

Gänßle, Sophia; Budzinski, Oliver; Astakhova, Daria

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## Conquering the box office: Factors influencing success of international movies in Russia

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**Conquering the Box Office: Factors Influencing  
Success of International Movies in Russia (Update)**

Sophia Gaenssle, Oliver Budzinski & Daria Astakhova

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Institute of Economics

Ehrenbergstraße 29  
Ernst-Abbe-Zentrum

D-98 684 Ilmenau

Phone 03677/69-4030/-4032

Fax 03677/69-4203

<https://www.tu-ilmenau.de/wm/fakultaet/>

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# Conquering the Box Office: Factors Influencing Success of International Movies in Russia (Update)

*Sophia Gaenssle<sup>#×</sup>, Oliver Budzinski\* & Daria Astakhova<sup>♦</sup>*

**Abstract:** This paper empirically examines factors influencing box office success of international movies in Russia between 2012 and 2016. It adds to existing research on national movie markets, by highlighting the relevance of differences in culture, institutions, language, and consumption habits for movie success. Three groups of success factors are distinguished: distribution related (e.g. budget, franchise), brand and star effects (e.g. top actors or directors), and evaluation sources (e.g. critics and audience rating). We add novel region-specific variables like seasonality, time span between the world and local release, attendance of international stars at Russian movie premieres, and title adaptation to Russian culture. The results indicate that budget, franchise, employment of popular actors and directors, electronic word of mouth and audience ratings exert a significantly positive influence on Russian box office success. However, we find significantly negative effects for international critics and, interestingly, the adaption of movie titles. The main contributions of our study are (i) success factors vary between countries with different cultures, (ii) region-specific factors matter, and consequently (iii) results from one market (e.g. the US) cannot easily be generalised.

**Keywords:** motion picture economics, movies, entertainment, box office success, Russia

**JEL-Codes:** L10, L82

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<sup>#</sup> M.Sc., Institute of Economics, Ilmenau University of Technology, Germany, Email: sophia.gaenssle@tu-ilmenau.de.

<sup>\*</sup> Professor of Economic Theory, Institute of Economics and Institute of Media and Mobile Communication, Ilmenau University of Technology, Germany, Email: oliver.budzinski@tu-ilmenau.de.

<sup>♦</sup> M.A., CROSSMEDIA GmbH, Düsseldorf, Germany, Email: darya\_astakhova@hotmail.com.

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## 1 Introduction

The motion picture industry transforms stories, dreams and talent into a billion-dollar business year by year. Yet, it is not only a market of global reach and shining stars. Within the industry, six or seven out of ten films usually fail to bring any profit to their creators, with 5 percent of movies generating 80 percent of the total income (*Vogel* 2011: 71). Thus, the market displays characteristics of the superstar phenomenon, i.e. few superstar movies generate revenues that are over-proportionally higher than they are superior in quality (generally: *Rosen* 1981; with respect to movies: *Walls* 2014).<sup>1</sup> While this does not lead to a monopoly-like market structure (winner-takes-all markets; *Frank & Cook* 2013) in markets with heterogeneous goods like movies, a narrow oligopoly takes most of the market (*Gaenssle & Budzinski* 2019). The theoretical literature suggests several factors explaining the success of movies. First, the more successful films may just be better and lesser quality may be a bad substitute for higher quality (*Rosen* 1981). Second, bandwagon effects (*Leibenstein* 1950) and the accumulation of consumption capital may create a self-reinforcing upward spiral for some films (*Adler* 1985, 2006). Positive direct network effects propel few films to become blockbusters and generate the considerable difference in success between the top ones and the others. Third, the experience goods character of movies may play a relevant role. Consumers cannot perfectly assess the quality of a movie, i.e. whether it matches their preferences, before they have seen the movie. If consumers are risk averse, they will prefer known qualities to unknown qualities (*MacDonald* 1988). Thus, new films containing elements that consumers know from former consumption, like well-known actors or directors, sequels to successful films, etc. may perform better than films predominantly starring newcomers. Consequently, suppliers (producers, distributors, etc.) may use these well-known elements as signalling opportunity to attract

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<sup>1</sup> Although the economic theory of superstars originally focused on single individual artists as superstars, the literature (including related concepts of winner-take-all markets or blockbuster phenomena) broadened its application to, inter alia, museums (*Frey* 1998), books and music (*Walls* 2014), restaurants (*Gergaud et al.* 2007), firms (*Freund & Pierola* 2015), social media channels (*Budzinski & Gaenssle* 2018; *Gaenssle & Budzinski* 2019), gaming cards (*Gergaud & Verardi* 2006), or – albeit in a somewhat different way – cities (*Gyourko et al.* 2013).

risk-averse consumers.<sup>2</sup> These success factors might also interact and influence each other. For instance, quality as well as signalling may influence the taking-off and the dynamics of network effects.

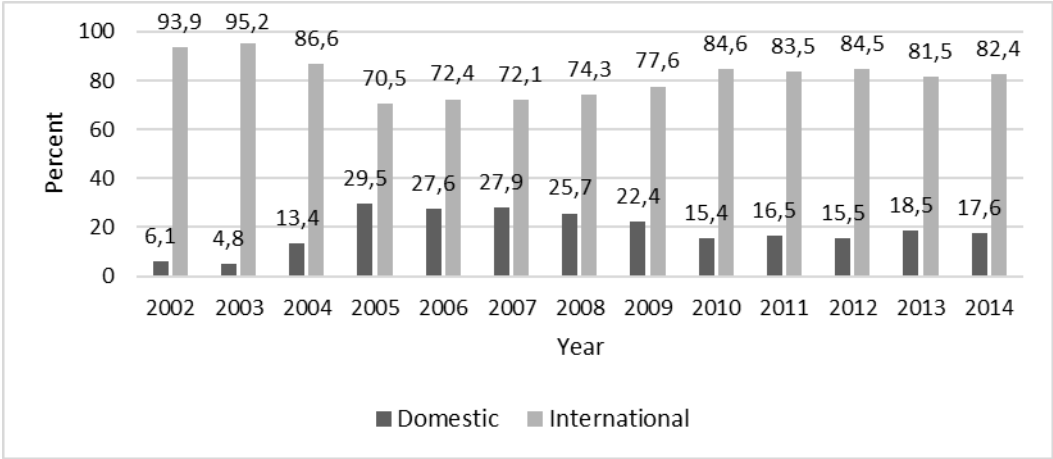
Consequently, the influencing factors on theatrical success of a movie have been subject to various econometric studies (see, inter alia, *De Vany & Walls* 1996, 1999, 2002; *Ravid* 1999; *Simonoff & Sparrow* 2000; *Vogel* 2001; *Fee* 2002; *Einav* 2007; *Palia et al.* 2008; *Kaimann & Pannicke* 2015). While the US market, as the by far biggest movie market in the world, naturally has received most of the research attention, other national movie markets have been comparatively neglected by the academic literature. Among the few exceptions are econometric studies on non-US movie markets like, for instance, China (*Kwak & Zhang* 2011; *Feng & Sharma* 2016) or Singapore (*Fu & Lee* 2008).

However, to the best of our knowledge, an econometric analysis of success factors for international movies in the Russian market is missing so far. Due to population alone, Russia is generally one of the bigger markets in the world. Furthermore, the Russian film market is highly dependent on imports, i.e. international movies play a dominant role. Since the disintegration of the USSR in 1991 and transition from a state-organised and mostly isolated towards a market-oriented and open film industry, foreign films were dominating the Russian box office. The market shares of international productions lie between 70 percent and 95 percent for the period between 2002 and 2014 (see Figure 1). Within this period, the Russian market grew rapidly, about 1359.3 percent in total.

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<sup>2</sup> Note that there are not necessarily information asymmetries. Especially with entertainment movies, suppliers also lack ex ante information whether their new movie will actually entertain the audience, i.e. match the preferences of the consumers (*Budzinski & Kuchinke* 2019).

**Figure 1: Market Shares domestic versus international Films in Russia**



Source: Movie Research (2014: 53)

It could be conjectured that movie consumers around the world do not differ in their utility functions. Then, success factors in markets like Russia should not differ from the results of analysing American/Western-markets. However, due to differences in culture, language, institutions, consumption habits, etc., the Russian market may be special. Both well-known success factors may produce different effects in Russia and, moreover, additional region-specific factors may be relevant. Obviously, the results of analysing the Russian movie market itself can only be generalised to a limited number of other markets. It may offer insights for national markets influenced by Russian culture and language, for instance, because of neighbouring country-effects or a common history within the former Soviet Union. More importantly, the insight that the Russian market is special and differs from other markets shows that analyses of national markets are valuable and not universally applicable. Our results cannot easily be generalised beyond this, which consequently implies that studies of American markets for cultural goods should not be uncritically generalised as well. Furthermore, the insight that and how regional peculiarities matter for the success of international movies is relevant for movie companies and their international business managers. Therefore, an empirical analysis of movie success in Russia yields valuable insights about the generalisability of hitherto academic knowledge about movie markets. Furthermore, it demonstrates the relevance of taking national specifics in culturally different markets into account.

This paper examines the factors influencing box office success of international movies in Russia and, in doing so, provides characteristics and peculiarities for international productions of this regional film market. As such, it closes a research gap in the international econometric literature on national/regional movie markets. Following the literature (modified from, *inter alia*, Reddy et al. 1988; Chang & Ki 2005), we define three groups of factors, which may influence consumption decisions: brand-related (such as stars and franchises), evaluation-based (as audience rating and critics), and distribution-related (such as budget, copies etc.) variables. In doing so, we extend the research in this field by employing novel measures on media presence like Google-hits of actors and movies.<sup>3</sup> Moreover, we extend the body of literature by employing novel region-specific variables, like time span between the world and local release, seasonality, attendance of international stars at Russian movie premieres and title adaptation into the Russian language. These factors are specific to international movies' success in a country with distinctively different language, writing system, and culture.

In accordance with the majority of the literature, we find that the factors budget and franchise have a significantly positive effect on success. The same is true for popular actors and directors. In contrast to the majority of the literature, critics' rating negatively affect success in our dataset, whereas electronic word of mouth through the internet and audience ratings are significantly positive. From the region-specific variables, seasonality exerts a significantly positive effect on success, whereas an adaptation of the Russian title of international movies in order to reflect Russian culture, lifestyle and habits displays a significantly negative effect on box office success in Russia. Furthermore, a longer time span between the international and the Russian release negatively correlates with box office success. This paper is structured as follows. Section 2 reviews related literature and provides a conceptual framework. In section 3, we present our empirical analysis and results. The conclusion in section 4 summarises and gives a brief overview.

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<sup>3</sup> Other studies already used Google-hits as a proxy for internet presence, popularity and success (*inter alia*, Garcia-del-Barrio & Pujol 2007; Prinz et al. 2012; Budzinski & Pannicke 2017; Papies & Van Heerde 2017), but this paper is, to our best knowledge, the first one including it regarding movie success factors.

## 2 Conceptual Framework and Related Literature

### 2.1 Brand-related Success Factors for International Movies in Russia

Previous movie business literature mainly dealt with particular factors, which influence box office performance of American feature films (inter alia, *Eliashberg & Shugan* 1997; *Nelson et al.* 2001; *Hand* 2002; *Basuroy et al.* 2003; *De Vany* 2004; *Elberse* 2007; *Hofmann & Opitz* 2019). To meet the requirements of the Russian market, we adjust the conceptual model constructed by *Reddy et al.* (1998) and further developed by *Chang and Ki* (2005) to categorise groups of independent variables, which influence theatrical or movie success. Three groups of factors are defined: *brand-related*, *distribution-related* and *evaluation-related*.

The brand knowledge or consumption capital (*Stigler & Becker* 1977; *Opitz & Hofmann* 2016) of the audience and its understanding and interpretations of quality signals build the key aspects of the category *brand-related*. Empirical studies of various markets have estimated the signalling effects of the ex-ante popularity of directors and actors on box office performance. However, the results of these studies are mixed. Some find empirical evidence for superstar effects of famous actors and directors (*Litman & Kohl* 1989; *Wallace et al.* 1993; *Sochay* 1994; *Sawhney & Eliashberg* 1996; *Elberse & Eliashberg* 2003; *Elberse* 2007; *Nelson & Glotfelty* 2012; *Hofmann & Opitz* 2019), while others could only find limited or no positive influence (*Litman* 1982, 1983; *Ravid* 1999; *Basuroy et al.* 2003, *Kaimann & Pannicke* 2015). In order to account for a probably differing star perception in the Russian market, we employ variables measuring the popularity of international stars (actors and directors) within Russia (see section 3). The employment of popular actors on the set and popular directors serves as a signalling device aiming at reducing quality insecurity on the side of the consumers due to the experience good character and the presence of risk-averse consumers. Furthermore, since superstar effects also work on the level of actors and directors, consumption capital and network effects may additionally boost demand. Thus, we derive the hypothesis H1: Popular actors and popular directors increase box office success of international movies in Russia.



Within the category of brand-related factors, studio managers consider *sequels* (e.g. The Godfather 1-3, Star Wars I-III, etc.) to be a proven way of minimising the risk of box office failure. Existing empirical evidence on other movie markets shows that sequels and franchises may not necessarily perform better than the original at the box office, but decrease uncertainty of outcome for producers (Ravid 1999; Basuroy & Chatterjee 2008; Palia et al. 2008; Fernández-Blanco et al. 2014; Opitz & Hofmann 2016). Whereas in the mid-90's sequels accounted for 6 percent of major studios' total revenue, this number has doubled ten years later (Opitz & Hofmann 2016). In a business, where apparently "nobody knows anything" (Walls 2005: 177), sequels and franchises seek to signal risk-averse consumers a minimum quality and, thus, reduce uncertainty. Therefore, our hypothesis H2 reads: Sequels perform better at the box office in Russia.

Moreover, we added the *genre* into the brand-category (as other studies, inter alia, Litman 1982, 1983; Litman & Kohl 1989; Wyatt 1991; Wallace et al. 1993; Sochay 1994; De Vany & Walls 1999; Liu 2006; Nelson & Glotfelty 2012), as it represents a strong content signal towards the potential audience. For instance, mainstream genres as action or comedy send other signals than more sophisticated films in genres like documentary or biography. Consumers usually conjecture that a movie within a genre they like has a higher probability of matching their preferences than a film in another genre. Genres that are more popular with a large audience may boost box office success. Therefore, we expect the genre to influence box office performance and add it as a control variable.

Eventually, focusing on the Russian market, we add the *adaption of the title*. In Russia, like in many countries, film titles are translated or changed according to local language and culture. In this paper, we do not refer to a word-by-word translation from English into Russian. Adaption implies an adjustment to the target culture in form or structure. As an example, the Hollywood comedy "This Is 40" (2006), about relationships of married couples in their 40s, has been changed into "Love in an adult way" in Russian, because the lifestyle of an average Russian woman in her forties is supposed to be very different from the portrayed one. The title is the first information and hence the first impression the future spectators receive of a movie and thus creates brand effects. To our best knowledge, there is

no econometric study on the adaptation of titles available. We fill this research gap for the Russian market and derive H3: Adapting the movie title to local culture increases the box office success of international movies in Russia.

## 2.2 Distribution-related Success Factors for International Movies in Russia

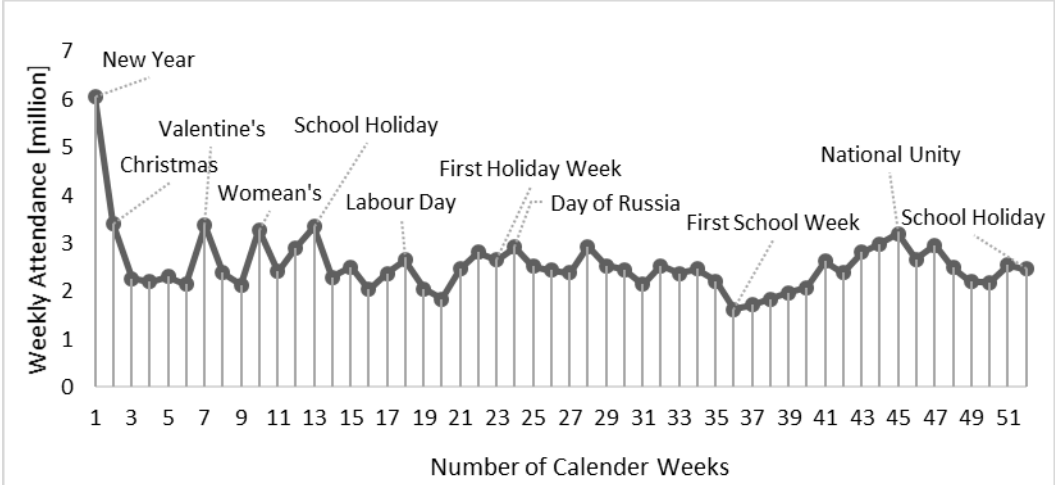
*Distribution-related* factors include objective figures like budget and number of copies. The budget, which actually measures investment into the movie's production and, thus, expectation and confidence in its success, is often employed as a proxy for the quality of a film. It displays a significantly positive influence on success in many cases (inter alia, *Litman* 1982, 1983; *Litman & Kohl* 1989; *Wyatt* 1991; *Wallace et al.* 1993; *Sochay* 1994; *Ravid* 1999; *Basuroy et al.* 2003; *Chang & Ki* 2005; *Kim et al.* 2013; *Kaimann & Pannicke* 2015). Therefore, we also for the Russian market hypothesise H4: A higher budget as well as a higher number of copies increases box office revenues of international movies in Russia.

Following our research target, we furthermore include country-specific variables: Russian *seasonality* and the *time-gap* i.e. the time between the first release (world premiere) and the release date in Russia. The success in the country of origin in connection with different release dates may influence the performance in international markets (*Elberse & Eliashberg* 2003). A long time span between world and local release could fuel illegal consumption, but it could also help to build a reputation/recommendation and word of mouth for the film. Since the literature emphasises the piracy effect for Russia (inter alia, *Walls* 2011; *Kiriya* 2012), we phrase H5 as: If the time-gap is longer, box office revenues of international movies decrease.

The release date in general is a crucial decision, since the attendance of the theatres varies throughout the year and the first week performance accounts for 40 percent of a film's overall box office revenue (*Einav* 2007). Previous research on seasonality in the US motion picture industry has found that the highest cinema attendance falls on Christmas and summer time (*Litman* 1983; *Sochay* 1994; *Radas & Shugan* 1998; *Terry et al.* 2005; *Einav* 2007). Moreover, in Russia and some states of the

Commonwealth of Independent States (CIS)<sup>4</sup> a connection to public holidays and school vacations is observable (see Figure 2). Thus, our H6 reads: Releasing films close to Russian public holidays drives box office success (release dates matter).

**Figure 2: Average Weekly Attendance (CIS) 2012-2016 [in million]**



Source: NEVAFILM (2017)

Week/Russian Holidays: 1/New Year, 2/ Orthodox Christmas, 7/Valentine’s Day, 10/International Women’s Day, 13/School Holidays (Spring), 18/Labour Day, 23-35 School Holidays (Summer), 36/First School week, 24/Day of Russia, 45/Day of National Unity and School Holiday (Autumn), 52 School Holidays (Winter)

**2.3 Evaluation-related Success Factors for International Movies in Russia**

The category *evaluation-related* includes all sources for information from third-party evaluation (modified from *Chang & Ki 2005*). This includes third person judgements and ratings (frequency and valence), as in *critic numbers* and *critic ratings* or *audience ratings*. Critics may either positively influence consumers’ decision to go into a movie by representing reliable experts (opinion leaders) or negatively by being viewed as representing elite preferences sharply different from mass preferences. A number of studies find a significant positive (inter alia, *Litman 1982, 1983; Litman & Kohl 1989; Sochay 1994; Eliashberg & Shugan 1997; Basuroy et al.*

<sup>4</sup> CIS members 2018: Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and Ukraine.

2003; *Elberse & Eliashberg* 2003; *Chang & Ki* 2005; *Reinstein & Snyder* 2005) influence of critics' ratings, whereas few find negative effects (*Eliashberg & Shugan* 1997; *Basuroy et al.* 2003). Therefore, our hypothesis H7 conjectures: More and more positive evaluations by professional critics positively influences box office success of international movies in Russia.

In this paper, we additionally look at media presence and word of mouth (WoM) as a factor of box office success. Media presence increases awareness of potential consumers and, thereby, draws audience. "Word of mouth or 'buzz', involves informal communication among consumers about products and services" (*Liu* 2006: 74). According to previous research, investments in broad media coverage of an upcoming movie (inter alia, advertising expenditures as a proxy for media presence) result in better first week box office performance, slower decrease in sales and a longer run in the theatres. *Ainslie et al.* (2005) find that 10 percent increase in media spending leads to 6.61 percent increase of the film's total domestic box office in the US. Audience ratings are less frequently included in econometric estimations than critics ratings. *Duan et al.* (2008) find that audience ratings of Yahoo!Movies do not influence the box office performance, though they exert an indirect impact through the WoM volume. Other researchers find that the WoM (measured in revenues per screen in the previous week) predefines movie life cycles and, thus, how long it stays on the screens (*Elberse & Eliashberg* 2003). We collect the number of Google-hits for a movie and the audience rating on kinopoisk.ru as indicators of media presence and electronic word of mouth (eWoM). It is a novel approach to use pre-release Google-hits as an indicator for eWoM and, thus, for the attention the film gets before the local premiere. We believe that this is a valuable direct proxy of media presence. We derive H8: Media presence and WoM increase box office success of international movies in Russia.

### **3 Econometric Analysis**

#### **3.1 Data and Model**

The sample for the current research is based on 100 highest grossing movies each year within the observation period 2012-2016 according to the lists of

kinopoisk.ru.<sup>5</sup> The sample is limited due to data availability on Russian websites and there is no sufficiently large sample of actually successful domestic movies, which achieved top ranks. Next to the domination of international movies in the Russian market (see Figure 1), Russian and international productions are difficult to compare in terms of genre, cultural context, production conditions and many other relevant issues. The success of international movies (adapted to regional standards and preferences) in Russia is the main focus of this analysis. Country-specific variables, like the adaptation of the title and the time span between world and local release, are most interesting in this sample. Therefore, films produced by Russia (106 films) as well as the ones, which were repeatedly released (like “Titanic” and “Lion King” in 2012) were excluded. Consequently, we have a maximum number of 381 observations with a mean budget of USD 85.6m (see Table 1 for descriptive statistics, excluding indicator variables, control variables for time and scales e.g. from 0 to 10).

**Table 1: Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
Actor1 Google-Hits	381	8,821.2	13,775.4	0	109,000
Actor3 Google-Hits	381	17,927	21,055.2	0	127,370
Movie Google-Hits	381	27,246.1	51,307.2	1111	509,000
Total Box Office	381	10.3m	9.4m	1106472	52.5m
First Week	381	4.6m	4.1m	413.0	23.1m
Budget*	369	85.6m	63.9m	100,000	350m
Copies	381	1189.9	551.1	0	2996
Critics Number (worldwide)	381	178.5	71.8	8	365
Critics Number (Russia)	381	11.6	7.9	1	42

\* For twelve movies the budget was not available.

As mentioned above, we follow the literature by using box office performance to measure movie success. Hence, the dependent variable in the sample is the Russian box office. Our three analytical models follow the conceptual framework and relat-

<sup>5</sup> KinoPoisk is the most popular website when it comes to movies in Russia. Its content is mainly available in Russian language, and that is why it attracts Russian-speaking audience from all over the world, though the major part falls on Commonwealth of Independent States (CIS).

ed literature (see section 2) to implement the empirical study.<sup>6</sup> Testing the variance inflation factors (VIF test), and correlations between independent variables, the three models (derived from theory) are suitable for the analysis. Therefore, we empirically analyse (1) star and brand effects, (2) distributional factors, (3) evaluation-related factors.

$$\begin{aligned}
 (1) \quad \mathbf{Total\ Box\ Office}_i &= \alpha^{(1)} + \beta_1^{(1)} \cdot \mathbf{TopDirector}_i + \beta_2^{(1)} \cdot \mathbf{TopActor}_i + \beta_3^{(1)} \cdot \\
 &\quad \mathbf{Franchise}_i + \beta_4^{(1)} \cdot \mathbf>TitleAdaptation}_i + \beta_5^{(1)} \cdot \mathbf>PremiereAttendance}_i + \beta_6^{(1)} \cdot \mathbf>FilmAge}_i + \\
 &\quad \beta_{7-16}^{(1)} \cdot \mathbf>Genre}_i + \varepsilon^{(1)} \\
 (2) \quad \mathbf{Total\ Box\ Office}_i &= \alpha^{(2)} + \beta_1^{(2)} \cdot \mathbf>Budget}_{i1} + \beta_2^{(2)} \cdot \mathbf>Franchise}_{i2} + \beta_3^{(2)} \cdot \mathbf>Copies}_i + \\
 &\quad \beta_4^{(2)} \cdot \mathbf>Seasonality}_i + \beta_5^{(2)} \cdot \mathbf>TimeGap}_i + \beta_6^{(2)} \cdot \mathbf>FilmAge}_i + \varepsilon^{(2)} \\
 (3) \quad \mathbf{Total\ Box\ Office}_i &= \alpha^{(3)} + \beta_1^{(3)} \cdot \mathbf>Movie\ GoogleHits}_i + \beta_2^{(3)} \cdot \mathbf>AudienceRating}_i + \beta_3^{(3)} \cdot \\
 &\quad \mathbf>CriticsNumber}_i + \beta_4^{(3)} \cdot \mathbf>CriticsRating}_i + \beta_5^{(3)} \cdot \mathbf>FilmAge}_i + \varepsilon^{(3)}
 \end{aligned}$$

$\alpha^{(1-3)}$  = intercepts

$\varepsilon^{(1-3)}$  = error terms

As the data on box office is right-skewed and there is no perfect normality of residuals, we choose two different types of regressions: OLS regressions with logged dependent variable (lnTotalBoxOffice) and, since we have count data, negative binomial regressions. Hence, it is possible to compare results and check the robustness. Due to the restrictive assumption that the variance is equal to the mean, Poisson regressions are not suitable. All regression models are calculated with robust standard errors.

Data on the performance of each movie was gathered from filmz.ru, kinometro.ru, and boxofficemojo.com. The independent variables of each model and their coding are listed in Tables 2-4. The main source for the independent variables is kinopoisk.ru. If it differs, the data sources are explicitly mentioned. All (actors and movie) pre-release Google-hits were calculated by means of Google advanced search. The name was first entered in English, then in Russian and the two numbers

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<sup>6</sup> Furthermore, we cannot include all independent variables simultaneously due to multicollinearity according to diagnostics such as VIFs.

were added up. The drawback of this variable is that this variable covers only the volume, but tells us nothing about its valence. Google results can contain positive, neutral or negative contents; however, the overall publicity and media presence can still draw attention and motivate consumers to watch the movie (à la “any news is good news”).

**Table 2: Brand and Stars**

Variable	Description
Top Director	0 – director is not among 125 top directors 1 – director is among 125 top directors Ranking according to number of nominations within the 250 top film.
Actor1 Google-Hits (Top Actor)	Number of Google search results for first leading actor [in 1,000]
Actor3 Google-Hits (Top Actor)	Number of Google search results for the first three main actors [in 1,000]
Franchise	0 – does not belong to franchise 1 – belongs to franchise Information on whether movie belongs to a franchise is taken from the-numbers.com (The Numbers 2018).
Title Adaptation	0 – original (translated) title 1 – adapted title Variable indicates whether there is a one-to-one translation (0) or a change in form or structure of the movie’s name in Russian (1). English titles are not used for movies in Russian cinemas.
Premiere Attendance	0 – no attendance 1 – attendance Movie’s directors and/or actors attended the movie premiere in Moscow
Genre	10 binary indicator variables: 0 – does not belong to specific genre 1 – belongs to specific genre IMDb classifies a total of 22 movie genres (IMDb 2018) – 10 genres represented within the sample: <i>Action, Animation, Adventure, Biography, Comedy, Crime, Drama, Fantasy, Horror, SciFi</i> .
Film Age	Control variable in each regression model to control for the film age and year of release. Time difference [in days] between Russian release and date of data collection.

**Table 3: Distribution**

Variable	Description
Budget	Estimations derived from the movies' pages on KinoPoisk [in 1,000,000]
Franchise	Control variable 0 – does not belong to franchise 1 – belongs to franchise Information on whether movie belongs to a franchise is taken from the-numbers.com (The Numbers 2018).
Copies	Number of movie copies in Russia
Seasonality Russia	Average weekly attendance rate in Russia during the observation period standardised in standard ten scale (from 0 to 10)*
Time until Release	Difference in days between the world and Russian release

\* First, the data on the weekly attendance rate in Russia during the period of 2012-2016 was gathered (kinometro.ru). Then the average was calculated. Finally, there were 52 values of average attendance rate, which stood for 52 weeks of the year. The initial numbers were first transformed into Z scores with the formula  $Z = (X_i - \bar{X}) / \sigma$ , where  $X_i$  is the attendance rate for each week,  $\bar{X}$  is the average attendance among all of the weeks, and  $\sigma$  is the standard deviation for the whole sample. Standard ten scale, which was calculated by dint of the formula  $Y = 5.5 + (X_i - \bar{X}) / \sigma$ , was used in order to complete the standardisation.

**Table 4: Information**

Variable	Description
Movie Google-Hits	Number of the search results for the movie with Google advance search (sum of Russian and English hits within Russian websites) [in 1,000]
Audience Rating	Audience evaluation (rating of the movie from 1 to 10 stars)
Critics Number (worldwide)	Number of international reviews
Critics Number (Russia)	Number of Russian reviews
Critics Rating (worldwide)	International rating of critics
Critics Rating (Russia)	Russian rating of critics

### 3.2 Results and Discussion

The first category of success factors according to our models is brands and stars (see Table 5). The first two models are OLS estimations with log-transformed dependent variable and models (3) and (4) are negative binomial regressions. The results are robust over all four models. We control for the date of release and, thus, the film age in every model (see 3.1 on the models). In accordance with the majority of the literature (*Litman & Kohl 1989; Wallace et al. 1993; Sochay 1994; Sawhney & Eliashberg 1996; Elberse & Eliashberg 2003; Elberse 2007; Nelson & Glotfelty 2012*), we find evidence that employing popular actors or popular direc-



tors fuels box office success in Russia. Having stars on set appears to draw Russian audiences into international movies, i.e. Russian moviegoers have preferences for international superstars. Also in line with the majority of other country-level studies, franchise exerts a significantly positive influence on Russian box office success.

**Table 5: Brand and Stars**

	(1) lnTotalBoxOffice	(2) lnTotalBoxOffice	(3) TotalBoxOffice	(4) TotalBoxOffice
Top Director	0.333** (0.002)	0.317** (0.002)	0.278** (0.007)	0.264** (0.008)
Actor1 Google-Hits	0.00860** (0.005)		0.00780** (0.004)	
Actor3 Google-Hits		0.00710*** (0.001)		0.00684*** (0.001)
Franchise	0.612*** (0.000)	0.588*** (0.000)	0.526*** (0.000)	0.504*** (0.000)
Title Adaptation	-0.161* (0.046)	-0.159* (0.047)	-0.209** (0.007)	-0.205** (0.007)
Premiere Attendance	0.127 (0.302)	0.121 (0.311)	0.120 (0.272)	0.0925 (0.392)
[1. Action = Base]				
2. Animation	0.132 (0.346)	0.196 (0.175)	0.280* (0.035)	0.337* (0.014)
3. Adventure	0.288* (0.018)	0.298* (0.015)	0.215 (0.069)	0.224 (0.058)
4. Biography	-0.780*** (0.000)	-0.753*** (0.000)	-0.885*** (0.000)	-0.867*** (0.000)
5. Comedy	-0.416*** (0.000)	-0.404*** (0.000)	-0.516*** (0.000)	-0.515*** (0.000)
6. Crime	-0.473* (0.019)	-0.492* (0.014)	-0.479 (0.077)	-0.492 (0.077)
7. Drama	-0.509*** (0.000)	-0.498*** (0.000)	-0.544*** (0.000)	-0.546*** (0.000)
8. Fantasy	-0.392** (0.003)	-0.351** (0.009)	-0.681*** (0.000)	-0.641*** (0.000)
9. Horror	-0.511*** (0.000)	-0.450** (0.001)	-0.663*** (0.000)	-0.606*** (0.000)

10. SciFi	-0.938*** (0.000)	-0.900*** (0.000)	-1.207*** (0.000)	-1.170*** (0.000)
Film Age	0.000538*** (0.000)	0.000559*** (0.000)	0.000484*** (0.000)	0.000508*** (0.000)
_cons	15.02*** (0.000)	14.94*** (0.000)	15.40*** (0.000)	15.31*** (0.000)
<i>N</i>	381	381	381	381
<i>R</i> <sup>2</sup>	0.360	0.367		
<i>Log pseudolikelihood</i>			-6424.4667	-6422.3653

*p*-values in parentheses; \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001

robust standard errors

We introduced two novel region-specific variables in this category, namely title adaption into Russian language and premiere attendance of international stars. While the latter is not significant in our dataset, the former negatively influences success significantly. The mere attendance of superstars at the red carpet does not seem to motivate Russian crowds to go to the cinema, despite the dominating share of international movies in the Russian market. However, adapting the title of international movies to specifics of the Russian culture negatively influences Russian box office. This is a remarkable result, as one expects the effort of the title adaption to the respective culture to be worthwhile and the new title to be particularly suitable. There are two possible explanations for this result. First, the audience may prefer authentic original titles (albeit translated) to newly constructed ones. Second, the effect may be driven by an underlying cultural distance of the film content itself. When the content of a movie deviates considerably from Russian culture, habits and customs, movie companies feel the need to adapt the original title and drive it away from a direct translation. The lack of success, however, may then be driven by the same factor as the motivation to adapt the title: namely, by the cultural distance of the content itself. Unfortunately, with the data we have, we cannot discriminate between the two concurrent explanations.

According to our results, the genre action is preferred to such as biography, comedy, drama, fantasy, horror, and science fiction, which perform significantly negative in comparison. There are mixed results for the genres animation and adventure in the sample.

Our second category, distribution (see Table 6), stands largely in accordance with the majority of the literature (see section 2.2). Again, model 1 is the OLS regression and, here, model 2 the negative binominal regression. Budget and franchise as well as seasonality affect Russian box office success in a significantly positive way. There is also statistical evidence that the number of copies fuels success. Again, we introduced a novel region-specific variable, namely the time-span between the original release and the premiere in Russian cinemas. Both models show that a longer time gap between the original release and the Russian release affects Russian box office success in a negative way. This result may be interpreted by the role of (online) piracy and illegal streaming (see section 2.2).

**Table 6: Distribution**

	(1) lnTotalBoxOffice	(2) TotalBoxOffice
Budget	0.00516*** (0.000)	0.00584*** (0.000)
Franchise	0.207** (0.004)	0.204* (0.018)
Copies	0.000561*** (0.000)	0.000477*** (0.000)
Seasonality Russia	0.0843** (0.003)	0.0641* (0.023)
Time until Release	-0.00200*** (0.000)	-0.00190*** (0.000)
Film Age	0.000626*** (0.000)	0.000522*** (0.000)
_cons	13.51*** (0.000)	13.94*** (0.000)
<i>N</i>	369	369
<i>R</i> <sup>2</sup>	0.612	
<i>Log pseudolikelihood</i>		-6153.2235

*p*-values in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$   
robust standard errors

Our third category of success factors, evaluation-based factors (see Table 7), yields a number of interesting results. Due to multi-collinearity, we needed to estimate

the number of critics and the ratings in different models. Model 1 and 2 are OLS regressions and model 3 and 4 negative binomial regressions. Electronic word of mouth and online media presence (Google-hits of the movie) influence Russian box office success in a significantly positive way on the statistical one- and two-star level. Audience rating exerts a clearly positive influence as well, thus, bandwagon effects appear to take place. If other Russian consumers like a movie or a movie is very present (i.e. very much talked about) in online media, then this draws more consumers into the cinemas for this movie. While consumer-to-consumer ratings and WoM appears to be relatively trustworthy for Russian consumers, critics' ratings are not. There is no statistical evidence that the frequency or valence of critics have an influence on movie success in our dataset; all these variables are insignificant. However, the ratings by international critics affect Russian box office performance, though, in a significantly negative way. Russian moviegoers' preferences seem to differ from what international critics think is high quality and valuable. The Russian audience does not only appear to be unimpressed by international critics' favourites, it even appears to be a stigma for a movie to be hailed by international critics. While this may also be interpreted as a positive sign for promoting more Russian productions, it should be noted that the rating of Russian critics also shows a negative sign, albeit being insignificant. These findings stand in contrast to the majority of studies from other countries, finding positive influences of critics' ratings (inter alia, *Litman* 1982, 1983; *Litman & Kohl* 1989; *Sochay* 1994; *Eliashberg & Shugan* 1997; *Basuroy et al.* 2003; *Elberse & Eliashberg* 2003; *Chang & Ki* 2005).

**Table 7: Information**

	(1) lnTotalBoxOffice	(2) lnTotalBoxOffice	(3) TotalBoxOffice	(4) TotalBoxOffice
Movie Google-Hits	0.00404*** (0.000)	0.00389*** (0.000)	0.00334*** (0.000)	0.00323*** (0.000)
Audience Rating	0.298*** (0.000)	0.297*** (0.000)	0.340*** (0.000)	0.345*** (0.000)
Critics Num- ber (world- wide)	-0.000247		-0.000195	

	(0.308)		(0.584)	
Critics Number (Russia)	-0.000273 (0.315)		-0.000425 (0.098)	
Critics Rating (worldwide)		-0.000745*** (0.000)		-0.000923*** (0.000)
Critics Rating (Russia)		-0.000221 (0.455)		-0.000218 (0.366)
Film Age	0.000520*** (0.000)	0.000524*** (0.000)	0.000485*** (0.000)	0.000496*** (0.000)
_cons	13.17*** (0.000)	13.20*** (0.000)	13.23*** (0.000)	13.22*** (0.000)
<i>N</i>	381	381	381	381
<i>R</i> <sup>2</sup>	0.211	0.228	-6466.5552	-6460.7759

*p*-values in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$   
robust standard errors

#### 4 Conclusion

By presenting the first econometric study on box office success of international movies in Russia, we fill a gap in the empirical literature on movie markets. In doing so, we apply the success factors from the existing literature. Furthermore, we extend the literature by applying novel concepts such as Google-hits as an indicator for media presence and eWoM. Moreover, we add novel region-specific variables like time span between the world and local release, seasonality, attendance of international stars at Russian movie premieres and title adaptation according to Russian culture, lifestyle and habits.

In accordance with the majority of the literature, we find that the factors budget and franchise as well as the employment of popular actors and directors have a significantly positive effect on success. Interestingly, ratings of international critics negatively affect success in our dataset. Russian movie consumers appear to rate the taste and preferences of international critics to be considerably different to their own tastes and preferences. However, also Russian critics do not provide a positive influence on box office success. Electronic word of mouth through the in-

ternet and audience ratings exert a significantly positive influence on box office success in Russia, i.e. consumers appear to put more trust into the opinion of other consumers than into “official” critics and evaluators. From our novel region-specific variables, seasonality expectably exerts a significantly positive effect on success. However, the adaptation of the Russian title of the international movie according to Russian culture and lifestyle displays a significantly negative effect on box office success in Russia. Eventually, a longer time span between the international and the Russian release negatively correlates with box office success. Table 8 gives an overview of our hypotheses and results.

**Table 8: Hypotheses Overview**

H1: Popular actors and popular directors increase box office success of international movies in Russia.	✓	(positively significant, except for premiere attendance)
H2: Sequels perform better at the box office in Russia.	✓	(positively significant)
H3: Adapting the movie title to local culture increases the box office success of international movies in Russia.	x	(negatively significant)
H4: A higher budget as well as a higher number of copies increases box office revenues of international movies in Russia.	✓	(positively significant)
H5: If the time-gap is longer, box office revenues of international movies decrease.	✓	(negatively significant)
H6: Releasing films close to Russian public holidays drives box office success (release dates matter).	✓	(positively significant)
H7: More and more positive evaluations by professional critics positively influences box office success of international movies in Russia.	x	(negatively significant for international rating)
	no	(insignificant for number of critics)
H8: Media presence and WoM increase box office success of international movies in Russia.	✓	(positively significant)

It is one of the main contributions of our study to demonstrate (a) that some success factors work differently in a culturally different movie market like Russia and (b) that region-specific factors matter. This implies the relevant conclusion that studies from the U.S. market cannot be directly transferred to different markets like Russia. This result may be even more interesting than the single-case results for Russia because it points to the benefits of analysing the economics of entertainment markets in different cultures. Although the potential to generalise the Russian case is probably rather limited to some of the neighbouring countries and to such that share a common history, language, culture and lifestyle evolution, the case of Russia highlights the limits to generalisation of Western/U.S.-based market studies

in entertainment industries. Other culturally different markets like China, Japan, India, or other countries in Asia as well as in Africa or South America are likely to display even other economic factors for movie success. Consequently, the relevance of regional factors as well as the changing role of some success factors point to cultural distance being a major factor in the success of foreign movies; an indication that warrants further research. Furthermore, this insight is highly relevant for movie companies (and their managers) that want to export their product to markets of culturally differing countries.

In accordance with the vast majority of the literature, our paper limits the analysis of success factors of movies to box office revenues. However, the markets for audio-visual contents are changing in line with technological progress like digitisation and broadband internet as well as with changing consumption patterns of consumers. For instance, the increasing roles of online streaming services (*Budzinski & Lindstädt-Dreusicke 2019*) as well as the shifting focus of younger generations towards social media stars (*Budzinski & Gaenssle 2018; Gaenssle & Budzinski 2019*) are very likely to alter especially the longer-run revenue structures of markets for audio-visual goods like movies. For our study, these developments that are particularly gaining relevance since the second half of the 2010s could not yet reliably included into our analysis. However, future studies on the impact and changes generated by these and other new developments are warranted.

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