# Ilmenau University of Technology Institute of Economics



Ilmenau Economics Discussion Papers, Vol. 24, No. 113

## Conquering the Box Office: Factors influencing Success of International Movies in Russia

Sophia Gaenssle, Oliver Budzinski & Daria Astakhova

Mai 2018

**Institute of Economics** 

Ehrenbergstraße 29 Ernst-Abbe-Zentrum D-98 684 Ilmenau

Phone 03677/69-4030/-4032

Fax 03677/69-4203

http://www.wirtschaft.tu-ilmenau.de

ISSN 0949-3859

Conquering the Box Office: Factors influencing Success of

International Movies in Russia

Sophia Gaenssle<sup>#×</sup>

Oliver Budzinski\*

Daria Astakhova\*

Abstract: This paper empirically examines various factors influencing box office suc-

cess of international movies in Russia between 2012 and 2016. Three groups of suc-

cess factors are distinguished: distribution related (e.g. budget, franchise), brand and

star effects (e.g. top actors or directors), and information sources (e.g. critics and

audience rating). We extend the literature by applying novel concepts such as

Google-hits as indicator for electronic word of mouth. Moreover, we add novel re-

gion-specific variables like seasonality, time span between the world and local re-

lease, attendance of international stars at Russian movie premieres and title adapta-

tion into the Russian language. The results indicate that budget, franchise, electronic

word of mouth through the internet and audience ratings exert a significantly posi-

tive influence on Russian box office success. Whereas, we find no evidence of star

effects in our sample and significantly negative effects for international critics, and,

interestingly, the adaption of movie titles.

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

Russia

JEL-Codes: L10, L82

M.Sc., Institute of Economics, Ilmenau University of Technology, Germany,

Email: sophia.gaenssle@tu-ilmenau.de.

Professor of Economic Theory, Institute of Economics and Institute of Media and Mobile Communications, Ilmenau University of Technology, Germany, Email: oliver.budzinski@tu-ilmenau.de.

M.A., CROSSMEDIA GmbH, Düsseldorf, Germany, Email: darya\_astakhova@hotmail.com.

We thank Victoriia Noskova as well as the participants of the 50th Hohenheimer Oberseminar

(April 2018) for very helpful comments and discussion.

1

#### 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 movies usually fail to bring any profit to their creators, with 5 percent of movies generating 80 percent of the total income (Vogel, 2011, p. 71). Consequently, the influencing factors on theatrical success of a movie (e.g. stars, budget, etc.) have been subject to various econometric studies (see, inter alia, Ravid 1999; De Vany & Walls 1996, 1999, 2002; 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 despite - as a whole - growing faster than the North American market, the traditional home to blockbuster productions and Hollywood exports: 14 percent growth internationally versus 5 percent in the US/Canada between 2012 and 2016 (MPAA 2017). Among the few exceptions of econometric studies on non-US movie markets are, 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 one of the more relevant markets in the world. Furthermore, the Russian movie 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-organized and mostly isolated towards a market-oriented and open movie 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). During this time, the overall Russian market grew rapidly with a growth rate of 1359.3 percent.

95,2 93.9 100 86.6 84,6 83,5 84,5 90 81.5 82,4 77,6 74,3 72,4 72,1 80 70.5 70 Percent 60 50 40 29.5 27,6 27,9 25,7 30 22.4 17,6 18,5 16,5 15.4 15.5 13,4 20 6,1 4,8 10 n 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 Year ■ Domestic ■ International

Figure 1 Market Shares domestic versus international Films in Russia

Source: Movie Research (2014: 53)

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 movie market. As such it closes a research gap in the international econometric literature on national/regional movie markets. Following the literature, we define three groups of factors, which may influence consumptions decisions: brand-related variables (such as stars and franchises), information sources (as audience rating and critics), and distribution-related factors (such as budget, copies etc.). In doing so, we extend the literature by employing novel measures on media presence like Google-hits of actors and movies. 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. However, we do not find star effects. 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

movie title into Russian language displays a significantly negative effect on box office success in Russia.

#### 2. Theoretical Framework and Conceptual Model

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, De Vany 2004, Basuroy et al. 2003, Elberse 2007). To meet the requirements of the Russian market, we adjust the model constructed by Reddy et al. (1998) and further developed by Chang and Ki (2005) to categorise groups of independent variables, which determine theatrical or movie success. Three groups of factors are defined: *brand-related*, *distribution-related* and *information-related*.

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

Brand theory suggests that brand effects derive from audience knowledge (Keller 1993, 1998). The popularity of directors, actors or film sequels build on the knowledge, experience and perception of the audience. The brand knowledge or consumption capital (Opitz & Hofmann 2016, Stigler & Becker 1977) of the audience and its understanding and interpretations of quality signals build the key aspects of the category brand-related, thus, we include popular directors, actors, and sequels/franchises. A lot of studies examined the effects of ex-ante popularity of stars on box office performance. The employment of stars is understood to be a signalling device aiming at reducing quality insecurity on the side of the consumers, i.e. stars on the set or superstar directors may attract audience into the cinemas because (i) some consumers want to see everything the superstar is offering (accumulation of consumption capital and bandwagon effects (Adler 1985, 2006, Leibenstein 1950, Opitz & Hofmann 2016, Stigler & Becker 1977)) and (ii) the presence of superstars enhances the trust of risk-averse consumers in the quality of the product (MacDonald 1988). However, the results are controversial. Some find empirical evidence for superstar effects of famous actors and directors (Elberse 2007, Elberse & Eliashberg 2003, Litman & Kohl 1989, Nelson & Glotfelty 2012, Sawhney & Eliashberg 1996, Sochay 1994, Wallace et al. 1993), while others could only find limited or no positive

influence (Basuroy et al. 2003, Kaimann & Pannicke 2015, Litman 1982, 1983, Ravid 1999). 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).

Within the category of brand-related factors, studio managers consider *sequels* to be a proven way of minimising the risks, since under the condition of knowing the brand (parent movie) sequels reduce risks and non-acquaintance for potential consumers. In a business where apparently "nobody knows anything" (Walls 2005: 177), similar to stars, sequels and franchises seek to signal risk-averse consumers a minimum quality and, thus, reduce uncertainty. Researchers found empirical evidence that sequels and franchises may not necessarily perform better than the original at the box office, but decrease uncertainty of outcome for producers (Basuroy & Chatterjee 2008, Opitz & Hofmann 2016, Palia et al. 2008, Ravid 1999, Fernández-Blanco et al. 2014). 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).

Moreover, we added the *genre* into the brand-category, as we do not understand it as a neutral or objective figure, but as a strong content signal towards the potential audience e.g. traditionally mainstream genres as action or comedy send other signals than more sophisticated films in genres like documentary or biography.

Lastly, focusing on the Russian market, we add the *adaption of the title*. 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.

#### 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, Basuroy et al. 2003, Chang & Ki 2005, Kaimann & Pannicke 2015, Kim et a. 2013, Litman 1982, 1983, Litman & Kohl 1989, Ravid 1999, Sochay 1994, Wallace et al. 1993, Wyatt 1991).

Moreover, the country-specific variables Russian *seasonality* and the *time-gap* between the first release (world premiere) and the release date in Russia. 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. The success in the country of origin in connection with different release dates might influence the performance in international markets (Elberse and Eliashberg 2003). 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 (Einav 2007, Litman 1983, Radas & Shugan 1998, Sochay 1994, Terry et al. 2005). Moreover, in Russia and some states of the former Soviet Union the *Commonwealth of Independent States* (CIS)<sup>1</sup> the connection to public holidays and school vacations is observable (see **Figure 2**).

CIS members 2018: Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and Ukraine.

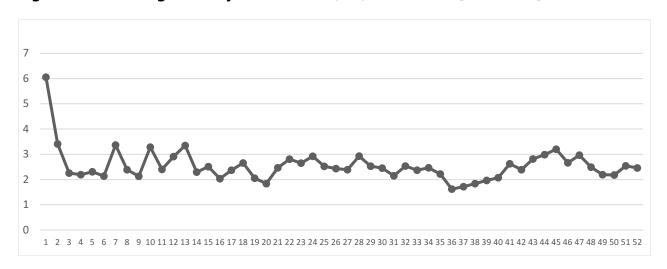


Figure 2 Average Weekly Attendance (CIS) 2012-2016 [in million]

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 Information-related Success Factors for International Movies in Russia

In this paper, we look at media presence and word of mouth (WoM) as an additional factor of box office success in the category *information-related*. This includes all information sources of third-party evaluation (Chang & Ki 2005). Media presence increases awareness of potential consumers and, thereby, draws audience. According to the previous research, investments in broad media coverage of the 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 movie's total box office.

"Word of mouth or 'buzz', involves informal communication among consumers about products and services" (Lui 2006: 74). This includes third person judgements and ratings (frequency and valence), as in *critic numbers* and *critic ratings* or *audience ratings*. Thus, WoM can be distinguished into ratings by (professional) critics and direct communication among consumers. 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, Basuroy et al. 2003, Chang & Ki 2005, Elberse & Eliashberg 2003, Eliashberg & Shugan 1997, Litman 1982, 1983, Litman & Kohl 1989, Sochay 1994) and some negative (Basuroy et al. 2003, Eliashberg & Shugan 1997) influence of critics' ratings. Audience ratings are less frequently included in econometric estimations. 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 as indicator of electronic word of mouth (eWoM) and media presence, the number and rating of critics (in Russia and internationally) and the audience rating on kinopoisk.ru. This 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 more direct proxy of media presence and, thus, commonality than marketing expenditures or screen revenues.

#### 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>2</sup>. In order to focus on success factors for international movies – for which only our regional-specific variables like adaptation of the title, time span between releases, etc. are sensible - films produced by Russia as well as the ones, which were repeatedly released

<sup>&</sup>lt;sup>2</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).

(like "Titanic" and "Lion King" in 2012) were excluded.<sup>3</sup> Thus, we have a total of 381 observation with a mean budget of USD 85.6m (see **Table 1**).

Table 1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Total Box Office	381	10.3m	9.4m	1106472	52.5m
First Week	381	4.6m	4.1m	413.0	23.1m
Budget	369 <sup>4</sup>	85.6m	63.9m	100.000	350m
Copies	381	1189.9	551.1	0	2996

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 analytical model is derived from the conceptual model (see chapter 2) to implement the empirical study. We estimate the equation by linear methods (ordinary least squares, OLS) with robust standard errors:

**Total Box Office**<sub>i</sub> = 
$$\alpha + \beta_1 \cdot Movie Google Hits_{i1} + \beta_2 \cdot Audience Rating_{i2} + \beta_3 \cdot Critics Number_{i3} + \beta_4 \cdot Critics Rating_{i4} + \varepsilon$$
(3)

 $\alpha = intercept$ 

 $\varepsilon = error term$ 

Next to the domination of international movies in the Russian market and the lack of a sufficiently large sample of successful domestic Russian movies, Russian and international productions are difficult to compare in terms of genre, cultural context, production conditions and many other relevant issues

<sup>&</sup>lt;sup>4</sup> For some movies the budget was not available.

Data on the performance of each movie was gathered from the filmz.ru, kinometro.ru, and boxofficemojo.com.<sup>5</sup> The independent variables of each model and their coding are listed in

### Table 2Brand and Stars

Table 2-3.

Table 2Brand 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 films during the observation period	
Actor1 Google-Hits (Top Actor)	Number of the search results for first leading actor within Russian websites	
Actor3 Google-Hits	Number of the search results for the first three main actors within Russian websites	
(Top Actor)		
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	Indicator variable	
	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>	

10

<sup>&</sup>lt;sup>5</sup> The main source for the independent variables is kinopoisk.ru. If it differs, the data sources are explicitly mentioned in tables 1-3.

Table 3Distribution

Variable	Description	
Budget	Estimations derived from the movies' pages on KinoPoisk	
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) <sup>6</sup>	
Time until Release	Difference in days between the world and Russian release	

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)
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

In the first category of success factors according to our model, brands and stars (see **Table 5**), an interesting result is the absence of any star effects in the Russian data. Quite in contrast to the majority of the literature (but in line with the, albeit, genre-

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 was 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  $Z = (X_i - \overline{X})$ , where  $X_i$  is the attendance rate for each week,  $\overline{X}$  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  $Y = 5,5 + (X_i - \overline{X})\sigma$ , was used in order to complete the standardization.

specific study by Kaimann & Pannicke 2015), we cannot show that employing international star actors or international star directors fuels box office success in Russia. Having international stars on the set appears to be insufficient for drawing large Russian audiences, i.e. Russian moviegoers may have only limited preferences for these stars. In line with the majority of other countries' studies, franchise, on the other hand, exerts a significantly positive influence on Russian box office success.

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 on a 10 percent significance-level. In line with the absence of star effects, it does not attract a larger Russian crowd if international stars join the Russian premiere. So, again there does not appear to be a pronounced preference for international stars, despite the dominating share of international movies in the Russian market. This may actually be understood a good sign for efforts to strengthen Russian productions. Quite in contrast, however, adapting title of international movies in Russian negatively correlates with Russian box office success. 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 especially suitable. Quite in contrary, the audience may prefer authentic original titles (albeit translated) over newly constructed once. Alternatively, the effect may be driven by an underlying cultural distance of the movie's content itself. Only when the content of a movie deviates considerably from Russian culture, habits and customs, movie companies may feel the need to adapt the original title and drive it away from a direct translation. The lack of success we measured, however, may then be driven by the same factor as the motivation to adapt the title: namely, by the cultural distance of the movie's content itself. Unfortunately, with the data we have, we cannot discriminate between the concurrent explanations.

Action is the clearly preferred genre in the Russian market with biography, comedy, drama, fantasy, horror, and science fiction performing significantly more negative in comparison. That is all other genres except of animation, adventure, and crime – and amongst those, the latter two may be viewed to be neighbouring genres to action.

Table 5Brand and Stars

	(1) Total Box Office	(2) Total Box Office	
Top Director	2340974.4	2424694.1	
. 5 p 2 2000.	(1.84)	(1.90)	
Actor1 Google-Hits		66.06	
		(1.49)	
Actor3 Google-Hits	43.85 (1.56)		
Franchise	6168911.5*** (5.35)	6329885.3*** (5.55)	
Title Adaption	-1785705.0*	-1772485.8*	
	(-1.99)	(-1.97)	
Premiere Attendance	2966118.5	2975382.1	
	(1.84)	(1.82)	
1.Action	0 (.)	0 (.)	
2.Animation	3217997.8 (1.85)	2967372.1 (1.75)	
3.Adventure	3474606.6	3465915.1	
	(1.93)	(1.93)	
4.Biography	-5386424.5***	-5633622.4***	
	(-3.61)	(-3.54)	
5.Comedy	-2977864.3**	-3059130.2**	
	(-3.06)	(-3.14)	
6.Crime	-3520843.7	-3362320.7	
	(-1.94)	(-1.88)	
7.Drama	-4050780.7*** (-3.75)	-4081745.9***	
	(-3.73)	(-3.75)	
8.Fantasy	-3300627.7* (-2.56)	-3455827.1** (-2.80)	
9.Horror	-5193164.7*** (-4.45)	-5429958.9*** (-4.84)	
10.SciFi	-4392067.6*** (-4.72)	-4534350.9*** (-5.22)	
_cons	8095757.7*** (7.75)	8295361.9*** (8.52)	
N	381	381	

t statistics in parentheses \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Our second category, distribution (see **Table 6**), stands to a large extent in accordance with the majority of the literature. Budget and franchise as well as seasonality affect Russian box office success in significantly positive way. However, there is no 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. Yet, since this variable is not significant, we cannot conclude that piracy and illegal copying/streaming increases with the length of the temporary unavailability of new movies. There may be two contrary effects, which might neutralise each other: success enhancing effects of WoM, bandwagon effects and previous success in other market versus piracy and illegal consumption.

Table 6 Distribution

	(1)
	TotalBoxOffice
Budget	0.0737***
	(6.73)
Franchise	3091063.4**
	(2.95)
Copies	1692.3
·	(1.72)
Seasonality Russia	888021.2**
•	(2.60)
Time until Release	-4656.1
	(-1.34)
cons	-3571339.3
_	(-1.72)
N	369

t statistics in parentheses

Our third category of success factors, information (see **Table 7**), yields a number of interesting results. 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, even in the absence of superstar effects, 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

<sup>\*</sup> p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

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 sharply 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 a clear contrast to the majority of studies from other countries, finding positive influences of critics' ratings (inter alia, Basuroy et al. 2003, Chang & Ki 2005, Elberse & Eliashberg 2003, Eliashberg & Shugan 1997, Litman 1982, 1983, Litman & Kohl 1989, Sochay 1994).

Table 7 Information

	(1)	(2)
	Total Box Office	Total Box Office
Movie Google-Hits	22.73**	21.83*
	(2.63)	(2.49)
Audience Rating	3867424.4***	3864225.2***
-	(6.79)	(6.90)
Critics Number (worldwide)	-856.3	
chacs Number (worldwide)	(-0.43)	
Critics Number (Russia)	-650.0 (-0.35)	
	(-0.55)	
Critics Ratings (worldwide)		-4759.0***
		(-3.64)
Critics Rating (Russia)		-693.8
3 ( )		(-0.35)
cons	-15659839.4***	-15371424.6***
	(-4.47)	(-4.44)
N	381	381

t statistics in parentheses

<sup>\*</sup> p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

#### 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 into a coherent model. We extend the literature by applying novel concepts such as Google-hits as indicator for media presence and eWoM. Furthermore, 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 into the Russian language.

In accordance with the majority of the literature, we find that the factors budget and franchise have a significantly positive effect on success. In contrast to the majority of the literature, however, we do not find star effects. 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 internet 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 the added region-specific variables, seasonality expectably exerts a significantly positive effect on success. However, the adaptation of the movie title into Russian language displays a significantly negative effect on box office success in Russia. As the Russian language has its own writing system, this outcome might also be interesting for other countries with non-Latin letters, like China or Japan. Furthermore, this interesting role points to cultural distance being a major factor in the success of foreign movies, an indication that warrants further research.

#### **References**

- Adler, M. (1985), Stardom and Talent, in: American Economic Review, Vol 75 (1), pp. 208-212.
- Adler, M. (2006), Stardom and Talent, in: Victor A. Ginsburgh & David Throsby, Handbook of the Economics of Art and Culture, Amsterdam; Boston: Elsevier, pp. 896-905.
- Ainslie, A., Drèze, X., & Zufryden, F. (2005), Modeling movie life cycles and market share, in: Marketing Science, 24(3), pp. 508-517.
- Basuroy, S., & Chatterjee, S. (2008), Fast and frequent: Investigating box office revenues of motion picture sequels, in: Journal of Business Research, 61(7), pp. 798-803.
- Basuroy, S., Chatterjee, S., Ravid, S. A. (2003), How critical are critical reviews? The box office effects of film critics, star power and budgets, in: Journal of Marketing, 67 (4), pp. 103-117.
- Chang, B. H., & Ki, E. J. (2005), Devising a practical model for predicting theatrical movie success: Focusing on the experience good property, in: Journal of Media Economics, 18(4), pp. 247-269.
- De Vany, A. (2004), Hollywood Economics. How extreme uncertainty shapes the film industry, New York.
- De Vany, A., & Walls, W. D. (1996), Bose-Einstein dynamics and adaptive contracting in the motion picture industry, in: The Economic Journal, 106(439), pp. 1493–1514.
- De Vany, A., & Walls, W. D. (1999), Uncertainty in the movie industry: Does star power reduce the terror of the box office?, in: Journal of Cultural Economics, 23(4), pp. 285–318.
- De Vany, A., & Walls, W. D. (2002), Does Hollywood make too many r-rated movies? Risk, stochastic dominance, and the illusion of expectation, in: Journal of Business, 75(3), pp. 425–451.
- Duan, W., Gu, B., & Whinston, A. B. (2008). The dynamics of online word-of-mouth and product sales—An empirical investigation of the movie industry, in: Journal of retailing, 84(2), pp. 233-242.

- Einav, L. (2007), Seasonality in the US motion picture industry, in: RAND Journal of Economics, 38(1), pp. 127–145.
- Elberse, A. (2007), The Power of Stars: Do Star Actors Drive the Success of Movies?, in: Journal of Marketing, 71 (4), pp. 102-120.
- Elberse, A., & Eliashberg, J. (2003), Demand and supply dynamics for sequentially released products in international markets: The case of motion pictures, in: Marketing Science, 22, pp. 329–354.
- Eliashberg, J. & Shugan, S. M. (1997), Film Critics. Influencers or Predictors?, in: Journal of Marketing, 61 (2), pp. 68-78.
- Fee, C. E. (2002), The costs of outside equity control: Evidence from motion picture financing decisions, in: Journal of Business, 75(4), 681–711.
- Feng, F. & Sharma, R. (2016), Modeling the Main Determinants of Movie Sales: An Econometric Study of Chinese Marketplace, in: Journal of Reviews on Global Economics, Vol. 5, pp. 190-209.
- Fernández-Blanco, V., Ginsburgh, V., Prieto-Rodríguez, J., & Weyers, S. (2014), As good as it gets? Blockbusters and the inequality of box office results since 1950, in: J.C. Kaufman, D.K. Simonton (Eds.), Chapter 12 in The Social Science of Cinema (pp. 269–285). Oxford University Press: New York.
- Fu, W. W., & Lee, T. K. (2008), Economic and cultural influences on the theatrical consumption of foreign films in Singapore, in: Journal of Media Economics, 21(1), pp. 1-27.
- Government of the Russian Federation (2018), Правительственный совет по развитию отечественной кинематографии [Governmental Council for the Development of National Cinematography], http://government.ru/department/195/about/, accessed 05. April 2018.
- Hand, C. (2002), The Distribution and Predictability of Cinema Admissions, in: Journal of Cultural Economics, 26 (1), pp. 53-64.
- IMDb (2018), IMDb, <a href="http://www.imdb.com/">http://www.imdb.com/</a>, accessed 05. April 2018.
- Kaimann, D. & Pannicke, J. (2015), Movie success in a genre specific contest: Evidence from the US film industry, Ilmenau Economics Discussion Papers, 20(98).
- Keller, K. L. (1993), Conceptualizing, Measuring, and Managing Customer-Based Brand Equity, in: Journal of Marketing, 57(1), pp. 1-22.

- Keller, K. L. (1998), Strategic brand management, Upper Saddle River, NJ: Prentice Hall.
- Kim, S. H., Park, N., & Park, S. H. (2013), Exploring the effects of online word of mouth and expert reviews on theatrical movies' box office success, in: Journal of Media Economics, 26(2), 98-114.
- Kinopoisk (2018), Kinopoisk Russia, https://www.kinopoisk.ru/film/duelyant-2016-840234/, accessed 05. April 2018.
- Kwak, J. & Zhang, L. (2011), Does China Love Hollywood? An Empirical Study on the Determinants of the Box-Office Performance of the Foreign Films in China, in: International Area Studies Review, 14 (2), pp. 115-140.
- Leibenstein, H. (1950), Bandwagon, Snob, and Veblen Effects in the Theory of Consumers' Demand, in: Quarterly Journal of Economics, Vol. 64 (2), pp. 183-207.
- Litman, B. R. (1982), Decision-making in the film industry: The industry of the TV market, in: Journal of Communication, 32, pp. 33–52.
- Litman, B. R. (1983), Predicting success of theatrical movies: An empirical study, in: Journal of Popular Culture, 16, pp. 159–175.
- Litman, B. R., & Kohl, L. S. (1989), Predicting financial success of motion pictures: The '80s experience, in: Journal of Media Economics, 2, pp. 35–50.
- Liu, Y. (2006), Word of mouth for movies: Its dynamics and impact on box office revenue, in: Journal of marketing, 70(3), pp. 74-89.
- MacDonald, G. (1988), The Economics of Rising Stars, in: American Economic Review, Vol. 78 (1), pp. 155-166.
- MPAA (2017), Motion Picture Association of America: Theatrical Market Statistics, <a href="http://www.mpaa.org/wp-content/uploads/2017/03/MPAA-Theatrical-Market-Statistics-2016\_Final-1.pdf">http://www.mpaa.org/wp-content/uploads/2017/03/MPAA-Theatrical-Market-Statistics-2016\_Final-1.pdf</a>, accessed 23<sup>rd</sup> May 2017.
- Movie Research (2014). Киностатистика 2014 [Kinostatistics 2014], http://movieresearch.ru/wp-content/uploads/2016/08/Киностатистика-2014.pdf, accessed 21<sup>st</sup> February 2018.
- Nelson, R. A., Donihue, M. R., Waldman, D. M., Wheaton, C. (2001), What's an Oscar worth?, in: Economic Inquiry, 39 (1), pp. 1-16.
- Nelson, R. A., & Glotfelty, R. (2012), Movie stars and box office revenues: an empirical analysis, in: Journal of Cultural Economics, 36(2), pp. 141-166.

- NEVAFILM (2017), Research Nevafilm, http://research.nevafilm.ru/, accessed 7<sup>th</sup> March 2018.
- Opitz, C., & Hofmann, K. H. (2016), The More You Know... The More You Enjoy? Applying 'Consumption Capital Theory' To Motion Picture Franchises, in: Journal of Media Economics, 29(4), pp. 181-195.
- Palia, D., Ravid, S. A., & Reisel, N. (2008), Choosing to cofinance: Analysis of project-specific alliances in the movie industry, in: Review of Financial Studies, 21(2), pp. 483-511.
- Radas, S., & Shugan, S. M. (1998), Seasonal marketing and timing new product introductions, in: Journal of Marketing Research, pp. 296-315.
- Ravid, A. S. (1999), Information, Blockbusters and Stars. A Study of the Film Industry, in: Journal of Business, 72 (4), pp. 463-492.
- Reddy, S.K., Swaminathan, V., & Motley, C.M. (1998), Exploring the determinants of Broadway show success, in: Journal of Marketing Research, 35, pp. 370–383.
- Reinstein, D. A., & Snyder, C. M. (2005), The influence of expert reviews on consumer demand for experience goods: A case study of movie critics, in: The journal of industrial economics, 53(1), pp. 27-51.
- Sawhney, M. S. & Eliashberg, J. (1996), A parsimonious model for forecasting gross box-office revenues of motion pictures, in: Marketing Science, 15, pp. 113-131.
- Simonoff, J. S., & Sparrow, I. R. (2000), Predicting movie grosses: Winners and losers, blockbusters and sleepers, in: Chance, 13(3), pp. 15–24.
- Sochay, S. (1994), Predicting performance of motion pictures, in: Journal of Media Economics, 7, pp. 1-20.
- Stigler, G. and Becker, G. (1977), De Gustibus Non Est Disputandum, in: American Economic Review, Vol. 67 (1), pp. 76-90.
- Terry, N., Butler, M., & De'Armond, D. (2005), The determinants of domestic box office performance in the motion picture industry, in: Southwestern Economic Review, 32(1), pp. 137-148.
- The Numbers (2018), The Numbers, <a href="https://www.the-numbers.com/">https://www.the-numbers.com/</a>, accessed 21<sup>st</sup> March 2018.
- Vogel, H. L. (2001), Entertainment industry economics: A guide for financial analysis (5th ed.), Cambridge: Cambridge University Press.

- Vogel, H. L. (2011), Entertainment industry economics: a guide for financial analysis, New York: Cambridge University Press.
- Wallace, W. T., Seigerman, A., & Holbrook, M. B. (1993), The role of actors and actresses in the success of films: How much is a movie star worth?, in: Journal of Cultural Economics, 17(1), pp. 1-27.
- Walls, D. (2005), Modeling Movie Success when 'Nobody Knows Anything': Conditional Stable-Distribution Analysis of Film Returns, in: Journal of Cultural Economics, 29, pp. 177-190.
- Wyatt, J. (1991), High concept, product differentiation, and the contemporary U.S. film industry, in: B. Austin (ed.), Current research in film: Audiences, economics, and law, Norwood, NJ: Ablex, pp. 86-105.

### Diskussionspapiere aus dem Institut für Volkswirtschaftslehre der Technischen Universität Ilmenau

- Nr. 69 *Budzinski, Oliver:* Empirische Ex-Post Evaluation von wettbewerbspolitischen Entscheidungen: Methodische Anmerkungen, Januar 2012.
- Nr. 70 *Budzinski, Oliver:* The Institutional Framework for Doing Sports Business: Principles of EU Competition Policy in Sports Markets, January 2012.
- Nr. 71 *Budzinski, Oliver; Monostori, Katalin:* Intellectual Property Rights and the WTO, April 2012.
- Nr. 72 Budzinski, Oliver: International Antitrust Institutions, Juli 2012.
- Nr. 73 *Lindstädt, Nadine; Budzinski, Oliver:* Newspaper vs. Online Advertising Is There a Niche for Newspapers in Modern Advertising Markets?
- Nr. 74 *Budzinski, Oliver; Lindstädt, Nadine:* Newspaper and Internet Display Advertising Co-Existence or Substitution?, Juli 2012b.
- Nr. 75 *Budzinski, Oliver:* Impact Evaluation of Merger Control Decisions, August 2012.
- Nr. 76 Budzinski, Oliver; Kuchinke, Björn A.: Deal or No Deal? Consensual Arrangements as an Instrument of European Competition Policy, August 2012.
- Nr. 77 *Pawlowski, Tim, Budzinski, Oliver:* The (Monetary) Value of Competitive Balance for Sport Consumers, Oktober 2012.
- Nr. 78 *Budzinski, Oliver:* Würde eine unabhängige europäische Wettbewerbsbehörde eine bessere Wettbewerbspolitik machen?, November 2012.
- Nr. 79 *Budzinski, Oliver; Monostori, Katalin; Pannicke, Julia:* Der Schutz geistiger Eigentumsrechte in der Welthandelsorganisation Urheberrechte im TRIPS Abkommen und die digitale Herausforderung, November 2012.
- Nr. 80 *Beigi, Maryam H. A.; Budzinski, Oliver:* On the Use of Event Studies to Evaluate Economic Policy Decisions: A Note of Caution, Dezember 2012.
- Nr. 81 *Budzinski, Oliver; Beigi, Maryam H. A.:* Competition Policy Agendas for Industrializing Countries, Mai 2013.

- Nr. 82 *Budzinski, Oliver; Müller, Anika:* Finanzregulierung und internationale Wettbewerbsfähigkeit: der Fall Deutsche Bundesliga, Mai 2013.
- Nr. 83 *Doose, Anna Maria:* Methods for Calculating Cartel Damages: A Survey, Dezember 2013.
- Nr. 84 *Pawlowski, Tim; Budzinski, Oliver:* Competitive Balance and Attention Level Effects: Theore-tical Considerations and Preliminary Evidence, März 2014.
- Nr. 85 *Budzinski, Oliver:* The Competition Economics of Financial Fair Play, März 2014.
- Nr. 86 *Budzinski, Oliver; Szymanski, Stefan:* Are Restrictions of Competition by Sports Associations Horizontal or Vertical in Nature?, März, 2014.
- Nr. 87 *Budzinski, Oliver:* Lead Jurisdiction Concepts Towards Rationalizing Multiple Competition Policy Enforcement Procedures, Juni 2014.
- Nr. 88 *Budzinski, Oliver:* Bemerkungen zur ökonomischen Analyse von Sicherheit, August 2014.
- Nr. 89 *Budzinski, Oliver; Pawlowski, Tim:* The Behavioural Economics of Competitive Balance: Implications for League Policy and Championship Management, September 2014.
- Nr. 90 *Grebel, Thomas; Stuetzer, Michael:* Assessment of the Environmental Performance of European Countries over Time: Addressing the Role of Carbon, September 2014.
- Nr. 91 *Emam, Sherief; Grebel, Thomas:* Rising Energy Prices and Advances in Renewable Energy Technologies, July 2014.
- Nr. 92 *Budzinski, Oliver; Pannicke, Julia:* Culturally-Biased Voting in the Eurovision Song Contest: Do National Contests Differ?, December 2014.
- Nr. 93 *Budzinski, Oliver; Eckert, Sandra:* Wettbewerb und Regulierung, März 2015.
- Nr. 94 *Budzinski, Oliver; Feddersen, Arne:* Grundlagen der Sportnachfrage: Theorie und Empirie der Einflussfaktoren auf die Zuschauernachfrage, Mai 2015.
- Nr. 95 *Pannicke, Julia:* Abstimmungsverhalten im Bundesvision Song Contest: Regionale Nähe versus Qualität der Musik, Oktober 2015.
- Nr. 96 *Budzinski, Oliver; Kretschmer, Jürgen-Peter:* Unprofitable Horizontal Mergers, External Effects, and Welfare, October 2015.

- Nr. 97 *Budzinski, Oliver; Köhler, Karoline Henrike:* Is Amazon The Next Google?, October 2015.
- Nr. 98 *Kaimann, Daniel; Pannicke, Julia:* Movie success in a genre specific contest: Evidence from the US film industry, December 2015.
- Nr. 99 *Pannicke, Julia:* Media Bias in Women's Magazines: Do Advertisements Influence Editorial Content?, December 2015.
- Nr. 100 *Neute, Nadine; Budzinski, Oliver:* Ökonomische Anmerkungen zur aktuellen Netzneutralitätspolitik in den USA, Mai 2016.
- Nr. 101 *Budzinski, Oliver; Pannicke, Julia:* Do Preferences for Pop Music Converge across Countries? Empirical Evidence from the Eurovision Song Contest, Juni 2016.
- Nr. 102 *Budzinski, Oliver; Müller-Kock, Anika:* Market Power and Media Revenue Allocation in Professonal Sports: The Case of Formula One, Juni 2016.
- Nr. 103 *Budzinski, Oliver:* Aktuelle Herausforderungen der Wettbewerbspolitik durch Marktplätze im Internet, September 2016.
- Nr. 104 *Budzinski, Oliver:* Sind Wettbewerbe im Profisport Rattenrennen?, Februar 2017.
- Nr. 105 *Budzinski, Oliver; Schneider, Sonja:* Smart Fitness: Ökonomische Effekte einer Digitalisierung der Selbstvermessung, März 2017.
- Nr. 106 *Budzinski, Oliver; Pannicke, Julia:* Does Popularity Matter in a TV Song Competition? Evidence from a National Music Contest, April 2017.
- Nr. 107 *Budzinski, Oliver; Grusevaja, Marina:* Die Medienökonomik personalisierter Daten und der Facebook-Fall, April 2017.
- Nr. 108 *Budzinski, Oliver:* Wettbewerbsregeln für das Digitale Zeialter Die Ökonomik personalisierter Daten, Verbraucherschutz und die 9.GWB-Novelle, August 2017.
- Nr. 109 *Budzinski, Oliver:* Four Cases in Sports Competition Policy: Baseball, Judo, Football, and Motor Racing, September 2017.
- Nr. 110 *Budzinski, Oliver:* Market-internal Financial Regulation in Sports as an Anticompetitive Institution, October 2017.
- Nr. 111 Bougette, Patrice; Budzinski, Oliver; Marty, Frédéric: EXPLOITATIVE ABUSE AND ABUSE OF ECONOMIC DEPENDENCE: WHAT CAN WE LEARN FROM THE INDUSTRIAL ORGANIZATION APPROACH?, December 2017.

Nr. 112 *Budzinski, Oliver; Gaenssle, Sophia:* The Economics of Social Media Stars: An Empirical Investigation of Stardom, Popularity, and Success on YouTube, Januar 2018.