Team Performance Management

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Journal:	*Team Performance Management*
Manuscript ID	TPM-03-2017-0012.R2
Manuscript Type:	Research Paper
Keywords:	Temporary organizational forms, Coopetition, Cycling, Breakaway, Strategic behavior, Tour de France

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Abstract

Purpose: In road cycling races, one of riders' main objectives is to win stages, which most often requires breaking away from the pack of riders. What is it that makes a breakaway succeed, i.e. enable one of its members to win the stage?

Design/methodology/approach: Descriptive statistics were computed and a logit model of breakaway success was estimated, based on a new kind of statistical data describing the development of each of the 268 breakaways that occurred in the 76 regular stages of the Tour de France 2013 to 2016.

Findings: Breakaway success partly depends on the physics of cycling: breakaways are more successful when the stage is hilly or in mountain than flat. In addition, the likelihood of breakaway success depends on strategic moves such as attack timing and the percentage of riders with a teammate in the breakaway.

Research limitations/implications: Understanding why certain breakaways succeed and others do not is useful to comprehend cycling performance and to help coopetitive temporary organizational forms such as breakaways optimize their strategic behavior. A limitation is the focus on the Tour de France only.

Originality/value: The present study adds to the literature on temporary organizational forms, coopetition and cycling performance by analyzing within-stage data in cycling and, as such, enabling to capture its strategic dimension.

Keywords: temporary organizational forms, coopetition, cycling, breakaway, strategic behavior, Tour de France.

Article Classification: Research Paper.

Introduction

More than 50 years after the first publication on the subject (Miles, 1964), temporary organizational forms seem to be becoming increasingly prevalent in our globalized fast-paced economy (Bakker, 2010). Bakker (2010, p. 468) defines this form of organization as "*a set of organizational actors working together on a complex task over a limited period of time*". The author underlines the fact that this definition spans a relatively broad number of organizational forms, e.g. sports event organizing committees (Løwendahl, 1995). The present research is also interested in temporary organizational forms in the sport industry but with regards to the sport activity itself rather than event organizing committees. Indeed, the focus is on breakaways in cycling and, more exactly, the determinants of breakaway success.

A breakaway can be defined as a set of riders (or a rider alone) from one or different 'permanent' teams (as opposed to the 'temporary' team corresponding to the breakaway) supposed to work together over a limited period of time on a complex task (spending a relevant amount of effort to be managed over time according to the race or stage's profile to enable the breakaway to be successful). This task is even more complex because the different riders may have the same objective (winning the race or stage) but only one rider may win the race or stage, or they may have different objectives (winning the race or stage, finishing before riders likely to be among the first with regards to the general classification, helping his leader or teammate also present in the breakaway and more likely to win the race or stage, being in the breakaway to enable his team to produce a minimal effort in the pack of riders or "peloton"…). As such, a breakaway seems to be characterized by the notion of 'problematic preferences' (general lack of consensus regarding individual and organizational goals) which is one of the main properties of 'organized anarchies' (Bathelt & Gibson, 2015).

A breakaway is a very specific temporary organizational form as it does not fit with the definition of "temporary" as provided by Bakker (2010). Indeed, Bakker (2010, p. 466) defines "temporary" as "*characterized by an ex ante defined limited period of time of interaction between members*". Nevertheless, there is no *ex ante* defined period of time of interaction between members for a breakaway. Indeed, the time of interaction is not known *ex ante* but depends on the length of the race or stage, the speed of the breakaway (likely to depend on the speed of the "peloton"), whether the "peloton" catches up or not the breakaway, whether all riders present at the start of the breakaway remain within it… There is even no *ex ante* agreement about the breakaway which emerges during the race or stage. As such, the study of the determinants of breakaway success can make a useful and original contribution to the literature on temporary organizational forms.

The study of the determinants of breakaway success can also contribute to the literature on coopetition. This can be defined as simultaneous cooperation and competition (Brandenburger & Nalebuff, 1996). Since the seminal book of Brandenburger and Nalebuff (1996), coopetition has been the subject of an increasing amount of research in the field of strategic management, with an essential question being its impact on performance (Le Roy & Czakon, 2016). In sport, this notion of coopetition is highly relevant in the sense that if opponents are competitors on the field, they need each other to produce the competition and, as such, they are economic partners. Some articles have dealt with coopetition in professional football (Lardo, Trequattrini, Lombardi & Rosso, 2016; Robert, Marques & Le Roy, 2009). In cycling, coopetition is even more relevant because it is not limited to teams agreeing to compete in the same event (economic cooperation) but it is also present during the race itself (sporting cooperation). In particular, a breakaway fits with the idea of coopetition since riders from different 'permanent' teams have to cooperate to improve their likelihood of success. Eventually, a breakaway can be seen as a coopetitive temporary organizational form.

To better understand a breakaway as a coopetitive temporary organizational form and the determinants of breakaway success, this article first reviews the existing literature on temporary organizational forms, coopetition and performance, and the determinants of performance and strategic behavior in road cycling. This enables to make several hypotheses concerning the parameters which should affect a breakaway's likelihood of success, i.e. the chance that one of the breakaway riders wins the stage (rather than all of them are caught up by the peloton). Statistical data are presented, describing the development of each of the 268 breakaways that occurred in the 76 regular stages of the Tour de France 2013 to 2016. Then, hypotheses are tested by estimating a logit model and implications are suggested along with some limitations and future directions.

Literature review

Temporary organizational forms

In his review of the literature on temporary organizational forms, Bakker (2010) organizes his discussion around the concepts time, team, task and context, relying on three of the four concepts also underlined by Lundin and Söderholm (1995) who use transition instead of context. Here, the focus is on the concepts time, team and task. Based on Grabher (2002) and Jones and Lichtenstein (2008), Bakker (2010) notes that time is regarded as being probably one of the most salient dimensions of temporary organizational forms; and has been variously proposed to be short (Lanzara, 1983) and/or limited (Grabher, 2004). Applied to a breakaway in cycling, time is even shorter and limited since it is no more than a couple of hours while the literature on temporary organizational forms focuses on duration of several days (Morris, Farrell & Reed, 2016), weeks (Bechky, 2006) and years (Sydow, Lindkvist & DeFillippi, 2004). Nevertheless, some questions related to time relevant to temporary organizational forms in general remain appropriate for a breakaway, e.g. how do the degree and pattern of co-operation evolve in temporal organizational forms and how is this influenced by the approaching deadline (Ness & Haugland, 2005)? For a breakaway, the peculiarity of the deadline is that it is not a specific time but it depends on whether the breakaway is near the finishing line and the following riders are close to the breakaway, elements that depend themselves on the stage's profile: being at five kilometers from the finishing line or having an advance of one minute at five kilometers from the finishing line has not the same meaning whether the stage is flat or a mountain stage.

With regards to team, Bakker (2010) underlines the need for swift trust (Meyerson, Weick & Kramer, 1996; Saunders & Ahuja, 2006; Xu *et al.*, 2007). In respect to a breakaway in cycling, such trust may even require to be immediate since riders attempting to break away need to create a sufficient gap with the 'peloton' to secure the breakaway, which may require the immediate collaboration between them. As for a temporary team in general, communication in a breakaway is important to co-ordinate tasks and should adhere to norms of respectful interaction (Miles, 1964; Weick, 1993). If a member acts as a "free rider" and, as such, does not adhere to norms of respectful interaction, this may compromise the breakaway. Leadership is also an important feature (Bryman *et al.*, 1987; Tyssen, Wald & Spieth, 2013, 2014). In cycling, it might be impacted by the respective ranking / time difference to the leader in the general classification of the different riders involved in the breakaway. Team design is also crucial (Morley & Silver, 1977; Perretti & Negro, 2006) but is unlikely to be decided *ex ante* for a breakaway in cycling. Last, another important characteristic is the heterogeneity of members (Tyssen *et al.*, 2013, 2014). In cycling, whether some riders present in the breakaway are from the same 'permanent' team(s) or not and their nationalities can be some indicators of heterogeneity.

In respect of task, Meyerson *et al.* (1996) highlight its complexity and that it is characterized as being finite, i.e. as having a deadline. These elements are consistent with those already developed above for a breakaway in cycling, as is the fact that when the task is completed, the temporary system disbands (Baker & Faulkner, 1991; DeFillippi, 2002; Sorenson & Waguespack, 2006). As such, it runs the risk of knowledge dispersing (Grabher, 2002, 2004; Sydow *et al.*, 2004). Nevertheless, two peculiarities of a breakaway in cycling is that if it is unlikely that the temporary system will be formed again with exactly the same team design and the task is the same for each breakaway, i.e. winning the race or stage. Consequently, 'permanent' teams and riders can learn from previous breakaways. This is true even if they did not take part in them since races or stages are usually broadcast and recorded, meaning that teams and riders can watch them live or pre-recorded. It is also important to mention that in cycling, the task is different whether the race or stage is flat, hilly or mountain for reasons related to physics as developed later.

Coopetition and performance

Le Roy and Czakon (2016) highlight several studies about the link between coopetition and performance, with the latter envisaged both as innovation performance (Belderbos, Carree & Lokshin, 2004; Le Roy, Robert & Lasch, 2016; Neyens, Faems & Sels, 2010; Nieto & Santamaría, 2007; Quintana-García & Benavides-Velasco, 2004) and economic, financial or market performance (Kim & Parkhe, 2009; Le Roy & Sanou, 2014; Luo, Rindfleisch & Tse, 2007; Morris, Koçak & Özer, 2007; Oum, Park, Kim & Yu, 2004; Peng, Pike, Yang & Roos, 2012; Ritala, 2012; Ritala, Hallikas & Sissonen, 2008; Robert *et al.*, 2009). These studies show mixed results with some demonstrating a positive link between coopetition and performance (Belderbos *et al.*, 2004; Le Roy *et al.*, 2016; Le Roy & Sanou, 2014; Morris *et* *al.*, 2007; Neyens *et al.*, 2010; Peng *et al.*, 2012; Quintana-García & Benavides-Velasco, 2004; Robert *et al.*, 2009), others a negative link (Kim & Parkhe, 2009; Nieto & Santamaría, 2007; Ritala *et al.*, 2008) and the two remaining studies mixed effects (Luo *et al.*, 2007; Oum *et al.*, 2004). In their study on French football clubs, Robert *et al.* (2009) substantiated that coopetition does not improve their sporting performance, but does improve their economic performance.

According to Le Roy and Czakon (2016), the missing link is the management of coopetitive tensions. They are located at three different levels: inter-organizational, intra-organizational and inter-individual (Fernandez, Le Roy & Gnyawali, 2014). If we focus on the inter-organizational level, firms have to cooperate in order to create common value but they are in competition to capture that value. This can be applied to a breakaway: riders have to cooperate so that the breakaway may be successful but only one rider will win if the breakaway is indeed successful.

Determinants of cycling performance

The study of performance is less developed in cycling than in other sports, partly because performance is not easy to measure or even define in this sport (Cabaud *et al.*, 2015, pp. 259-263). Indeed, in cycling all riders are in teams and within teams most riders do not aim at optimizing their own performance but at optimizing their team leader's performance. In addition, two team leaders' objectives may be different and (at least partly) compatible, which makes it difficult to compare their performances. Due to these and other complexities of cycling, several kinds of studies of performance may be conducted.

Some cycling performance studies bear on the determinants of a rider's victories *over several races*. For instance, over the 2011 season, riders' "quotient points" per kilometer of competition depend on their age and the race calendar they chose, but the characteristic which determines performance the most is being the team leader (Rodriguez-Guttiérez, 2014).

Most studies, however, bear on the determinants of a rider or team's *race* victory. These studies tend to show that individual performance in a race partly depends on team characteristics, including teammates' performance. Thus, a rider's final ranking in the 2004 Tour de France is positively related to a lower body mass index, previous successes and being the team leader, but it is also related to teammates' performances (Torgler, 2007), presumably because teammates help each other perform well. These results were also found in a study on riders' final ranking in the 2002-2005 Tour de France, a study which also showed that riders' performance partly depends on teammates or coaches' experience and too many good riders within one team negatively affect performance (Prinz & Wicker, 2012). Other studies show that team performance in a race largely depends on the same characteristics as individual performance; at least, this is the case in the 2007-2011 Tour de France teams (Rogge *et al.*, 2013). In a recent study on the Tour de France between 2004 and 2013, Prinz and Wicker (2016) show that diversity in terms of tenure significantly adds to team performance, while diversity in skills (proxied by body mass index) decreases performance. They also find that the more teammates arrive in Paris, the better the team's performance.

Very few studies bear on the determinants of a rider's *stage* win. Among riders who finished the 2009 Vuelta a España or 2010 Tour de France, it has been shown that a rider's poor performance in a stage increases his chances of being in a successful breakaway the day after (and this is particularly true at the end of stage races), which is an indication of within-race strategic resting (Maria Raya, 2015). Larson and Maxcy (2014) study not so much the determinants of a rider's stage win as the determinants of a stage's type of finish, either through a breakaway or a sprinting peloton. They use the share of Grand Tour stages whose winner came from a breakaway rather than from the sprinting peloton, which they call "the likelihood of breakaway success," to examine potential changes in outcomes associated with the use of two-way radio technology by competitors and team directors. (The authors classify a breakaway outcome as when more than a 10 second spread separates the first twenty-five riders to finish a race. They alternatively classify a race finish as a sprint if the next twenty-four finishers in a race finish within 10 seconds of the race winner.) They show that the period in which radios were used (1992-2010 in the study) is associated with a significant increase in the breakaway success compared to the 1985-1991 period. Nevertheless, when controlling for stage types, the authors find a significant negative impact of radio technology for hilly and flat terrain compared to mountain terrain. It is worth noting that Larson and Maxcy (2014) do not investigate within-stage determinants of any specific breakaway's stage win, such as attack timing, number of breakaway riders or time difference to the leader of the best-ranked breakaway rider.

Despite their value, these studies seem to lack two important elements. First, by focusing on the results of whole races or whole stages, they do not take into account the developments of any stage over time, which means that to date nothing is known about the dynamics of cycling stages. Second, by not including within-stage data, these studies of sport performance deprive cycling of what is perhaps its most distinctive – and interesting – aspect, i.e. its strategic dimension. Indeed, although performance in cycling certainly depends on individual (physical) and team (physical and economic) characteristics, it likely also depends on *within-stage strategic decisions* which have never been studied yet, let alone their potential impact on the performance of the breakaway or other coopetitive temporary organizational forms.

How physics and game theory can help understand cycling strategy

"*In competitive cycling on the flat, air resistance is by far the greatest force opposing the forward motion of a cyclist. Air resistance can be dramatically reduced by riding in the slipstream of another rider or vehicle. The following rider will then enjoy the low pressure area behind the lead rider*" (Olds, 1998). "Drafting," i.e. riding in the shelter of another cyclist or group of cyclists and staying out of the wind, confers a very substantial advantage: the back rider is able to reduce his effort by up to 40 % (Dilger & Geyer, 2009). This major physical fact is why riders very often have to choose between "cooperating", i.e. letting someone else draft in hopes that he will sooner or later reciprocate the move, and "defecting", i.e. not letting anyone draft in hopes for unilateral defection and a victory against all other riders. A cycling stage may thus be seen as a series of strategic interactions whereby each rider anticipates on others' moves in order to cooperate as much as possible (this spares energy) while also defecting when it helps win. In mountain stages, where riders have to fight mostly against the gravity of their mass (rather than against air resistance), cooperation among riders is less useful to riders' performance.

The applications of game theory to road cycling are few (Mignot, 2015a), and they have not been tested empirically, which means that to date nothing is known about the effect of riders' strategic decisions on their performance. Therefore, while many determinants of cycling performance are well known empirically, this is not the case of the determinants of breakaway success, let alone the effect of race strategy on breakaway success. The authors believe it is time to take into account race strategy to better understand the developments of breakaways, road cycling races and coopetitive temporary organizational forms in general.

Determinants of breakaway success: hypotheses

Effects of stage profile on the likelihood of breakaway success

Compared to most peloton riders, who ride in a pack and are shielded against air resistance by other peloton riders, breakaway riders have to use more energy to fight against air resistance. Consequently, the faster a stage is, the more the peloton riders have a relative physical advantage over breakaway riders. Over more than a century, Grand Tour stages have become much shorter and faster (Mignot, 2015b). This enables us to formulate several hypotheses derived from the **physics** of cycling.

Hypothesis 1a: A breakaway's likelihood of success will be higher when the stage is slower.

Hypothesis 1b: A breakaway's likelihood of success will be higher when the stage is shorter.

Hypothesis 1c: A breakaway's likelihood of success will be higher when the stage is a mountain stage rather than a hilly stage or a hilly stage rather than a flat stage.

Effects of strategic considerations on the likelihood of breakaway success

Although the physics of cycling is likely a major determinant of the likelihood of breakaway success, the strategy of cycling may be another one. When a rider has to decide when to attack, he faces a dilemma (Mignot, 2015a, pp. 213-219). If he attacks too early, he will get exhausted sooner and he will end up easily caught up by the peloton. And if he attacks too late, the peloton will make it much harder for him to break away in the first place because more teams with a sprinter will not want to lose the opportunity of the stage finishing in a sprint. One of the consequences of this dilemma is that a rider should attack right before the moment when delaying the attack starts reducing his chances of winning the stage (Polak, 2008), a moment called **optimal attack timing**. One hypothesis may be based on this notion.

Hypothesis 2: A breakaway's likelihood of success will first tend to increase in the early portion of the stage, then peak (optimal attack timing), and finally it will tend to decrease (inverse u-shaped relationship).

When a breakaway rider has to decide whether – or to what extent – he should cooperate with the other breakaway riders, he once again faces a dilemma (Albert, 1991; Mignot, 2015a, pp. 220-226). If he lets others draft he risks cooperating unilaterally and being the "sucker." And if he will not let anyone draft him, no one else will let him draft and he will be unlikely to win against everyone else. A strong rider in the breakaway may be willing to ride in the wind to gain time on the peloton, or to build a strong reputation as a cooperator. However, this case does not seem typical, and breakaways as well as other coopetitive temporary organizational forms usually generate cooperation problems, i.e. riders hoping to free ride to victory at the expense of others. Four hypotheses may be based on the difficulties of **cooperation** within breakaways.

Hypothesis 3a: A breakaway's likelihood of success will increase when the number of breakaway riders is lower than some threshold. At the same time, a breakaway's likelihood of success will increase when the number of breakaway riders is higher than some threshold. Overall, the number of breakaway riders will first increase then decrease then increase again the chances that they will win the stage (cubic relationship).

Hypothesis 3b: A breakaway's likelihood of success will be higher when some riders are from the same team(s).

Hypothesis 3c: A breakaway's likelihood of success will be higher when fewer nationalities are represented.

<u>Hypothesis 3d</u>: A breakaway's likelihood of success will be higher when the best-ranked breakaway rider is far from the leader in the general classification.

Method

Information was collected on each of the 268 breakaways that occurred in the 76 stages of the Tour de France 2013 to 2016. These pieces of information are: the moment when a breakaway was created; the identity of each rider belonging to the breakaway; the time difference to the leader in the general classification at the beginning of the stage for the breakaway rider with the best ranking.

To collect these data, breakaways were defined in the following way, based on Cabaud *et al.* (2015). The first hours of a stage are each divided into 15-minute time intervals, and in this context a breakaway is accounted if it is still alive in the following 15-minute time interval. The last hour of a stage is divided into 20 3-minute time intervals, and once again a breakaway is accounted if it is still alive in the following 3-minute time interval. Since the number of riders in the breakaway is a variable of interest and it can change during a stage, it is considered that there is a new breakaway when such a change occurs. This means that several breakaways can be successful in the same stage, e.g. the 'good' breakaway is formed early with 15 riders then 5 of them break away from the group and fight together to win the stage. One specific kind of breakaways is not taken into account: those with a favourite winning a mountain stage by jumping away at the very end.

All these data are mainly collected thanks to specialized websites that provide a detailed written report live. These websites are www.letour.fr complemented by www.eurosport.fr and www.cyclingnews.com. Each information is associated to its time, which enables to find when it occurred during the race by comparison with the departure time.

The main file thus contains information on breakaways. The focus is on the share of breakaways ending in one of the breakaway riders' stage victory, also called the rate of breakaway success.

Results

A logit model of the odds that a breakaway is successful rather than unsuccessful is tested. The dataset comprises 268 breakaways, of which 83 were successful and 185 were unsuccessful. Based on our hypotheses, the explanatory variables are as follows: speed (1a), distance (1b), hilly and mountain stages (1c, flat stages being the reference), attack timing in time percentage of the stage duration (2), number of riders (3a), percentage of riders with teammates in the breakaway (3b), percentage of different nationalities (3c) and time difference to the general classification leader of the best-ranked rider in the breakaway (3d). Descriptive statistics and results are shown in Tables 1 and 2, respectively. Results are based on bootstrap standard errors with 100,000 replications. We first tested our model with the square (u-shaped / inverse u-shaped relationship) then also the square and the cubic form of attack timing and the number of riders but did not find any significant result so we did not include these in our final model. Hilly and mountain stages, attack timing and percentage of riders with teammates have a significant positive impact while speed, distance, number of riders, percentage of different nationalities and time difference to the leader have no significant impact.

Table 1

Table 2

These results were expected for hilly and mountain stages and percentage of riders with teammates. However, the significant positive impact of attack timing was not necessarily expected as we anticipated a negative impact beyond a certain threshold. We expected a negative impact of speed, distance and percentage of different nationalities which is not confirmed by our data. The risk of misunderstanding between riders from different nationalities may be limited by the fact that they follow the strategy put in place by their team managers. This would mediate the relationships between riders in the breakaway. We also expected a positive impact of time difference to the leader, again not confirmed by our data. We had no specific expectation for the number of riders which is not significant. This result is discussed further below in the light of the idea of coopetitive temporary organizational form.

Implications, limitations and future directions

Our results have some implications for management and team theory as they enable to illustrate the concepts time, team and task developed by Bakker (2010) for temporary organizational forms and also coopetition.

With regards to time, our results show the importance of attack timing in cycling. A breakaway is more likely to be successful if it does not attack too early: only six breakaways won after an attack during the first 10% of a stage and most of the successful breakaways attacked during the last 20% of a stage. This demonstrates that important efforts should not be produced at the beginning of a project but rather saved for the final steps, when the deadline is approaching.

With regards to team, our results show the importance of the percentage of riders with teammates in the breakaway but not of the number of riders and the percentage of nationalities. This should not be interpreted as meaning that riders cooperate only with their teammates in the breakaway and reject coopetition within this temporary organizational form. Indeed, riders with teammates have still to cooperate with other riders to make the breakaway successful. Besides, there is a strong correlation between the number of riders and the percentage of riders with teammates in the breakaway (0.80). In other words, a breakaway with more riders is more likely to have teams represented by more than one rider and, as such, to have a higher percentage of riders with teammates. When we deleted the percentage of riders with teammates in the breakaway in our model, the number of riders became significant. Eventually, having riders with teammates in the breakaway may help provide more organization in what may have been anarchy, consistent with the notion of 'organized anarchies' (Bathelt & Gibson, 2015).

With regards to task, our results show the importance of stage profile. A breakaway is more likely to be successful in hilly or mountain stages which represent a more difficult task than flat stages. This demonstrates that it is easier to make a difference when a challenge is hard enough. Nevertheless, a rider still needs the help of others not necessarily from the same team, demonstrating the need for coopetition.

Our research has some limitations, opening the door for future directions. The study of the Tour de France only is the first limitation. Further research is needed to compare riders' strategic behavior in different races, e.g. between different Grand Tours or between Grand Tours and one-day races. Another limitation is that the same number of riders and percentage of riders with teammates in two different breakaways may hide different kinds of coopetition between riders. A more qualitative approach based on interviews with riders may help better understand the exact processes behind our data.

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Table 1. Descriptive statistics.

Type	Prediction number	Variable	Mean	Standard deviation	Minimum	Maximum
		Successful breakaway	0.31	0.46	0	1
Physics	1a	Speed (km/h)	39.54	4.08	31.50	49.86
	1b	Distance (km)	176.38	28.87	109.5	242
	1c	Flat	0.26	0.44	0	1
		Hilly	0.26	0.44	0	1
		Mountain	0.48	0.50	0	1
Within-stage	2	Attack timing	0.56	0.36	0	0.99
Within-breakaway	3a	Number of riders	5.74	7.33	1	37
	3b	Percentage of riders with teammates	0.12	0.25	0	1
	3c	Percentage of different nationalities	0.87	0.19	0.43	1
	3d	Time difference to the leader (seconds)	2437.28	2716.98	0	16289

Table 2. Results of the logit regression explaining breakaway success.

Type	Prediction number	Variable	Predicted sign	Coefficient (Std. Err.)	p-value
Physics	1a	Speed	-	0.029 (0.085)	0.728
	1b	Distance	-	0.002 (0.008)	0.838
	1c	Hilly	+	2.220 (0.917)	0.015*
		Mountain	+	2.700 (0.975)	0.006**
Within-stage	2	Attack timing	?	3.953 (0.957)	0.000**
Within-breakaway	3a	Number of riders	?	-0.005 (0.052)	0.926
	3b	Percentage of riders with teammates	+	4.393 (1.408)	0.002**
	3c	Percentage of different nationalities	-	-1.788 (1.684)	0.288
	3d	Time difference to the leader (seconds)	+	-0.0001 (0.0001)	0.374
		Constant		-5.693 (3.620)	0.116
		Number of observations		268	
		Wald chi²(9)		48.02	
		Prob > chi2		0.0000	
		Pseudo R²		0.2760	

Results based on bootstrap standard errors with 100,000 replications.

* and ** mean significant at the 5% and 1% threshold, respectively.