focusing on individual elements of fit in isolation can be very misleading (Burton, Lauridsen and Obel, 2002). In this respect, Venkatraman (1989) discusses 3 possible modeling solutions of fit (i.e. fit as moderation, fit as mediation and fit as deviation, all with their specific advantages and disadvantages). Secondly, a researcher should ideally specify normatively all strategies that ought to work in certain

circumstances. Clearly, this is a very hard, if not impossible job. Thirdly, as fit is a dynamic concept, the optimal strategy might change due to alterations in resources or environmental conditions.

This chapter uses the novel approach of Parker and van Witteloostuijn (2008) to estimate multidimensional fit and the impact of fit on business success.²⁴ Their General Interaction (GI) approach includes the three potential ways of modeling fit which are discussed in detail by Venkatraman, and has the added benefit that it introduces a set of new and efficient test statistics, making the results robust when the number of degrees of freedom is limited. The GI approach is an extension of a translog function. This function is well known for its generality and flexibility. It approximates any functional relationship between firm performance, on the one hand, and a given set of explanatory variables, on the other. The model is a second-order Taylor approximation of any performance relationship, which means it approximates any performance equation, and any set of interactions. For technical and methodological details of this approach, the reader is referred to Parker and van Witteloostuijn (2008).

10.2 Estimating freelance fit

In this section the GI-approach is used to approximate the true performance relationship between the capabilities of independent professionals (i.e. human capital, social capital, and personality capital) and career success. Starting point is our generalized model of career success.

Although Parker and van Witteloostuijn (2008) show that their GI-model can handle very small sample sizes, it was nevertheless necessary to adapt our base career success model of Chapter 8 somewhat to limit the number of variables. Otherwise, the GI model would quickly grow to over 1000 variables. Based on the insights from the earlier estimation results, the following variables were deleted from our base model: partner support (SC), recent training effort (HC), and the three motivational capital variables. Excluding these 5 variables was judged as defensible.

In our refined model, there are 3 types of internal resource variables: 1) human capital (I_i^{HC}), 2) social capital (I_i^{SC}), and 3) personality capital (I_i^{PC}). Besides these internal resource variables there are market/environment (E_i) variables, and firm strategy variables (S_i). Career success (CS_i) can thus be written as:

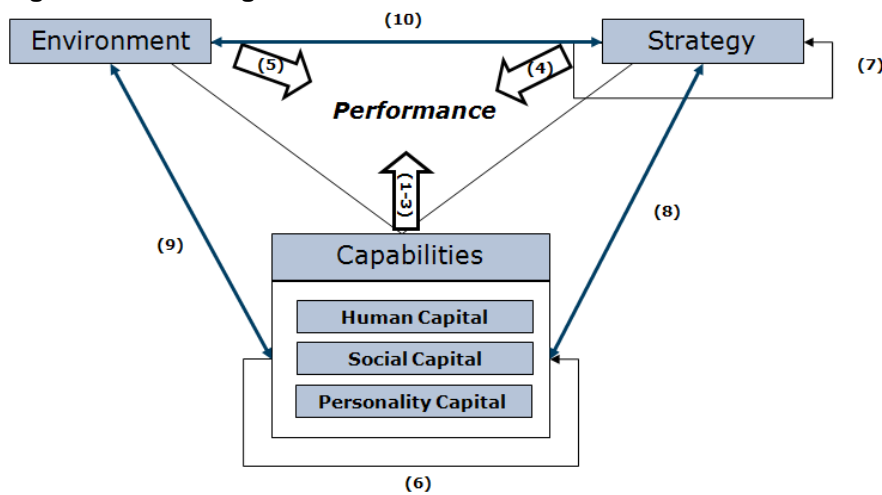
²⁴ Note: for the estimations in this chapter our dataset of March, 1 2008 was used with 1467 observations instead of our April, 1 2008 dataset with 1592 observations.

$$\begin{aligned}
CS = & f(C_i) + \sum a_i^I * I_i + \beta_i^I * I_i^2 + \sum a_i^E * E_i + \beta_i^E * E_i^2 + \sum a_i^S * S_i + \beta_i^S * S_i^2 \text{ (Individual effects)} \\
& + \sum \beta_{ij}^I * I_i * I_j + \sum \beta_{ij}^E * E_i * E_j + \sum \beta_{ij}^S * S_i * S_j \text{ (internal fits)} \\
& + \sum \sum \gamma_{ii}^{IS} * I_i * E_i + \sum \sum \gamma_{ii}^{IE} * I_i * S_i + \sum \sum \gamma_{ii}^{SE} * E_i * S_i \text{ (mutual fits)} \\
& + \sum \sum \sum \delta_{ij}^{IES} * I_i * E_j * S_i \text{ (complex interaction fits)} + \varepsilon,
\end{aligned}$$

where C_i is a number of control variables and ε is an error term.

This left us with one performance variable, 7 control variables, 10 internal resource variables (3 human capital, 4 social capital and 3 personality capital variables), 6 environment/market variables, and 4 strategy variables. Specifying the GI model with these variables, gives an interactive performance model with 18 linear and squared internal resource effects (4 human capital, 8 social capital and 6 personality capital ones), 6 linear and squared market effects, and 8 linear and squared strategy effects. There were 50 variables reflecting internal fits (44 resource fits, and 6 strategy fits, no environment fits due to market dummies). Then there were 124 variables reflecting bivariate interaction terms, and 240 three-way interaction terms. All together, there were 448 variables.

Figure 28: Modeling fit of freelance success



In Figure 28, one can see the potential power of the GI - model. Using all the interaction effects, one can test whether performance (i.e. career success) is determined by simple causes, such as: the various internal capabilities (human capital, social capital and personality, causes 1 to 3), firm strategy (cause 4), environment or market variables (cause 5), which are all part of our earlier model, or by more complex causes of fit. Possible complex interactions are the internal fit of human, social, and personality capital (cause 6), the internal fit of business strategy (cause 7), the

fit of internal resources with the strategy (cause 8), the fit of internal resources with the market (cause 9), or the fit of strategy with the market (cause 10) or even a complex 3 way interaction between internal resources, environment and business strategy.

Parker and van Witteloostuijn (2008) suggest various statistics to test if a group of (interaction) variables contributes statistically to explaining cross-firm variations in performance. In our setting, we differentiate 11 IC statistics, one for each of the above causes of potential determinants success. An example illustrates this. Our model includes 4 strategy variables of independent professionals: better for less (S_1), innovation and differentiation (S_2), product scope (S_3) and industry specialization (S_4). The strategic fit IC statistic indicates whether or not these 6 intra-strategy product terms (S_1*S_2 , S_1*S_3 , S_1*S_4 , S_2*S_3 , S_2*S_4 and S_3*S_4) jointly contribute significantly to explaining differences in career success. Parker and van Witteloostuijn (2008) show that 3 tests based on the F statistic perform well in terms of both size and power. These are the Wald (W), Likelihood Ratio (LR) and Lagrange Multiplier (LM) tests, of which the LM-test is the most conservative one.

Table 96: Estimating fit of objective career success

		<i>Terms</i>	<i>Wald</i>	<i>LR</i>	<i>LM</i>
1	Individual effect – HC	4	7.38	7.36	7.35
2	Individual effect – SC	8	7.87	7.85	7.83
3	Individual effect – PC	6	6.21	6.19	6.18
4	Individual effect – Strategy	8	13.73†	13.67†	13.61†
5	Individual effect – Market	6	9.47	9.44	9.41
6	Fit between Capabilities	44	66.38*	64.91*	63.49*
7	Strategic fit	6	7.73	7.71	7.69
	Environment fit	N.A.	N.A.	N.A.	N.A.
8	Strategy Capability fit	40	80.36**	78.22**	76.16**
9	Market Capability fit	60	80.95*	78.78†	76.69†
10	Market Strategy fit	24	31.60	31.27	30.93
11	Multi interactions	240	356.29**	318.74**	286.29**

† = significant at 10% level, * = significant at 5% level, ** = significant at 1% level

10.2.1 Fit and freelance revenue

Table 96 shows the results of the tests. They indicate that complex interaction effects are indeed very important in determining objective freelance career success. All individual causes (such as: human capital and social capital), which seemed extremely significant in our earlier regressions, become irrelevant in this complex interaction model. Matching internal capabilities (cause 6), matching business strategy with internal capabilities (cause 8), matching internal capabilities with the environment (cause 9), and complex three-way interactions (cause 11) are the main reasons for career success.

It is striking that both the internal fit between capabilities, and the external fit between capabilities and both market and strategy factors are important. This suggests that the internal resources are of crucial importance, but that they do not add value through direct effects, but through more or less multifaceted relations. To understand more of these relations, the various effects of the fit of the individual capabilities, firm strategy, and market environment were also analyzed in somewhat more detail in Table 96. This has led to the following insights. Firstly, the fit between **human capital** and **social capital** was the only significant fit factor within the internal capabilities. Secondly, the fit between **social capital** and **strategy capital** proved to be significant. Thirdly, the fit between **personality capital** and both **strategy capital** and **market factors** are significant. This suggests that personality has an important, but not always straight forward relation with success. Personality per se is not that relevant, but the fit between personality and business strategy, and the fit between personality and market factors are very important to freelance career success.

Table 97: Estimating detailed fit

		<i>Terms</i>	<i>Wald</i>	<i>LR</i>	<i>LM</i>
6-I	Fit HC – HC	2	2.41	2.41	2.40
6-II	Fit SC – SC	6	10.54	10.50	10.46
6-III	Fit PC – PC	3	3.14	3.14	3.13
6-IV	Fit HC – SC	12	27.53**	27.28**	27.02**
6-V	Fit HC – PC	9	5.11	5.10	5.09
6-VI	Fit SC – PC	12	18.93†	18.80†	18.68†
8-I	Fit HC – Strategy	12	16.18	16.09	16.00
8-II	Fit SC – Strategy	16	29.34*	29.04*	28.76*
8-III	Fit PC – Strategy	12	35.29**	34.87**	34.46**
9-I	Fit HC – Market	18	13.92	13.85	13.79
9-II	Fit SC – Market	24	34.08†	33.69†	33.30†
9-III	Fit PC – Market	18	33.94*	33.55*	33.17*

† = significant at 10% level, * = significant at 5% level, ** = significant at 1% level

To gain a better understanding of the relationship between career success and personality fit, a detailed look at the various combinations of personality and strategy capital, and personality and market factors was carried out. From this it followed that an open personality is particularly beneficial when pursuing a low cost or better service strategy. Maybe an open personality acts as a substitute when no decent strategy is formulated. As the person is open to new experiences, he may be able to perform various assignments. It also became clear that career insight is especially positive when one pursues an industry specialization strategy. In this case career insight perhaps helps to obtain the right assignment and client contacts within the industry. The combination of an open personality with an industry specialization strategy is negative. Openness to new experience does not fit well with an industry specialization strategy, and together they lead to less revenue (although the correlation between the two is zero). When one looks at the fit between

market and personality, there are no combinations where mutual fit leads to a positive career outcome. It is clear that an open personality is especially bad for interim professionals, as well as for other freelancers. Career insight proved to be really bad for interim managers. Clear explanations for these empirical observations are lacking as of yet.

10.2.2 Fit and freelance career satisfaction

There is no reason why the GI-approach cannot be used to explain career satisfaction as an outcome instead of monetary performance measures. Such a perspective on satisfaction suggests that the fit between personality, capabilities, environment, and strategy leads to career satisfaction. The results in Table 97 indicate that complex interaction factors are also playing an important role in explaining success. Rather surprisingly, some individual effects that were not significant at all in our simple model, proved to be significant in our analysis of fit. Human capital, not important at all in our simple model, is significant in the GI model. Even more strikingly, social capital, a driver of satisfaction in our earlier analysis, is not significant in the GI approach. Complex fit factors between the capabilities, between market factors and capabilities, strategy and capability, and between market environment and strategy are in the GI approach relevant in explaining career satisfaction.

Table 98: Estimating fit with control variables in regression (subjective career success)

		<i>Terms</i>	<i>Wald</i>	<i>LR</i>	<i>LM</i>
1	Individual effect – HC	4	20.38**	20.24**	20.10**
2	Individual effect – SC	8	15.16	15.08	15.00
3	Individual effect – PC	6	16.39**	16.30**	16.21**
4	Individual effect – Strategy	8	22.08**	21.91**	21.75**
5	Individual effect – Market	6	20.83**	20.69**	20.54**
6	Fit between Capabilities	44	117.68**	113.17**	108.88**
7	Strategic fit	6	1.66	1.66	1.66
	Environment fit	N.A.	N.A.	N.A.	N.A.
8	Strategy Capability fit	40	83.06**	80.77**	78.58**
9	Market Capability fit	60	90.97**	88.25**	85.63**
10	Market Strategy fit	24	38.40*	37.91*	37.42*
11	Multi interactions	240	435.54**	381.07**	335.31**

† = significant at 10% level, * = significant at 5% level, ** = significant at 1% level

All in all it is clear that the GI approach is an interesting avenue and theoretically much better than our simple log-linear model. More research is however needed on the theoretical relationships between the various sources of capital of individuals.

Conclusions of Chapter 10:

1. Modern organizational theory says that organizational success can only be achieved by a strategy that aligns internal resources with external opportunities. This may require a very complex fit between external environment and internal resources.
2. The results indicate that complex interaction effects are indeed more important in determining freelance revenue than the internal resources in isolation. The match between internal capabilities, match between firm strategy with internal capabilities and the match between internal capabilities and the environment are much more important for freelance revenue.
3. The following matches are particularly important: 1) fit between **human capital** and **social capital**, 2) the fit between **social capital** and **strategy capital**, 3) fit between **personality capital** and **strategy capital**, and 4) fit between **personality capital** and **the market** are significant. This suggests that knowledge and network should be in balance, network should harmonize with firm strategy and that personality has a complex relation with success. Personality per se is not that relevant for freelance revenue, but the fit between personality and firm strategy and the fit between a freelancer's personality and the market on which the freelancer operates is very important to freelance career success.
4. This study learns that the combination of career insight and industry specialization is especially positive for freelance revenue. However, the theoretical basis for this empirical finding remains unclear. Although the GI-approach is promising and theoretically superior, more research is needed on the fit between capabilities and how this may lead to success.